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Chlamydastis Meyrick of Costa Rica: barcodes, biology, and descriptions of 36 new species (Lepidoptera: Depressariidae)

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Abstract. We recognize and review 40 species of *Chlamydastis* Meyrick, 1916 (Lepidoptera: Depressariidae) from Costa Rica, including four previously described (i.e., *C. vividella* (Busck, 1914), **revived status**; *C. phytoptera* (Busck, 1914); *C. orion* Busck, 1920; and *C. ungulifera* (Meyrick, 1929)) and 36 new species: *C. abelulatei* Phillips and Brown, **new species**; *C. carolinagodoyae* Phillips and Brown, **new species**; *C. angelsolisi* Phillips and Brown, **new species**; *C. lindapitkinae* Phillips and Brown, **new species**; *C. iangauldi* Phillips and Brown, **new species**; *C. anniapicadoae* Phillips and Brown, **new species**; *C. antonioazofeifai* Phillips and Brown, **new species**; *C. mignondavisae* Phillips and Brown, **new species**; *C. marianofigueresi* Phillips and Brown, **new species**; *C. colleenhitchcockae* Phillips and Brown, **new species**; *C. bernardoespinozai* Phillips and Brown, **new species**; *C. bobandersoni* Phillips and Brown, **new species**; *C. carlosviquezi* Phillips and Brown, **new species**; *C. christerhanssoni* Phillips and Brown, **new species**; *C. christhompsoni* Phillips and Brown, **new species**; *C. paulhansoni* Phillips and Brown, **new species**; *C. elenaulateae* Phillips and Brown, **new species**; *C. gladysrojasae* Phillips and Brown, **new species**; *C. powelli* Phillips and Brown, **new species**; *C. gracewoodae* Phillips and Brown, **new species**; *C. juanmatai* Phillips and Brown, **new species**; *C. isidrochaconi* Phillips and Brown, **new species**; *C. jimlewisi* Phillips and Brown, **new species**; *C. jimmilleri* Phillips and Brown, **new species**; *C. montywoodi* Phillips and Brown, **new species**; *C. johnnoyesi* Phillips and Brown, **new species**; *C. luisdiegogomezi* Phillips and Brown, **new species**; *C. paulthiaucourti* Phillips and Brown, **new species**; *C. dondavisi* Phillips and Brown, **new species**; *C. irenecanasae* Phillips and Brown, **new species**; *C. manuelzumbadoi* Phillips and Brown, **new species**; *C. noramartinae* Phillips and Brown, **new species**; *C. vitorbeckeri* Phillips and Brown, **new species**; *C. ronaldzunigai* Phillips and Brown, **new species**; *C. munifigueresae* Phillips and Brown, **new species**; and *C. willsflowersi* Phillips and Brown, **new species**. COI nucleotide sequences ("DNA barcodes") were obtained for 33 of the species, which helped associate males with females for sexually dimorphic species and revealed a few cryptic, presumably evolutionary siblings. We illustrate adults of all species, along with their male and female genitalia, where available. Nineteen species were reared from caterpillars, and their foodplants are listed. In Costa Rica, 15 species of *Chlamydastis* are recorded exclusively from Sapotaceae; one species each exclusively from Clethraceae, Vochysiaceae, Combretaceae, and Melastomataceae. Larvae are illustrated for 10 of the 36 new species, and superficial larval descriptions are provided based on photographs and notes. Of the 40 species of *Chlamydastis* reported from Costa Rica, 32 have been light-collected or reared from Área de Conservación Guanacaste.

Key words. ACG, Área de Conservación Guanacaste, caterpillars, Central America, DNA barcoding, Elachistidae, food plants, morphology, Neotropical, parasitoids, *Rectiostoma*.

ZooBank registration. urn:lsid:zoobank.org:pub:1738B3CE-22AC-409B-9B04-DAD91322B278

Introduction

Chlamydastis Meyrick, 1916 is a Neotropical genus of Depressariidae in the subfamily Stenomatinae, a large taxonomic assemblage composed mostly of small-to-moderate-sized moths. Although historically assigned to Oecophoridae (e.g., Becker 1984; Hodges 1983), Stenomatinae was transferred to the newly defined Elachistidae by Hodges (1998), where it resided until a molecular and morphological analyses by Heikkilä et al. (2014) placed the group within Depressariidae. In the phylogenetic study by Wang and Li (2020), Stenomatinae and Cryptolechiinae were separated from the core Depressariidae, resulting in the paraphyly of the family. Combined with the previous studies by Heikkilä et al. (2014) and Sohn et al. (2016), Wang and Li (2020) found that the classification of Stenomatinae was unstable as it associated different groups in different analyses, all with quite low support values.

Prior to our study, 81 species of *Chlamydastis* had been described, ranging from southern Texas (Blanchard and Knudson 1986), Mexico, and the Caribbean, south to Brazil and Argentina (Becker 1984; USNM collection). Intensive collecting during the last three decades by the former Costa Rican Instituto Nacional de Biodiversidad (INBio) and the Lepidoptera inventory of Área de Conservación Guanacaste (ACG) in northwestern Costa Rica (Janzen et al. 2009, Janzen and Hallwachs 2016, 2019) has generated considerable new life history information, as well as documenting 40 species of *Chlamydastis* in Costa Rica, 36 of which are described as new in this contribution. We have DNA barcodes (e.g., Hebert et al. 2003) for 33 species, and these prove highly useful for disentangling species complexes and associating sexes in sexually dimorphic species.

For the 40 species treated in this revision, we illustrate the adults and male and female genitalia when available. Cytochrome c oxidase subunit I (COI) nucleotide sequences were obtained for 33 of the 40 species. GenBank accession codes for the holotypes of most of the new species and an exemplar of previously described species are given in the species accounts. Food plants are listed for 19 species, and images of caterpillars are provided for 10 of these. Information on parasitoids is provided, where available.

The present paper represents the continuation of ongoing systematic work on Costa Rican Gelechioidea, with previously studies focused on the genera *Ethmia* Hübner, [1819] (Phillips-Rodríguez et al. 2014), *Rectiostoma* Becker, 1982 (Heikkilä et al. 2017), *Struthoscelis* Meyrick, 1913 (Metz et al. 2017); *Philtronoma* Meyrick, 1914, *Tinaegeria* Walker, 1856, and *Pernarcha* Meyrick, 1915 (Metz et al. 2020).

Materials and Methods

Material examined. We examined specimens of *Chlamydastis* deposited in the Museo Nacional de Costa Rica, San José, Costa Rica and the National Museum of Natural History, Smithsonian Institution, Washington, DC, U.S.A., as well as specimens collected during the inventory of the Lepidoptera of Área de Conservación Guanacaste (Janzen and Hallwachs 2019). Of the 40 species of *Chlamydastis* reported from Costa Rica, 32 have been light-collected or reared from ACG. These specimens will eventually be deposited in the two aforementioned institutions.

Species circumscription. Specimens were sorted by wing pattern and general appearance into "morphospecies;" these units were confirmed by examining the morphology of the male and female genitalia. Specimens were then sorted by DNA barcodes to help disentangle species complexes, leading to the discovery of several cryptic species. Sorting by barcodes also helped confirm and fine-tune the findings of the morphological investigations. While this paper stresses morphological differences among species, all species that were sequenced can be easily identified by their distinctive DNA barcodes. A neighbor-joining (NJ) tree based on a maximum of six exemplars of each species is presented in Figure 135.

Species descriptions are based on the series available, with conspecifics confirmed by barcodes, or morphology in the absence of barcodes. The following abbreviations are used: FW = forewing; HW = hindwing; mm = millimeters. In wing pattern descriptions the FW is divided longitudinally into a costal half and posterior half (from FW base to apex).

We propose 11 species groups based on forewing pattern and morphological features. The species groups are not always consistent with the relative positions of species in the NJ tree, nor should they necessarily be, since

NJ trees are identification, not phylogenetic tools, even though they frequently contain considerable phylogenetic signal (e.g., Wilson 2011).

Dissections and imaging. Dissection methods followed those summarized in Brown and Powell (1991, 2000), except that genitalia were transferred to 95% isopropyl alcohol (instead of xylene), and all parts were slide-mounted with Euparal mounting medium (rather than Canada balsam). Forewing length was measured from the center of the wing base to the apex, including the fringe.

Images of genitalia were captured using an S2CTV Olympus stereomicroscope with a JVC3-CCD video camera and enhanced using Auto Montage (Version 3.03.0103, 1997–2000) and Montage-Explorer (version 1.02.0348, 1998) (©SYNOPTICS LTD). Images of adults and caterpillars were captured with a Canon digital camera.

Terms. Terms for structures of the genitalia follow Klots (1970) and Hodges (1998) and are illustrated in Figures 51 and 90. Superficial descriptions of last instar larvae are based on photographs and notes provided by parataxonomists who were finding and rearing them, using the following abbreviations: T = thoracic segments and A = abdominal segments, with numbers referring to the number of the segment (i.e., T1= first thoracic segment, A3 = third abdominal segment).

Rearing procedures. Rearing protocol for the ongoing survey of the Lepidoptera of Área de Conservación Guanacaste in Northwestern Costa Rica is detailed by Janzen et al. (2009). Each reared voucher has a unique voucher code (e.g., 09-SRNP-12345), and its associated information can be accessed at the ACG caterpillar inventory website (Janzen and Hallwachs 2019). Light-trapped specimens have six digits in the suffix of their yy-SRNP-xxxxxx voucher codes (yy = year; SRNP = Santa Rosa National Park; and xxx = the sequential annual number), while the reared ones have 1–5 digits. The alphanumeric interim names (e.g., *Apanteles* Rodriguez09) used for parasitoids and many other insects in the ACG inventory, are names applied to species assumed to be undescribed. These are reference names linked to all collateral information and voucher codes as explained in detail in Janzen et al. (2009). In this paper a reference voucher code is included for each of the interim names of these parasitoids.

Host plants were identified by plant taxonomists of the National Herbarium of the National Museum of Natural History, Smithsonian Institution, plant taxonomists of Costa Rica's former Instituto Nacional de Biodiversidad (INBio), and Daniel H. Janzen and other parataxonomists based on 50 years of studying the plants of Costa Rica with an emphasis on those of ACG. The names are consistent with those on the website at http://www.tropicos.org, but those names do change in response to updates in botanical taxonomy.

Nineteen species of *Chlamydastis* were successfully reared from larvae collected on various food plants in the field (Table 1), and we provide images for 10 of these (Fig. 124–134).

DNA barcodes. Tissue samples (a single leg per specimen) were sent to the Canadian Centre for Biodiversity Genomics (CBG) at the Biodiversity Institute of Ontario (http://ibol.org) at the University of Guelph, Canada. GenBank accession codes (https://www.ncbi.nlm.nih.gov/genbank/) are given for the holotypes of new species as well as an example of each previously described species. In the species accounts, we provide the BIN code and two statistics for each barcoded species: average distance among sequences within the BIN and distance to the nearest neighbor. BIN codes and distance values are from BOLD based on all species of *Chlamydastis* in that database. While the BIN code is static, the distance values likely will change with the addition of specimens and species to the BOLD database. The barcode data were used to construct a neighbor-joining tree based on the Kimura 2-parameter using the default settings in BOLD (Ratnasingham and Herbert 2007).

Specimen data. All Costa Rican specimens examined and/or barcoded are listed in Appendix 1 along with their collection data. Additional material compared with the holotype but without sequence data were assigned to each species based on morphological comparison and genitalia analysis.

Data for holotypes are presented in the text and duplicated in the appendix. In the holotype data in the text, the month is given as a lowercase Roman numeral (i.e., 9.vi.1999). The following abbreviations are used in Appendix 1: N = north; S = south; E = east; W = west; Est. = Estación; P. N. = Parque Nacional; m = meters; am = additional material, specimens not included in the type series; ACG = Área de Conservación Guanacaste; ACOSA = Area de Conservación Osa; ACOPAC = Area de Conservación Pacifico Central; ACLAP = Area de

Conservación La Amistad Pacifico; ACLAC = Area de Conservación La Amistad Caribe; ACTo = Area de Conservación Tortuguero.

The following repositories are abbreviated in the text:
MNCR-A = Museo Nacional de Costa Rica, Artrópodos, San José, Costa Rica;
NHMUK = The Natural History Museum, London, U.K.;
USNM = U.S. National Museum of Natural History, Smithsonian Institution, Washington, DC, U.S.A.

Results

Chlamydastis Meyrick 1916: 481

Type species: *Stenoma lactis* Busck, 1911, by original designation.

Meyrick (1916) defined *Chlamydastis* based primarily on wing venation, but he also mentioned the following features: absence of ocelli; presence of upraised scales in the discal cell of the forewing; short, densely scaled tibia of the foreleg; and tarsi longer than the tibia. Blanchard and Knudson (1986) mentioned the long, specialized setae (scales) from the inner margin of valva in the male genitalia as "conspicuously dilated at their apices forming an arrowhead shape." However, they dismissed this as a generic character for *Chlamydastis* because of its presumed presence in other genera of Stenomatinae. Hodges (1998) and Powell and Opler (2009) likewise mentioned the highly modified setae as a Stenomatinae feature. In contrast, Duckworth (1971) concluded that the presence of "multilobed setae" (i.e., an arrowhead-shaped or umbrella-shaped tip) from the valvae in the male genitalia of *Chlamydastis* and *Setiostoma* Zeller, [1876] [now *Rectiostoma*] appears to define a major division within the Stenomatinae. Hence, although specialized male setae from the valva may represent a synapomorphy for Stenomatinae, the unique arrowhead tipped setae likely represent a synapomorphy for *Chlamydastis* + *Rectiostoma*. The two genera are extremely dissimilar in size and facies, and therefore, are easily distinguished superficially. Until a comprehensive phylogenetic analysis of the genera of Stenomatinae is conducted, we assume that Duckworth's (1971) hypothesis is correct – *Chlamydastis* + *Rectiostoma* represents a monophyletic group. *Rectiostoma* is easily distinguished from *Chlamydastis* by its diminutive size and two-toned forewing pattern. This circumscription of these two genera follows the concepts of Becker (1984) in his contribution to the Checklist of Neotropical Lepidoptera.

The species of *Chlamydastis* treated herein are organized into 11 informal species groups listed below. Each group is an assemblage of species with morphological similarities that likely represent synapomorphies, but as of yet, are untested in a phylogenetic context. Two additional species that do not fit convincingly into any of the species groups are placed under "Unassigned."

In Costa Rica, information on the biology of *Chlamydastis* comes nearly exclusively from the caterpillar inventory of Janzen and Hallwachs (2016, 2019), with 15 species of *Chlamydastis* feeding exclusively on Sapotaceae and one species each exclusively on Clethraceae, Vochysiaceae, Combretaceae, and Melastomataceae (Janzen and Hallwachs 2019). In a study on parasitoids reared from caterpillars in ACG, Sharkey et al. (2011) found that *Chlamydastis* caterpillars are mostly leaf tiers, constructing shelters with silk and fecal pellets between two leaves. The larvae typically skeletonize the leaf, but also feed at the leaf edges. Other studies from Brazil (Morais et al. 2005) report *C. smodicopa* (Meyrick, 1915) feeding on the leaves of *Styrax ferrugineus* Nees and Mart. (Styracaceae) and building an oval shelter joining two leaves with silk from which the concealed caterpillar feeds on adjacent leaves. Monteiro et al. (2007) reported *C. fragmentella* (Dognin, 1914) feeding on *Manilkara subsericea* (Mart.) Dubard (Sapotaceae), skeletonizing the leaf and building a shelter by joining two leaves with silk and pupating in that shelter. Bendicho-Lopez et al. (2003) reported that 75% of the larvae of *C. platyspora* (Meyrick, 1932) that they collected fed on old and mature leaves of *Roupala montana* Aubl. (Proteaceae).

Vividella Species Group

Chlamydastis vividella (Busck, 1914)
Chlamydastis abelulatei Phillips and Brown, new species
Chlamydastis carolinagodoyae Phillips and Brown, new species
Chlamydastis angelsolisi Phillips and Brown, new species

Chlamydastis lindapitkinae Phillips and Brown, new species
Chlamydastis iangauldi Phillips and Brown, new species

Curviliniella Species Group
Chlamydastis anniapicadoae Phillips and Brown, new species
Chlamydastis antonioazofeifai Phillips and Brown, new species
Chlamydastis mignondavisae Phillips and Brown, new species
Chlamydastis marianofigueresi Phillips and Brown, new species
Chlamydastis colleenhitchcockae Phillips and Brown, new species
Chlamydastis bernardoespinozai Phillips and Brown, new species
Chlamydastis bobandersoni Phillips and Brown, new species

Mendoron Species Group
Chlamydastis carlosviquezi Phillips and Brown, new species
Chlamydastis christerhanssoni Phillips and Brown, new species

Phytoptera Species Group
Chlamydastis phytoptera (Busck, 1914)
Chlamydastis christhompsoni Phillips and Brown, new species
Chlamydastis paulhansoni Phillips and Brown, new species
Chlamydastis elenaulateae Phillips and Brown, new species
Chlamydastis gladysrojasae Phillips and Brown, new species

Tryphon Species Group
Chlamydastis powelli Phillips and Brown, new species
Chlamydastis gracewoodae Phillips and Brown, new species
Chlamydastis juanmatai Phillips and Brown, new species
Chlamydastis isidrochaconi Phillips and Brown, new species

Molinella Species Group
Chlamydastis jimlewisi Phillips and Brown, new species
Chlamydastis jimmilleri Phillips and Brown, new species

Orion Species Group
Chlamydastis orion (Busck, 1920)
Chlamydastis montywoodi Phillips and Brown, new species

Deflexa Species Group
Chlamydastis johnnoyesi Phillips and Brown, new species
Chlamydastis luisdiegogomezi Phillips and Brown, new species
Chlamydastis paulthiaucourti Phillips and Brown, new species

Disticha Species Group
Chlamydastis dondavisi Phillips and Brown, new species
Chlamydastis irenecanasae Phillips and Brown, new species

Cystiodes Species Group
Chlamydastis manuelzumbadoi Phillips and Brown, new species
Chlamydastis noramartinae Phillips and Brown, new species
Chlamydastis vitorbeckeri Phillips and Brown, new species

Ronaldzunigai Species Group
Chlamydastis ronaldzunigai Phillips and Brown, new species
Chlamydastis munifigueresae Phillips and Brown, new species

Unassigned to Species Group
Chlamydastis ungulifera (Meyrick, 1929)
Chlamydastis willsflowersi Phillips and Brown, new species

Species Accounts

Vividella Species Group

In Costa Rica, the Vividella Species Group is composed of six species: *C. vividella*, *C. abelulatei*, *C. carolinagodoyae*, *C. angelsolisi*, *C. lindapitkinae*, and *C. iangauldi*. Other species in this group are *C. apoclina* (Meyrick, 1929) from Colombia, illustrated by Clarke (1955: 176); *C. ancalota* (Meyrick, 1916) and *C. lichenias* (Meyrick, 1916) from French Guiana, both illustrated by Clarke (1955: 176 and 192, respectively); *C. arenaria* (Walsingham, 1913) from Panama and Brazil (Espírito Santo); *C. synedra* (Meyrick, 1916) from Paraguay, illustrated by Clarke (1955: 204); and *C. epophrysta* (Meyrick, 1909) from Perú, illustrated by Clarke (1955: 188).

The forewing ground color is mostly whitish to pale gray, with three variably developed, dark gray to brown fascia composed of interrupted or adjacent spots originating at the costa at about 0.25, 0.50 and 0.75 the distance from the base to the apex. The male genitalia of the group (Fig. 51–56) share a broad dorsal part of the tegumen; a short, slender gnathos that is membranous medially; a valva that is broadened basally by the presence of a simple sacculus, which is confluent with the ventral edge of the valva throughout the length of the sacculus, and with the valva abruptly narrowed beyond the termination of the sacculus (about mid-valva); a somewhat angular apex of the valva bearing the patch of specialized setae; and a phallus that is curved, with a vesica that bears two cornuti "plates." Based on male genitalia, the species form two subgroups. In *C. vividella*, *C. carolinagodoyae*, *C. abelulatei*, *C. ancalota*, *C. lichenias*, *C. epophrysta*, and *C. arenaria*, the uncus is long and slender, and the two cornuti are somewhat ribbonlike (e.g., Fig. 51–53); whereas in *C. angelsolisi*, *C. iangauldi*, and *C. lindapitkinae*, *C. apoclina*, and *C. synedra*, the uncus is very short and pointed, and the more distal of the two cornuti has a conspicuous dentate patch (Fig. 54–56). The shape and configuration of the cornuti appear to be the most reliable characters for distinguishing among the species. Females of the group have a simple sterigma with a distinctly rounded, setose, median lobe posteriorly (Fig. 90, 91); a complex ductus bursae that is narrow posteriorly, expanded anteriorly into a strongly sclerotized portion that extends nearly to the junction with the corpus bursae; and a membranous, pear-shaped corpus bursae with an oblong, spiny signum that has a narrow unsclerotized region in the middle. Two species of this group (*C. vividella* and *C. abelulatei*) have been reared on Sapotaceae (Table 1).

Chlamydastis vividella (Busck), revived status

Figures 1–3, 51, 90, 124

Stenoma vividella Busck 1914: 43; Brown et al. 2004: 146.
Chlamydastis arenaria (synonymy in error): Becker 1984: 34.

Syntypes (4♂). Panama: La Chorrera, April 1912 (1♂), May 1912 (2♂). Porto Bella, April 1912 (1♂), A. Busck (USNM).

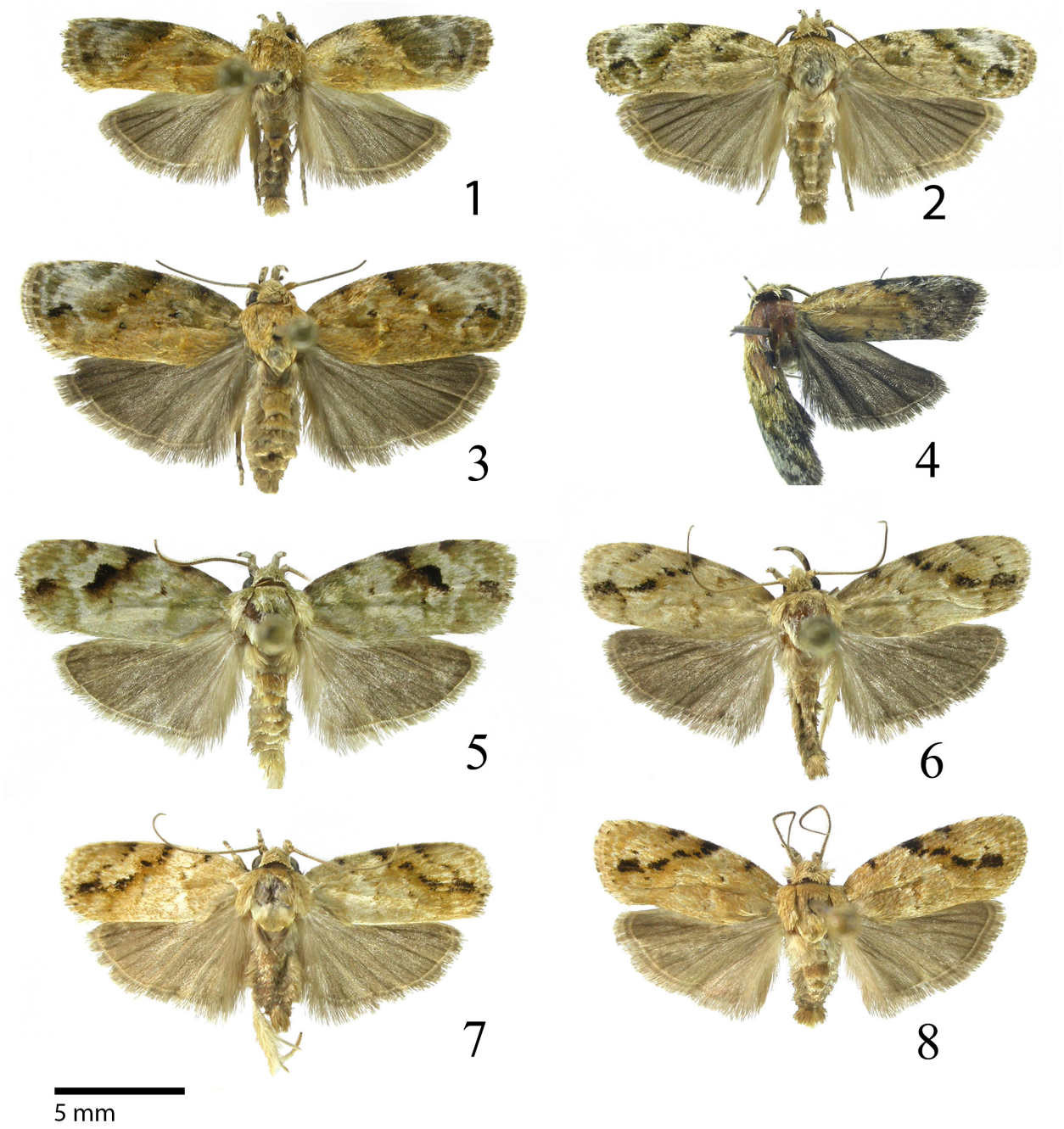
Specimens examined (10♂, 15♀). See Appendix 1.

Diagnosis. *Chlamydastis vividella* is most similar to *C. abelulatei* in FW pattern and male genitalia, but it can be distinguished by its larger size and by the shape and configuration of the cornuti (longer in *C. vividella*) in the male genitalia. In the female genitalia, the ductus bursae is heavily sclerotized in *C. vividella* but not so in *C. abelulatei.*

Redescription. MALE (Fig. 1, 2). *Head*. Frons white; vertex cream intermixed with yellowish scales; labial palpus cream intermixed with brown scales, a broad brown lateral band on first and basal half of second segment, third segment with an apical spot; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Tegula and dorsum ocherous. FW length 8.0–9.1 mm; FW ground color pale ocherous; a moderately broad, brown, oblique fascia extending from near mid-costa, terminating near a squarish black dash near mid-termen; a faint, pale brown subbasal dash extending from costa, ca. 0.25 length from base to apex, to ca. upper edge of discal cell; a variable patch of white scales in apical region surrounding a small, semicircular costal spot. HW dark gray. A green form (Fig. 2) with ocherous ground color replaced by light brown and green scales, and sub-terminal areas with larger white spots, especially near apex. *Abdomen*. Externally dark gray with first and second segments ocherous dorsally. Internally elongate patch of secondary setae enclosed in sheathlike structure in middle of last segment, ca. 0.15 as long as abdomen. Genitalia (Fig. 51) with uncus long, narrow, rounded at tip; sacculus ca. 0.6

Table 1. *Chlamydastis* from Costa Rica. Food plant summary. Number (n) of rearing records for each plant species and family.

Species	Host plant family (no. of specimens reared)	Host plant species (no. of specimens reared)
Chlamydastis vividella	Sapotaceae (120)	*Chrysophyllum brenesii* (120)
Chlamydastis abelulatei	Sapotaceae (6)	*Pouteria exfoliata* (6)
Chlamydastis bernardoespinozai	Sapotaceae (12)	*Chrysophyllum brenesii* (8) *Chrysophyllum cainito* (3) *Pouteria izabalensis* (1)
Chlamydastis bobandersoni	Sapotaceae (3)	*Pouteria campechiana* (3)
Chlamydastis carlosviquezi	Sapotaceae (29)	*Chrysophyllum cainito* (28) *Manilkara chicle* (1)
Chlamydastis christhompsoni	Sapotaceae (125)	*Pouteria campechiana* (1) *Pouteria reticulata* (124)
Chlamydastis elenaulateae	Sapotaceae (90)	*Chrysophyllum brenesii* (57) *Chrysophyllum cainito* (9) *Pouteria reticulata* (20) *Sideroxylon capiri* (4)
Chlamydastis powelli	Sapotaceae (113)	*Pouteria reticulata* (113)
Chlamydastis isidrochaconi	Sapotaceae (1)	*Pouteria reticulata* (1)
Chlamydastis montywoodi	Sapotaceae (223)	*Chrysophyllum brenesii* (167) *Pouteria campechiana* (1) *Pouteria cainito* (7) *Pouteria durlandii* (1) *Pouteria exfoliata* (5) *Pouteria izabalensis* (4) *Pouteria juruana* (8) *Pouteria reticulata* (30)
Chlamydastis johnnoyesi	Clethraceae (20)	*Clethra lanata* (20)
Chlamydastis paulthiaucourti	Sapotaceae (3)	*Pouteria cainito* (3)
Chlamydastis manuelzumbadoi	Vochysiaceae (21)	*Vochysia ferruginea* (21)
Chlamydastis vitorbeckeri	Melastomataceae (52)	*Adelobotrys adscendens* (6) *Conostegia xalapensis* (23) *Miconia affinis* (5) *Miconia argentea* (8) *Miconia trinervia* (8) *Topobea maurofernandeziana* (2)
Chlamydastis ronaldzunigai	Sapotaceae (3)	*Chrysophyllum brenesii* (3)
Chlamydastis marianofigueresi	Sapotaceae (1)	*Pouteria reticulata* (1)
Chlamydastis colleenhitchcockae	Sapotaceae (4)	*Pouteria reticulata* (4)
Chlamydastis irenecanasae	Sapotaceae (5)	*Pouteria campechiana* (3) *Pouteria viridis* (1) *Pouteria cainito* (1)
Chlamydastis munifigueresae	Combretaceae (20)	*Terminalia amazonia* (13) *Terminalia oblonga* (6) *Terminalia ivorensis* (1)



Figures 1–8. Adults of *Chlamydastis* from Costa Rica – Vividella Species Group. **1)** *C. vividella*, male, 10-SRNP-1443. **2)** *C. vividella* male, green form, 11-SRNP-20863. **3)** *C. vividella*, female, 10-SRNP-1457. **4)** *C. abelulatei*, holotype, male 10-SRNP-2669. **5)** *C. carolinagodoyae*, holotype, male, INBIOCRI000625666. **6)** *C. angelsolisi*, holotype, male, 08-SRNP-108399. **7)** *C. lindapitkinae*, holotype, male, INB0003545629. **8)** *C. iangauldi*, holotype, male, INBIOCRI000696328.

times length of valva with a short, blunt, free tip; valva as described for species group; lateral processes of juxta long and broad; phallus curved, with two distinct ribbonlike cornuti.

FEMALE (Fig. 3). *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 9.8–10.1 mm. *Abdomen*. Genitalia (Fig. 90) with papillae anales slightly narrowed and diverging distally; sterigma simple, with a distinct rounded, setose, median lobe posteriorly; ductus bursae complex, narrow posteriorly, expanded anteriorly into a strongly sclerotized portion extending nearly to junction with corpus bursae; corpus bursae membranous, pear-shaped; signum oblong, spiny, with middle area unsclerotized.

DNA barcodes. The 81 barcodes of *C. vividella* form a uniform BIN (BOLD:AAA0062) with an average distance of 0.03% among sequences, and a distance of 3.19% to its nearest neighbor, *C. abelulatei*. GenBank accession code HM424376 for 09-SRNP-69457.

Distribution. This species has been recorded in Costa Rica, Panamá, and Venezuela. In Costa Rica, *C. vividella* has been found from 0 to 700 m in the northern part of the country, the central Pacific coast, and in the southern Caribbean slopes. In ACG it is found in the rainforest and in the dry forest in the rainy season.

Biology. *Chlamydastis vividella* has been reared from larvae feeding on *Chrysophyllum brenesii* Cronquist (n = 120) (Sapotaceae) (Table 1).

Immature stages (Fig. 124). Head capsule amber; prothoracic shield pale orange; T2 pale greenish orange; T3 and all abdominal segments green or pale green, except A5 with a pair of oblong, yellow, subdorsal patches.

Parasitoids. Hymenoptera: Braconidae: Microgastrinae: *Dolichogenidea* Janzen36 (e.g., DHJPAR0041637), *Dolichogenidea* Janzen229 (e.g., DHJPAR0043144), *Dolichogenidea* Janzen133 (e.g., DHJPAR0049894); Agathidinae: *Lytopylus robpringlei* (e.g., DHJPAR0042840).

Remarks. *Chlamydastis vividella* was synonymized with *C. arenaria* (Walsingham, 1913) by Becker (1984). However, based on differences in FW pattern (as described by Walsingham for the holotype of *C. arenaria*), the two appear to be distinct. In addition, given the diversity of this species group throughout South and Central America, it seems somewhat unlikely that this species would range from Brazil to Costa Rica.

Chlamydastis abelulatei Phillips and Brown, new species

Figures 4, 52

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector San Cristóbal, Tajo Angeles, 540 m, 28.v.2010, C. Cano, 10-SRNP-2669, GenBank accession code JQ532130 (USNM).

Paratypes (4♂, 1♀). See Appendix 1.

Diagnosis. This is the smallest species of the group (FW length 5.8–6.3 mm). The FW pattern is similar to that of *C. vividella*, as are the male genitalia, but in *C. abelulatei* the distal termination of the sacculus is less pronounced, without a free tip, and the cornuti are shorter and conical compared to those of *C. vividella.* In the female genitalia, the ductus bursae expands anteriorly as in *C. vividella*, but it is not as strongly sclerotized as in the latter.

Description. MALE (Fig. 4). *Head*. Frons and vertex ocherous; labial palpus pale yellow intermixed with brown scales, a broad black lateral band on first segment and basal half of second segment, third segment with a preapical black band; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula rust-brownish. FW length 5.8 mm; FW somewhat two-toned, pale olive ocherous in basal 0.5, dark grayish in distal 0.5, with small whitish streaks; an ill-defined semicircular patch at costa just beyond middle. HW dark gray. *Abdomen*. Externally pale brownish. Genitalia (Fig. 52) with uncus long, slender, rounded at tip; valva rather long, slender, with modified scale patch near apex, distal termination of sacculus weakly defined, without free tip; phallus with two short, conical cornuti.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 6.3 mm. *Abdomen*. Genitalia (not illustrated) with papillae anales narrowed and diverging posteriorly; ductus bursae enlarged in posterior 0.5, membranous; [corpus bursae missing in single female preparation].

DNA barcodes. The two barcodes of *C. abelulatei* form a BIN (BOLD:AAW0010) with a distance of 9.56% to its nearest neighbor, *C. vividella*.

Distribution. In Costa Rica this species has been found from ca. 50 to 540 m on the eastern side of the Cordillera Volcánica de Guanacaste and in the lowlands of the central Pacific region.

Biology. *Chlamydastis abelulatei* has been reared from larvae feeding on *Pouteria exfoliata* T. D. Penn (n = 6) (Sapotaceae) (Table 1).

Etymology. *Chlamydastis abelulatei* is named in honor of Abel Ulate, in recognition of his logistic support of the national biodiversity inventory of Costa Rica.

Chlamydastis carolinagodoyae Phillips and Brown, new species

Figures 5, 53, 91

Holotype. Male, Costa Rica, Puntarenas, Quepos, P. N. Manuel Antonio, 80 m, 1–28.ii.1991, R. Zuñiga, INBIOCRI000625666 (MNCR).

Paratypes (5♂, 3♀). See Appendix 1.

Diagnosis. *Chlamydastis carolinagodoyae* can be distinguished from other members of the Vividella Species Group by its larger size (FW length 9.3–9.5 mm); the FW pattern with an irregular, oblique, dark brown fascia; the male genitalia with the uncus long and truncated at the tip; the processes of the juxta conical; and the phallus with one short and one spinelike cornutus.

Description. MALE (Fig. 5). *Head*. Frons cream; vertex and collar cream, intermixed with long yellowish scales; labial palpus cream, first and second segment with a lateral dark brown band reaching ca. 0.5 of second segment, small dark spot extending to tip of third segment; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum cream intermixed with yellowish green scales; tegulae pale greenish at base, cream distally. FW length 9.3–9.5 mm; FW ground color cream, tinged greenish in basal 0.33, followed by a narrow irregular white band; pre-medial area whitish, post-medial area yellowish; a broad, dark brown, oblique fascia extending from near middle of costa towards tornus, terminating near lower margin of discal cell; similar colored blotch at mid-termen. HW brownish gray. *Abdomen*. Externally brown intermixed with yellowish scales on second and third segments dorsally. Genitalia (Fig. 53) with uncus long, ca. 0.5 times length of valva, with truncated tip; valva as described for species group; distal termination of sacculus with a short, blunt, free tip; processes of juxta conical, broadest in basal 0.5; phallus with one short and one spinelike cornutus.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 10.3–10.5 mm. *Abdomen*. Genitalia (Fig. 91) with papillae anales uniformly broad in basal 0.5, narrowed and diverging posteriorly; sterigma simple, bearing a distinctly rounded, setose, median lobe posteriorly; ductus bursae narrow, expanded into slightly sclerotized portion in middle, narrow posteriorly, with a sclerotized ring; corpus bursae membranous, pear-shaped; signum oblong, spiny, lacking sclerotization in narrow region through middle.

DNA barcodes. We have no sequence data for this species.

Distribution. *Chlamydastis carolinagodoyae* has been collected in the lowlands of the central Pacific region of Costa Rica.

Biology. The food plant and immature stages are unknown.

Etymology. *Chlamydastis carolinagodoyae* is named in honor of Carolina Godoy in recognition of her curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis angelsolisi Phillips and Brown, new species

Figures 6, 54, 92

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Mundo Nuevo, Pozo #3, 634 m, 27.xi.2008, F. Quesada and S. Ríos, 08-SRNP-108399, GenBank accession code JQ553540 (USNM).

Paratypes (22♂, 2♀). See Appendix 1.

Diagnosis. *Chlamydastis angelsolisi* is most similar to *C. lindapitkinae* and *C. iangauldi*. Superficially, the FW is slightly more gray-green than the pale brown of the latter two species. The male genitalia of *C. angelsolisi* can be

distinguished by the processes of the juxta, which are broadened in the distal half, and the spines of the cornuti, which are slenderer than in congeners and clustered at one end of the vesica.

Description. MALE (Fig. 6). *Head*. Frons white; vertex and collar yellowish; labial palpus yellowish, first and second segment with a lateral dark brown band reaching ca. 0.75 length of second segment; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula grayish yellow. FW length 7.5–7.8 mm; FW ground color mostly whitish, with irregular grayish yellow overscaling, most dense in basal 0.7; three irregular, oblique fascia formed by interrupted blackish brown subrectangular spots originating at costa at ca. 0.25 (subbasal), 0.50 (median), and 0.75 (distal) distance from base to apex; subbasal fascia weak, arching from costa to near middle of hind margin; median fascia extending obliquely from costal blotch, intersecting similar blotch near mid-termen; distal fascia composed of a series of small blackish brown dots, gently arched from costa to blotch near mid-termen; a series of small blackish brown dots in terminal area. HW dark gray. *Abdomen*. Externally pale brown. Genitalia (Fig. 54) with a short, pointed uncus; gnathos membranous, inconspicuous; valva as described for species group; sacculus ca. 0.33 times length of valva; lateral processes of juxta broad in distal 0.5; phallus unmodified with patch of slender spines (i.e., cornuti) clustered at end of vesica (Fig. 54a).

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 9.6–9.8 mm. *Abdomen*. Genitalia (Fig. 92) with papillae anales relatively slender throughout, slightly diverging posteriorly; sterigma simple with a distinctly rounded, setose, median lobe posteriorly; ductus bursae narrow posteriorly, expanded in middle with some small sclerotized patches; corpus bursae membranous, pear-shaped, signum oblong, spiny, with narrow unsclerotized region through its middle.

DNA barcodes. The 18 barcodes of *C. angelsolisi* form a uniform BIN (BOLD:AAD8081) with an average distance of 0.07% among sequences, and a distance of 5.63% to its nearest neighbor, *C. jimmilleri* + *C. jimlewisi*.

Distribution. *Chlamydastis angelsolisi* is a common species in the dry forest of ACG, from 200 to 300 m.

Biology. The food plant and immature stages remain unknown.

Etymology. *Chlamydastis angelsolisi* is a patronym for Angel Solís in recognition of his curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis lindapitkinae Phillips and Brown, new species

Figures 7, 55, 93

Holotype. Male, Costa Rica, Puntarenas, P. N. Piedras Blancas, Alrededor de Est. el Bonito, 100 m, 4.x.2002, M. Moraga, INB0003545629 (MNCR-A).

Paratypes (7♂, 2♀). See Appendix 1.

Diagnosis. *Chlamydastis lindapitkinae* is most similar to *C. iangauldi* but can be distinguished by its shorter, narrower uncus and the cornuti arranged in an irregular line in the vesica of the phallus.

Description. MALE (Fig. 7). *Head*. Frons white; vertex white anteriorly to base of antennae, then yellowish, collar brown; labial palpus yellowish, first and second segments with a contiguous dark brown lateral band reaching ca. 0.5 length of second segment; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula yellowish brown. FW length 7.5–7.7 mm; FW ground color yellowish with two distinct irregular, oblique fasciae formed by small interrupted brown spots originating at costa at ca. 0.50 (median) and 0.75 (distal) distance from base to apex, joined at mid-termen by a dark brown dash; subbasal fascia weak, narrow, originating at a small dark spot on costa. HW dark grayish brown. *Abdomen*. Externally pale brown. Genitalia (Fig. 55) with uncus short, pointed; gnathos membranous, inconspicuous; valva as described for species group; sacculus ca. 0.33 length of valva; lateral processes of juxta broadest in basal 0.5, slightly narrower and attenuate in distal 0.5; phallus with cornuti arranged in an irregular line (Fig. 55a).

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 8.5–8.8 mm. *Abdomen*. Genitalia (Fig. 93) with papillae anales narrowed and diverging posteriorly; sterigma simple, bearing a rounded setose median lobe posteriorly; ductus bursae wide, posterior end with sclerotized ring, broadened near middle, with small sclerotized patches; corpus bursae membranous, pear-shaped; signum oblong, spiny, with unsclerotized region in middle.

DNA barcodes. No sequence data are available for this species.

Distribution. *Chlamydastis lindapitkinae* is found in the southern Pacific lowlands of Costa Rica.

Biology. The food plant and immature stages are unknown.

Etymology. *Chlamydastis lindapitkinae* is a patronym for our colleague Linda Pitkin in recognition of her taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis iangauldi Phillips and Brown, new species

Figures 8, 56

Holotype. Male, Costa Rica, Limón, Sector Cerro Cocorí, Finca de E. Rojas, 150 m, 26.vi–16 vii.1992, E. Rojas, INBIOCRI000696328 (MNCR-A).

Paratypes (10♂, 3♀). See Appendix 1.

Diagnosis. *Chlamydastis iangauldi* is superficially very similar to *C. lindapitkinae*. The two species can be distinguished by features of the male genitalia: in *C. iangauldi* the uncus is extremely small and the cornuti are clustered at one end of the vesica, whereas in *C. lindapitkinae* the uncus is larger, and the cornuti are arranged in an irregular line.

Description. MALE (Fig. 8). *Head*. Frons white; vertex white anteriorly to about base of antennae, then yellowish, collar brown; labial palpus cream, first and second segment with a contiguous dark brown lateral band extending to ca. 0.5 length of second segment; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula yellowish brown. FW length 7.5–7.8 mm; FW ground color cream; two oblique fasciae formed by small brown spots, originating at costa ca. 0.40 (median) and 0.75 (distal) length of FW, joined at mid-termen by a slightly larger dark spot; distal fascia extremely weak, represented mostly by a series of tiny dark brown dots; a small dark brown dot at costa ca. 0.15 distance from base to apex. HW dark grayish brown. *Abdomen*. Externally brownish, except first segment paler dorsally. Genitalia (Fig. 56) with uncus extremely small; valva as described for species group; sacculus ca. 0.33 length of valva; lateral processes of juxta slender with a rounded tip; vesica with cornutus platelike with a series of pointed projections clustered at distal end (Fig. 56a).

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 9.3–9.6 mm. *Abdomen*. Genitalia (not illustrated) essentially as described for *C. lindapitkinae*.

DNA barcodes. We have no sequence data for this species.

Distribution. *Chlamydastis iangauldi* has been collected in the Caribbean lowlands at elevations between 150 and 200 m.

Biology. The larval host and immature stages are unknown.

Etymology. *Chlamydastis iangauldi* is named in honor of Ian Gauld in recognition of his curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Curviliniella Species Group

The Curviliniella Species Group is composed of 13 species, five of which occur in Costa Rica. The members share similar male genitalia with a relatively short, stout uncus from a broad base; the absence of the gnathos; a two-part valva with a variable elongate-ovate dorsal part that is rounded or truncate apically, and a large, irregularly triangular basal part represented by the sacculus, the latter of which bears a dense hairpencil of long (usually much longer than the valva), fine setae; apically truncate lateral processes of the juxta that curve towards each other distally; and a phallus with one or two slender, apically-pointed sclerites. Females have a short, broad ductus bursae with an ill-defined junction with the corpus bursae (except for *C. curviliniella*); a membranous region around the ostium; and a rounded-diamond-shaped, spiny signum situated near the middle of the corpus bursae with an uninterrupted line of sclerotization extending from end to end.

The eight species in the group not recorded from Costa Rica are *C. curviliniella* (Busck), described from Panama; *C. forcipata* (Meyrick, 1913), described from Colombia and illustrated by Clarke (1955: 187); *C. bifida* (Meyrick, 1916), described from French Guiana and illustrated by Clarke (1955: 179); *C. monastra* (Meyrick,

1909), described from Peru and illustrated by Clarke (1955: 195); *C. perducta* (Meyrick, 1916), described from French Guiana and illustrated by Clarke (1955: 199); *C. plocogramma* (Meyrick, 1915), described from British Guiana and illustrated by Clarke (1955: 199); *C. steloglypta* (Meyrick, 1931), described from French Guiana and illustrated by Clarke (1955: 204); and *C. tritypa* (Meyrick, 1909), described from Peru and illustrated by Clarke (1955: 204).

The five Costa Rican species share similar forewing maculation. The ground color is whitish or pale gray and there usually is a longitudinal line or dash through the discal cell terminating in a pale dot at the end of the cell (lacking in *C. bobandersoni*). The specialized (arrowhead) setae of the male genitalia originate near the distal termination of the costa of the valva in *C. anniapicadoae* and *C. antonioazofeifai*, and from the costa slightly more basal in *C. bernardoespinozai*, *C. marianofigueresi*, and *C. bobandersoni*. The female genitalia have a lightly sclerotized sterigma, a narrow sclerotized band near the posterior end of the ductus bursae, and in some of the species with the posterior 0.33 of the ductus bursae sclerotized. The corpus bursae is ovate with the signum large (*C. bernardoespinozai*, *C. marianofigueresi*) or absent (*C. bobandersoni*). Two species of the group (*C. bernardoespinozai* and *C. bobandersoni*) have been reared on Sapotaceae (Table 1).

Chlamydastis anniapicadoae Phillips and Brown, new species

Figures 9, 57, 94

Holotype. Male, Costa Rica, Cartago, La Amistad Pacífico, Paraíso, P. N. Tapantí-Macizo de la Muerte, 3.5 km siguiendo hacia Rio Humo, 1650 m, 8–10.ix.2010, E. Phillips, INB0004263587, GenBank accession code MH827051 (MNCR-A).

Paratypes (10♂, 3♀). See Appendix 1.

Diagnosis. *Chlamydastis anniapicadoae* is superficially most similar to *C. antonioazofeifai*, but in *C. anniapicadoae* the FW ground color has more grayish overscaling, the preapical costal blotch is slightly smaller, and the FW length is slightly greater, especially in the female. The male genitalia of *C. anniapicadoae* are easily distinguished by the truncate apex of the valva.

Description. MALE (Fig. 9). *Head*. Frons, vertex and collar cream; labial palpus cream intermixed with brownish scales, second segment with an irregular brownish lateral band reaching ca. 0.5 distance of segment; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula mostly cream intermixed with brownish scales. FW length 8.0–9.1 mm; FW grayish white with faint, curvy, irregular pale gray striations; a distinct, narrow, curved black line through middle of discal cell ending in a small hook; a black dash from costa ca. 0.15 distance from base to apex, extending toward, but ending before curved line in discal cell. HW pale brownish gray. *Abdomen*. Externally brownish, first segment paler dorsally. Genitalia (Fig. 57) with uncus stout from a broad base; anterior margin at intersection of lateral halves of tegumen V-shaped; gnathos absent; valva with ovate dorsal part truncate apically bearing specialized setae at termination of costa, irregularly triangular basal part representing sacculus ca. 0.4 length of valva, with hairpencil poorly developed; lateral processes of juxta long, narrow, truncate apically; phallus with two small thornlike cornuti.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 10.5–12.0 mm. *Abdomen*. Genitalia (Fig. 94) with papillae anales with outer margin rounded in distal 0.33, together weakly chordate; ductus bursae short, broad, junction with corpus bursae ill-defined; signum ovate, spiny, with a continuous sclerotized line across axis.

DNA barcodes. The six barcode sequences of *C. anniapicadoae* form a BIN (BOLD:AAV3795) with an average distance of 0.31% among them, and a distance of 7.06% to its nearest neighbor, *C. antonioazofeifai*.

Distribution. *Chlamydastis anniapicadoae* has been collected in the Cordillera de Talamanca from 1200 to 1650 m and in the rain forest of ACG at 1600 m.

Biology. Larval hosts and immature stages are unknown.

Etymology. *Chlamydastis anniapicadoae* is named in honor of Annia Picado in recognition of her technical support of the national biodiversity inventory of Costa Rica.

Figures 9–15. Adults of *Chlamydastis* from Costa Rica – Curviliniella Species Group. **9)** *C. anniapicadoae*, holotype, male, INB0003545350. **10)** *C. antonioazofeifai*, holotype, male, INB0003317783. **11)** *C. mignondavisae*, holotype female, USNMENT 01480465. **12)** *C. marianofigueresi*, paratype female, 16-SRNP-105464. **13**) *C. colleenhitchcockae*, holotype male, 97-SRNP-1651. **14)** *C. bernardoespinozai*, holotype, male, 09-SRNP-107481. **15)** *C. bobandersoni*, paratype, male, INBIOCRI001138251.

Chlamydastis antonioazofeifai Phillips and Brown, new species

Figures 10, 58, 95

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Pitilla, Sendero Memos, 774 m, 2.iv.2011, H. Cambronero and F. Quesada, 11-SRNP-101977, GenBank accession code JQ545482 (USNM).

Paratypes (18♂, 1♀). See Appendix 1.

Diagnosis. *Chlamydastis antonioazofeifai* is most similar to *C. anniapicadoae*, but the two can be distinguished by size (*C. antonioazofeifai* is slightly smaller); color of the prothorax in the male (shiny white in *C. antonioazofeifai*, intermixed with a few pale brown scales in *C. anniapicadoae*), and FW ground color (paler in *C. antonioazofeifai*). The male genitalia of *C. antonioazofeifai* are easily distinguished from those of *C. anniapicadoae* by the rounded apex of the valva.

Description. MALE (Fig. 10). *Head*. Frons and vertex shiny white, collar white with a few scattered brown scales; labial palpus mostly cream, first segment and basal 0.5 of second segment with a faint, lateral brown band; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula mostly shiny white; FW length 7.3–8.2 mm; FW white with a distinct, narrow, black line through middle of discal cell ending in a small hook; costa with a small dark grayish brown dot at ca. 0.15 distance from base to apex, a narrow semicircular patch near mid-costa, and a diffuse, dark brown, rhomboidal patch ca. 0.75 distance from base to apex. HW pale beige. *Abdomen*. Externally white, often with a pair of slender scaleless lines revealing abdomen subdorsally on A2 or A3. Genitalia (Fig. 58) with uncus stout, truncated apically; anterior margin at intersection of lateral halves of tegumen V-shaped; gnathos absent; valva with ovate dorsal part rounded apically bearing dense patch of specialized setae near termination of costa, irregularly triangular basal part representing sacculus ca. 0.4 length of valva, with hairpencil weakly developed; basal part of juxta large, with short, distally truncate, lateral processes; phallus with two distal thorns on a median sclerite in vesica.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 8.7–9.2 mm. *Abdomen*. Scaleless lines absent. Genitalia (Fig. 95) with papillae anales slender, relatively uniform in width throughout, slightly divergent posteriorly, with distinct line of sclerotization in anterior 0.5; ductus bursae broad, mostly uniform in width, broadened slightly at ill-defined junction with corpus bursae; corpus bursae oblong, signum large, subtriangular, spiny, with a continuous, slightly curved, sclerotized line across axis.

DNA barcodes. The 12 barcode sequences of *C. antonioazofeifai* form a BIN (BOLD:AAA1168) with an average distance of 0.17% among them, and a distance of 6.74% to its nearest neighbor, *C. anniapicadoae*.

Distribution. *Chlamydastis antonioazofeifai* has been collected in the middle elevations of ACG and the northern Caribbean region.

Biology. The immature stages and food plant are unknown.

Etymology. *Chlamydastis antonioazofeifai* is named in honor of Antonio Azofeifa in recognition of his technical support of the national biodiversity inventory of Costa Rica.

Chlamydastis mignondavisae Phillips and Brown, new species

Figures 11, 96

Holotype. Female, Costa Rica, Cartago, Turrialba, 1–6.iii.1965, S. S. and W. D. Duckworth, USNM slide 13,244, USNMENT 01480465 (USNM).

Paratypes (2♀). See Appendix 1.

Diagnosis. *Chlamydastis mignondavisae* is most similar to *C. bernardoespinozai* in facies and female genitalia (the male of *C. mignondavisae* is unknown). The forewing has a bold brown dash in the discal cell (rather than a slender line as in most members of the species group), terminating at a white dot, and a comma-shaped median fascia extending from midwing to the tornus. It can be distinguished from *C. bernardoespinozai* by its whiter ground color, slightly greater forewing length, and the slightly different shape of the signum in the female genitalia.

Description. MALE. Unknown.

FEMALE (Fig. 11). *Head*. Frons, vertex and collar white; labial palpus white to cream intermixed with brownish scales, second segment with an irregular brownish lateral band reaching ca. 0.5 length of segment, third segment with brown scales at base; sensory setae of antenna short, sparse. *Thorax*. Dorsum and tegula cream to white. FW length 12.5–13.0 mm; FW white with irregular pale gray striations; a distinct black dash through middle of discal cell ending in a white dot; a slightly paler, comma-shaped patch from hind margin near tornus extending to outer margin of white dot at end of discal cell; two brown spots along costa, 0.4 and 0.8 distance from wing base to apex, distal spot larger; small, brown, subrectangular patch in termen near tornus. HW pale grayish brown. *Abdomen*. Externally cream. Genitalia (Fig. 95) with papillae anales somewhat parallel-sided; ductus bursae short, ca. 0.3 as long as corpus bursae, gradually broadened throughout, with irregular patch of sclerotization occupying posterior 0.6; corpus bursae rounded, signum a broad, somewhat rounded plate, divided medially by a slender, uninterrupted line of sclerotization.

DNA barcodes. There are no sequence data available for this species.

Distribution. *Chlamydastis mignondavisae* has been collected only in Turrialba at 630 m elevation.

Biology. The food plant and immature stages are unknown.

Etymology. *Chlamydastis mignondavisae* is a patronym for Mignon Davis in recognition of her contributions to the knowledge of the Lepidoptera of Costa Rica through her involvement in the ALAS (Arthropods of La Selva) project.

Chlamydastis marianofigueresi Phillips and Brown, new species

Figures 12, 59, 97, 126

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Santa Rosa, Area administrativa, 295 m, 8.ix.2016, H. Cambronero and R. Franco, 16-SRNP-105662, GenBank accession code MW435313 (USNM).

Paratypes (1♂, 7♀). See Appendix 1.

Diagnosis. *Chlamydastis marianofigueresi* is superficially most similar to *C. colleenhitchcockae*; it is a conspicuously large species with a pale ground color and a dark line through the discal cell. The male genitalia of *C. marianofigueresi* are distinguished by the strongly hook-shaped process of the sacculus that bears the hairpencil.

Description. MALE (Fig. 12). *Head*. Frons, vertex and collar cream; labial palpus cream intermixed with brownish scales, second segment with an irregular brownish lateral band extending from base to ca. 0.5 length of segment; antenna with length of sensory setae ca. equal to width of flagellomere. *Thorax*. Dorsum and tegula cream. FW length 12.5 mm; FW grayish white with faint, irregular pale gray striations; a distinct, slender, black line in middle of discal cell ending at a small white dot; a short, ill-defined brown dash from costa ca. 0.15 distance from base to apex. HW pale brownish gray. *Abdomen*. Externally with brownish scales. Genitalia (Fig. 59) with uncus stout from a broad base, only slightly attenuate apically; anterior margin at intersection of lateral halves of tegumen slightly rounded; gnathos absent; valva with ovate dorsal part pointed apically bearing dense patch of specialized setae near termination of costa, irregularly triangular basal part representing sacculus ca. 0.4 length of valva, with long, dense well-developed haripencil; lateral processes of juxta long, narrow, truncate apically; phallus pistol-shaped, with two apically pointed, distal sclerites in vesica.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 16.0 mm. *Abdomen*. Genitalia (Fig. 97) with papillae anales somewhat parallel-sided, each with a slender line of sclerotization in anterior 0.5; ductus bursae short, broad, junction with corpus bursae somewhat ill-defined; signum ovate, spiny, with a continuous sclerotized ridge across axis.

DNA barcodes. The 12 barcode sequences of *C. marianofigueresi* form a BIN (BOLD:AAJ4197) with no genetic variability and a distance of 4.17% to its nearest neighbor, *C. bernardoesinozai*.

Distribution. *Chlamydastis marianofigueresi* has been collected in ACG from 295 to 1610 m elevation and in the Cordillera de Talamanca from 1400 to 1600 m elevation.

Biology. A single last instar (08-SRNP-36402) was collected on *Pouteria reticulata* (Sapotaceae); the cocoon is shown in Fig. 126.

Etymology. *Chlamydastis marianofigueresi* is named in honor of the late Peter Michael Mariano Figueres Olsen in recognition of his seminal and germinal support in expanding the rainforested area of Area de Conservación Guanacaste on the Caribbean slopes of Sector Rincon Rain Forest.

Chlamydastis colleenhitchcockae Phillips and Brown, new species

Figures 13, 60, 98

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Cacao, Sendero Derrumbe, 1220 m, 10.92918, −85.46426, 13.viii.1997, larva feeding on *Pouteria reticulata*, em: 10.ix.1997, R. Moraga, 97-SRNP-1651 (USNM).

Paratypes (3♀). See Appendix 1.

Diagnosis. Superficially, *C. colleenhitchcockae* is nearly identical to *C. marianofigueresi*, but the pattern elements of the former have a richer, slightly more yellowish-brown hue compared to the slightly paler and grayer ground color of *C. marianofigueresi*. With an average FW length of ca. 16 mm, females of *C. colleenhitchcockae* are among the largest *Chlamydastis* (along with *C. marianofigueresi*) in Costa Rica. The male genitalia of *C. colleenhitchcockae* are very similar to those of *C. marianofigueresi*, but can be distinguished by several subtle features: a slightly shorter, rounder valva; a somewhat blade-shaped unsclerotized region at the base of the valva (more irregularly rounded in *C. marianofigueresi*); a more rounded antero-dorsal junction of the tegumen; a rounded dorso-posterior margin of the juxta (weakly undulate in *C. marianofigueresi*); and a slightly broader phallobase.

Description. MALE (Fig. 13). *Head*. Frons cream, vertex and collar pale fawn brown; labial palpus cream with brown lateral band along first segment and 0.75 length of second segment; antenna with length of sensory setae ca. equal to width of flagellomere. *Thorax*. Dorsum and tegula pale fawn brown with ill-defined transverse brown line on prothorax. FW length 12.0 mm; FW ground pale fawn with small, faint, ill-defined patches of yellowish brown, forming an incomplete fascia in postmedial area; a distinct, slender, black line in middle of discal cell ending in a small white dot with a few dark scales at its costal margin; irregular, pale fawn brown line in terminal region, with small, rounded spot near middle. HW pale yellowish brownish. *Abdomen*. Externally yellowish brown. Genitalia (Fig. 59) with uncus stout from a broad base, nearly parallel-side to apex; anterior margin at intersection of lateral halves of tegumen shallowly rounded; gnathos absent; valva short, subovate, with dense patch of specialized setae from termination of costa, lower part of valva (sacculus) subtriangular, large, ca. 0.5 length of valva, with distinct basal, hook-shaped process bearing long, dense hairpencil; lateral processes of juxta long, narrow, truncate apically, dorso-posterior margin of juxta concave; phallus pistol-shaped, distal 0.5 sclerotized at dorsum and venter, phallobase slightly expanded, vesica with a slender sclerite.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 14.5–17.0 mm. *Abdomen*. Genitalia (Fig. 98) with papillae anales moderately uniform in width throughout, inner margin with a pair of slender lines of sclerotization in basal 0.5 and a diffuse patch of minute teeth in middle; ductus bursae short, immediately broadened into corpus bursae without defined junction; corpus bursae pear-shaped, signum orbiculate, with a continuous sclerotized ridge across axis.

DNA barcodes. There are no barcodes of this species.

Distribution. *Chlamydastis colleenhitchcockae* has been collected from 1200 to 1420 m elevation in the cloud forest of ACG.

Biology. This species has been reared from larvae feeding on *Pouteria reticulata* (Engl.) Eyma (n = 4) (Sapotaceae) (Table 1).

Immature stages. Head reddish brown; thorax with six to eight black dots; abdominal segments pale green with white hairs, with a brown to purple segmented lateral line**.**

Etymology. *Chlamydastis colleenhitchcockae* is named in honor of Mrs. Colleen Hitchcock of the greater Boston area, in recognition of her two decades of intense enthusiasm towards the processes that created ACG, and her contributions in many different contexts.

Chlamydastis bernardoespinozai Phillips and Brown, new species

Figures 14, 61, 99, 125

Holotype. Male, Costa Rica, Alajuela, ACG, Sector Rainforest, Estación Leiva, 454 m, 19.viii.2009, F. Quesada and R. Franco, 09-SRNP-107481, GenBank accession code HM407883 (USNM).

Paratypes (19♂, 1♀). See Appendix 1.

Diagnosis. The forewing pattern of *C. bernardoespinozai* is somewhat irregularly checkered and unlike that of other species in this group. The male genitalia are most similar to those of *C. bobandersoni*, but those of *C. bernardoespinozai* have a larger, broader uncus; a less undulate lower ventral edge of the sacculus; a less pointed distal end of the sacculus; and a much longer distal sclerite of the phallus.

Description. MALE (Fig. 14). *Head*. Frons, vertex and collar whitish; labial palpus cream with yellow and brown scales intermixed forming a lateral band along first segment and basal 0.75 of second segment; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula whitish intermixed with greenish scales, pro- and metathorax with narrow greenish band. FW length 9.1–10.5 mm; FW ground color pale olive with traces of gray green overscaling and irregular spots and streaks of dark brown and brownish olive; three dark, ill-defined blotches along costa at ca. 0.25, 0.50, and 0.75 distance from base to apex; a short black dash through middle of discal cell ending in a small pale spot; greenish olive band from outer margin of pale spot at end of discal cell to hind margin just before tornus. *Abdomen*. Externally pale brown. Genitalia (Fig. 61) with uncus large, broad; anterior margin at intersection of lateral halves of tegumen forming a rounded arch; gnathos absent; dorsal part of valva ovate, evenly attenuate apically, with dense patch of specialized setae along middle of costa, irregularly triangular basal part representing sacculus ca. 0.5 length of valva, with weakly developed haripencil; lateral processes of juxta as long as their bases; two semicircular sclerotized lines laterally at base of juxta; phallus with a long distal sclerite.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 11.1–11.6 mm. *Abdomen*. Genitalia (Fig. 99) with papillae anales slender, slightly converging posteriorly; ductus bursae with complex sclerotization in anterior 0.6; signum large, paired lip-shaped, with an uninterrupted line of sclerotization between its two lateral projections.

DNA barcodes. The 19 barcode sequences of *C. bernardoespinozai* form a BIN (BOLD:AAA1074) with an average distance of 0.13% among the sequences, and a distance of 4.17% to its nearest neighbor, *C. marianofigueresi*.

Distribution. *Chlamydastis bernardoespinozai* has been collected from 200 to 700 m on both slopes of the central cordillera and in the rainforest of ACG.

Biology. This species has been reared from larvae feeding on *Chrysophyllum cainito* L. (n = 3), *Chrysophyllum brenesii* Cronquist (n = 8), and *Pouteria izabalensis* (Standl.) Baehni (n = 1) (Sapotaceae) (Table 1).

Immature stages (Fig. 125). Head amber; prothorax (T1) gray with a pair of fused black pinacula on shield; T2–T3 with a pair of small, rounded, lateral protuberances (smaller in T3), black with two longitudinal white lines; abdominal segments pale green with small, lateral, translucent pale beige protuberances; A10 pale orange.

Etymology. *Chlamydastis bernardoespinozai* is named for our Costa Rican friend and colleague Bernardo Espinoza in recognition of his curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis bobandersoni Phillips and Brown, new species

Figures 15, 62, 100

Holotype. Female, Costa Rica, Guanacaste, ACG, Sector Pitilla, 510 m, larva feeding on *Pouteria campechiana* (Sapotaceae), em: 25.xii.2009, 09-SRNP-73957, GenBank accession code HM885197 (USNM).

Paratypes (7♂, 3♀). See Appendix 1.

Diagnosis. Superficially, *C. bobandersoni* lacks the dark curved line through the middle of the discal cell of the FW characteristic of the Curviliniella Species Group. In the male genitalia of *C. bobandersoni* the uncus is shorter and slenderer than in congeners; there is a conspicuously convex outer edge of the valva between the sacculus and the apex of the valva; the outer edge of the valva bears a region of long fine hairs; the termination of the sacculus

is more distally attenuate and pointed; and the phallus has a small, rodlike distal sclerite. The female genitalia of *C. bobandersoni* differ from those of other species in the group by lacking a well-developed signum.

Description. MALE (Fig. 15). *Head*. Frons white; vertex white with brownish scales closer to collar; labial palpus with first segment dark brown laterally, second segment brown laterally in basal ca. 0.66, with irregular brown ring near tip, base of third segment with a narrow brown ring; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula beige with scattered brown scales. FW length 8.8–9.2 mm; FW ground color white with scattered brown scales, three dark gray blotches along FW costa at ca. 0.25, 0.50, and 0.75 distance from base to apex; an irregular dark grey band parallel to termen originating at hind margin about 0.8 distance from base to tornus, continuing through a narrow line terminating in costal blotch at 0.75 distance from base to apex. HW light brown. *Abdomen*. Dorsum pale brown, venter paler. Genitalia (Fig. 62) with uncus short, slender; anterior margin at intersection of lateral halves of tegumen narrow trough-shaped; gnathos absent; dorsal part of valva subovate, comparatively short, evenly attenuate apically, with dense patch of specialized setae along middle of costa; valva with conspicuous convexity along ventral margin of dorsal part and irregularly triangular basal part representing sacculus; latter ca. 0.5 length of valva, with long, dense, moderately developed haripencil; termination of sacculus distally attenuate, pointed; phallus with small rodlike distal sclerite.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 10.0–10.1 mm. *Abdomen*. Genitalia (Fig. 100) with papillae anales moderately uniform in width throughout, weakly incurved distally, slightly diverging posteriorly; sterigma a broad, lightly sclerotized band; ductus bursae short, broad, undifferentiated from corpus bursae, with posterior 0.33 sclerotized; corpus bursae elongate-ovate, lacking signum.

DNA barcodes. The 14 sequences of *C. bobandersoni* form a uniform BIN (BOLD:AAA1114) with identical barcodes, and a distance of 8.77% to the nearest neighbor, *C. orion*.

Distribution. *Chlamydastis bobandersoni* has been found only in Costa Rica at low and middle elevations (400–570 m) in the rainforest and rain forest-dry forest lowland intergrade in ACG.

Biology. *Chlamydastis bobandersoni* has been reared from larva feeding on *Pouteria campechiana* (Kunth) Baehni (Sapotaceae) (n = 3) (Table 1).

Etymology. *Chlamydastis bobandersoni* is a patronym for Bob Anderson in recognition of his taxonomic contributions to the national biodiversity inventory of Costa Rica.

Mendoron Species Group

The Mendoron Species Group is closely related to the Curviliniella Species Group and is composed of five species, two from Costa Rica, *C. carlosviquezi* and *C. christerhanssoni*; one from French Guiana, *C. mendoron* (Busck, 1911); one from Peru, *C. batrachopis* (Meyrick, 1913), illustrated by Clarke (1955: 179); and one from Brazil (Amazonas), *C. smodicopa* (Meyrick, 1915), illustrated by Clarke (1955: 203). The five species share similar male genitalia with a slightly longer, slenderer uncus than that of the Curviliniella Species Group; a slender, rounded gnathos (absent in the Curviliniella Species Group); a two-part valva that includes a large triangular sacculus (basal part of valva) that bears a dense hairpencil, and a more narrow-elongate dorsal part with a truncate, angled, or rounded apex; extremely broad, subrectangular or rounded lateral processes of the juxta; and a phallus with a large, irregular apical extension that bears a sparsely dentate edge. The specialized (arrowhead) setae of the male genitalia originate from the distal termination of the costa of the valva. The female genitalia have a broadly triangular, sclerotized flap over the ostium; a broad ductus bursae undifferentiated from the membranous corpus bursae (i.e., *C. christerhanssoni*) or sclerotized in the posterior half (i.e., *C. carlosviquezi*); and a small signum, extremely reduced in *C. carlosviquezi*, and a small sclerotized patch in *C. christerhanssoni.* The latter two species are characterized by a whitish forewing with a somewhat checkered pattern of dark gray with a prominent dark blotch near the end of the discal cell.

We recognize two new species from Costa Rica based on differences in the male genitalia with those of *C. mendoron*, the latter of which has a rounded apex and narrow-elongate distal portion of the valva, rounded lateral processes of the juxta, and a shorter phallus.

Chlamydastis carlosviquezi Phillips and Brown, new species

Figures 16, 63, 101, 127

Holotype. Male, Costa Rica, Alajuela, ACG, Sector Rincon Rainforest, Estación Leiva, Potrero Chaves, 450 m, 19.viii.2009, R. Franco and H. Cambronero, 09-SRNP-107366, GenBank accession code GU699323 (USNM).

Paratypes (28♂, 6♀). See Appendix 1.

Diagnosis. *Chlamydastis carlosviquezi* is superficially most similar to *C. christerhanssoni*, but it can be distinguished from the latter most easily by features of the male genitalia: a shorter, more distally attenuate uncus; a conspicuously concave termination of the valva (truncate in *C. christerhanssoni*); slightly slenderer lateral processes of the juxta; and a longer internal sclerite of the phallus.

Description. MALE (Fig. 16). *Head*. Frons and vertex white; labial palpus with first segment and basal 0.5 of second segment brownish, third segment whitish with a narrow brownish ring at base; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula whitish with scattered light brown scales. FW length 10.6–11.3 mm; FW ground color white with faint, irregular gray striations; four small gray marks along costa at ca. 0.10, 0.25, 0.50, and 0.75 distance from base to apex, with marks progressively larger from base to apex; an irregular black dash at end of discal cell; a similarly colored small mark on hind margin about 0.25 from base to tornus; small patch of raised brownish scales at hind margin ca. 0.1 distance from base to tornus. HW light brown. *Abdomen*. Externally pale brown. Genitalia (Fig. 63) with uncus short, attenuate distally; gnathos arms slender, curved; valva with narrow-elongate dorsal part with an excavated apex bearing dense patch of specialized setae, and large triangular basal part (sacculus) bearing dense, long hairpencil; lateral processes of juxta broad, subrectangular; phallus with long internal sclerite.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 12.8–14.9 mm. *Abdomen*. Genitalia (Fig. 101) with papillae anales slender, nearly parallel-sided throughout length; ostial area with broadly triangular, sclerotized flap; ductus bursae broad, sclerotized in posterior 0.5; corpus bursae ovate, signum reduced to small patch of tiny thorns.

DNA barcodes. The 37 barcode sequences of *C. carlosviquezi* form a BIN (BOLD:AAA1138) that includes two uniform clusters separated by a small split, with an average distance of 0.45% among the sequences, and a distance of 3.67% to its nearest neighbor, *C. christerhanssoni*. This small split may be an indication of two cryptic species, but that will require additional specimens or different genes.

Distribution. *Chlamydastis carlosviquezi* has been collected in ACG from 10 to 800 m in the dry and rain forests as well as the lowland intergrade between the two. It also has been collected on the Caribbean side at ca. 1000 m.

Biology. *Chlamydastis carlosviquezi* has been reared from larvae feeding on *Chrysophyllum cainito* L. (n = 28) and *Manilkara chicle* (Pittier) Gilly (n = 1) (Sapotaceae) (Table 1).

Immature stages (Fig. 127). Head reddish-amber; prothorax pale reddish with a large, ovoid, black spot at middle; T2 and T3 white at dorsum with four small black to brownish-black spots (pinacula of D1 and D2 setae), with three distinct bands from subdorsum to lateral, represented by a black blotch, a white band, and a second black band; A1–8 with a white dorsal "saddle" surrounding four elongate brownish, translucent pinacula, A9 with white saddle surrounding a pair of brownish pinacula; A1–8 with white antero-lateral dash; A10 pale brown.

Etymology. The specific epithet *carlosviquezi* is a patronym for Carlos Víquez in recognition of his curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

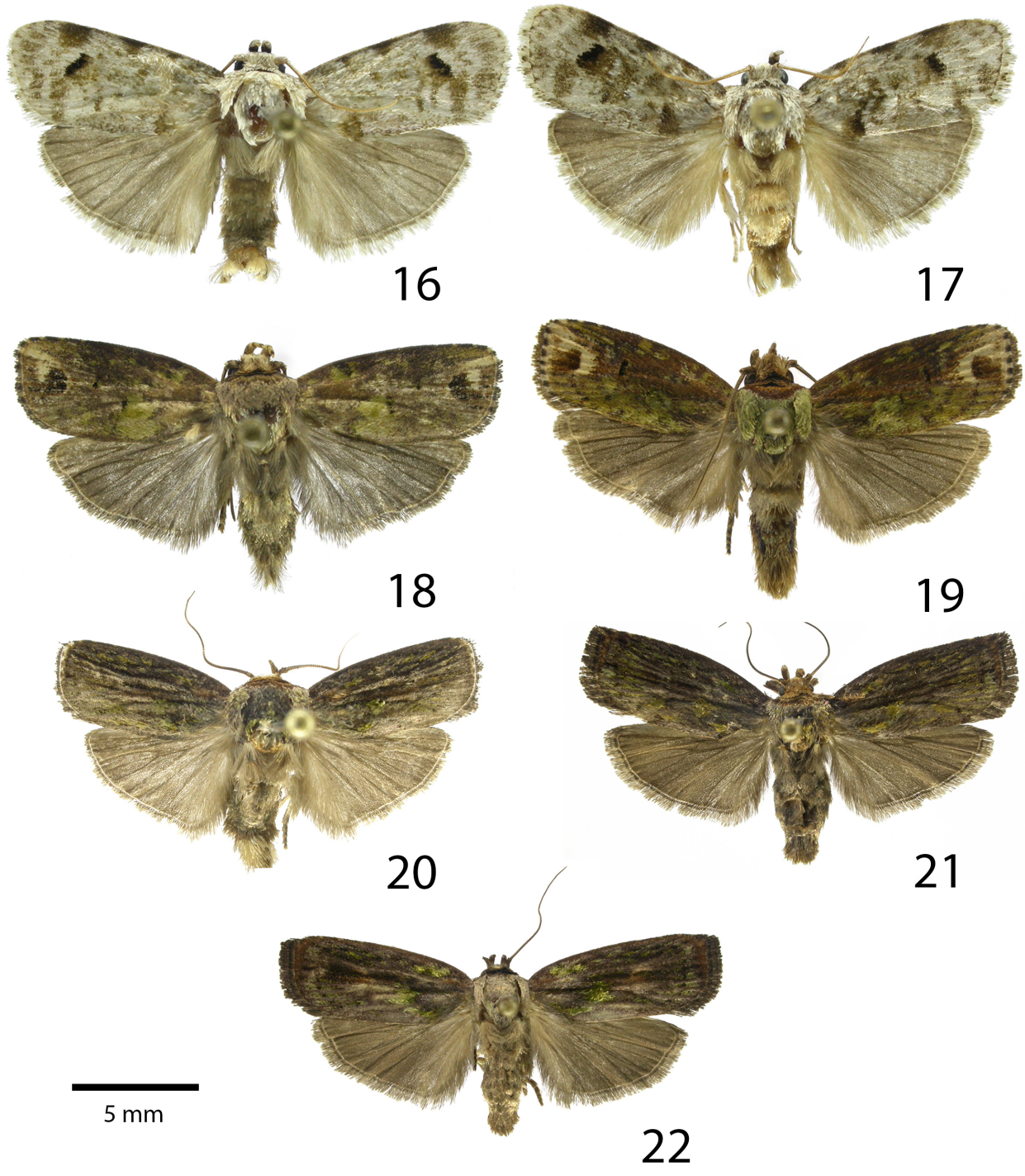
Chlamydastis christerhanssoni Phillips and Brown, new species

Figures 17, 64, 102

Holotype. Male, Costa Rica, Puntarenas, Area de Conservación Osa, Los Charcos, 1 km E de Banegas, 50 m, 6.x.2010, E. Phillips, INB0004269420, GenBank accession code MH827049 (MNCR-A).

Paratypes (15♂, 1♀). See Appendix 1.

Diagnosis. *Chlamydastis christerhanssoni* is most similar to *C. carlosviquezi*, but the two can be differentiated easily by the male genitalia. In *C. christerhanssoni* the distal end of the valva is conspicuously truncate, whereas in *C. carlosviquezi* it is pointed with a rounded, subapical concavity.



Figures 16–22. Adults of *Chlamydastis* from Costa Rica – Mendoron and Phytoptera Species Groups. **16)** *C. carlosviquezi*, holotype, male, 09-SRNP-107366. **17)** *C. christerhanssoni*, holotype, male, INBIOCRI000844209. **18)** *C. phytoptera*, male, 12-SRNP-105632. **19)** *C. christhompsoni*, male, holotype, 09-SRNP-20126. **20)** *C. paulhansoni*, male, holotype, INB0004269422. **21)** *C. elenaulateae*, female, paratype, 03-SRNP-10412. **22)** *C. gladysrojasae*, female, paratype, 06-SRNP-109148.

Description. MALE (Fig. 15). *Head*. Frons and vertex white; labial palpus mostly cream with first segment and basal 0.5 of second segment brownish, third segment cream with a narrow brownish ring at base; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula whitish with scattered light brown scales. FW length 10.7–12.2 mm; FW ground color pale cream with irregular grayish brown striations; four small gray marks along costa at ca. 0.10, 0.25, 0.50, and 0.75 distance from base to apex, progressively larger from base to apex; an irregular black blotch at end of discal cell; a similarly colored small mark from hind margin ca. 0.25 distance from base to tornus; a small patch of raised brownish scales at hind margin ca. 0.1 distance from base to tornus. HW pale grayish brown. *Abdomen*. Externally pale brown. Genitalia (Fig. 64) with uncus moderately long, slender; gnathos arms slender, curved; valva with narrow-elongate, subrectangular dorsal part with a truncate apex bearing dense patch of specialized setae, and large triangular basal part (sacculus) bearing dense, long hairpencil; lateral processes of juxta broad, subrectangular; phallus with internal sclerite extending beyond irregular apical extension bearing a sparsely dentate edge.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse, FW length 12.8–14.9 mm. *Abdomen*. Genitalia (Fig. 102) with papillae anales slightly narrowed and diverging posteriorly; ostial area with broadly triangular, sclerotized flap; weakly sclerotized ductus bursae broadened to membranous corpus bursae; signum a small, irregularly sclerotized patch.

DNA barcodes. The 6 barcode sequences of *C. christerhanssoni* form a BIN (BOLD:ABU8388) with an average distance of 0.05% among the sequences and a distance of 4.01% to its nearest neighbor, *C. carlosviquezi*.

Distribution. *Chlamydastis christerhanssoni* has been collected in the southern Pacific lowlands of Costa Rica.

Biology. Larval hosts and immatures remain unknown.

Etymology. *Chlamydastis christerhanssoni* is named in honor of Christer Hansson in recognition of his taxonomic contributions to the national biodiversity inventory of Costa Rica.

Phytoptera Species Group

In Costa Rica, the Phytoptera Species Group is composed of five species: *C. phytoptera* (Meyrick), *C. christhompsoni*, *C. paulhansoni*, *C. elenaulateae*, and *C. gladysrojasae*. Other species in this group are *C. hemichlora* (Meyrick, 1916) from French Guiana, illustrated by Clarke (1955: 188); *C. scutellata* (Meyrick, 1916) from French Guiana, illustrated by Clarke (1955: 203); and *C. chlorosticta* (Meyrick, 1913) from Perú, illustrated by Clarke (1955: 183). The five species found in Costa Rica share similar male genitalia with a long, slender uncus; a well-developed gnathos; an ovate, somewhat "veined" valva (an arrangement of sclerotized lines vaguely like veins of a leaf or wing) (less developed and/or inconspicuous in *C. phytoptera* and *C. christhompsoni*), usually with a rounded apex; and a short, triangular or rounded sacculus with a free distal end, confined to the basal 0.15–0.30 of the valva. The specialized setae of the male originate as a dense bundle from near the middle of the costa of the valva. Females have a patch of tiny teeth along the inner margin of the papillae anales; a long, slender ductus bursae that is equal to or longer than the corpus bursae; and a subrectangular to oblong, spiny signum unsclerotized in a narrow region through its middle. The five species can be separated into two groups based on facies: one group (*C. phytoptera* and *C. christhompsoni*) is characterized by the presence of a dark rounded spot near the middle of the termen, whereas the other group (*C. gladysrojasae*, *C. paulhansoni*, and *C. elenaulateae*) is characterized by subtle longitudinal dark scaling along the veins without conspicuous forewing markings; both groups have variably developed, usually ill-defined areas of green scales. Some of the Costa Rican species can be distinguished by the color of the scales on the vertex of the head: white in *C. phytoptera*, fawn-brown in *C. paulhansoni* and *C. elenaulateae*, and dark brown in *C. gladysrojasae*.

Chlamydastis phytoptera (Busck)

Figures 18, 65, 103

Stenoma phytoptera Busck 1914: 44; Brown et al. 2004: 112.
Chlamydastis phytoptera: Becker 1984: 34.

Lectotype (designated herein). Male, Costa Rica, Sixola [= Sixaola] River, W. Schaus, USNM Type No. 16720, USNM slide 13,192 (USNM).

Specimens Examined (26♂, 1♀). See Appendix 1.

Diagnosis. *Chlamydastis phytoptera* is superficially most similar to *C. christhompsoni* but can be distinguished by the position of the small white marking in the FW, which in *C. christhompsoni* is crescent-shaped and basal to the dark brown blotch, rather than apical to it. In the male genitalia, the shape of the distal portion of the valva is rounded in *C. phytoptera* and squarish in *C. christhompsoni*.

Redescription. MALE (Fig. 18). *Head*. Frons and vertex whitish, collar light brown; labial palpus with first segment brown, second segment brown in basal 0.5, whitish in distal 0.5, third segment whitish with a subapical brown ring; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula mostly grayish brown. FW length 9.4–10.4 mm; FW mostly brown with some irregular faint brown and green mottling; a distinct dark brown, semicircular blotch near middle of termen with a smaller white to cream subovoid spot adjacent to its apical edge and an ill-defined green blotch near middle of hind margin. HW dark gray. *Abdomen*. Brown on dorsum, cream on venter, with cream scales externally on genitalia; last segment with a pair of short, triangular, distal processes from dorsum (visible on descaled abdomen, Fig. 65a). Genitalia (Fig. 65) with uncus ca. 0.5 length of valva; gnathos well developed; valva ovate, with rounded apex, weakly veined, with dense cluster of specialized setae from near mid-costa; sacculus short, subtriangular, with a free distal end, confined to basal 0.2 of valva; lateral lobes of juxta minute; phallus slightly curved with long sclerite in vesica.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 12.2–14.3 mm. *Abdomen*. Genitalia (Fig. 103) with papillae anales slightly diverging and rounded posteriorly, with conspicuous longitudinal line of sclerotization in basal 0.5; ductus bursae slender, ca. 10 times as long as width at middle, slightly longer than corpus bursae, slightly broadened near ill-defined junction with corpus bursae; corpus bursae ovoid; signum subrectangular, ca. 3 times as long as wide, somewhat peanut-shaped.

DNA barcodes. The 53 barcode sequences of *C. phytoptera* form a BIN (BOLD:AAA1079) with an average distance of 0.57% among the sequences, and a distance of 6.58% to its nearest neighbor, *C. christompsoni*. GenBank accession code is MH827048 for 12-SRNP-105632.

Distribution. This species has been recorded from Panama and Costa Rica. In Costa Rica it has been collected from 300 to 1200 m in dry and rain forest.

Biology. The immatures and food plants are unknown.

Remarks. Although Busck (1914: 44) gave no indication of how many specimens he examined, there are two specimens from his type series of *Stenoma phytoptera* in the USNM collection, both of which bear a red "Type" label indicating USNM type catalog number 16720. One is a female from Trinidad River, Panama and the other a male from Sixola [= Sixaola] River, Costa Rica. The designation of multiple "types" is typical of works from the early part of the 19th century before the concept of a single holotype was firmly established. In his description of the species, Busck lists "Habitat. –Trinidad River, Panama, March," suggesting that the female is intended to be the "type," and based on this, Brown et al. (2004) listed the female as "holotype." However, at the end of the description Busck states: "I also have this showy species from Sixola River, Costa Rica, W. Schaus, collector." Because the two specimens were believed by Busck to be conspecific and both are clearly labeled as "type," we consider both specimens to be syntypes. Based on facies alone, the two may be different species, and because the genitalia slide of the female is presumed lost and that specimen is in considerably poorer condition, we herein designate the male as the lectotype.

Chlamydastis christhompsoni Phillips and Brown, new species

Figures 19, 66, 104, 128

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Del Oro, Tangelo, 410 m, 28.i.2009, R. Moraga, 09-SRNP-20126, GenBank accession code GU649223 (USNM).

Paratypes (22♂, 18♀). See Appendix 1.

Diagnosis. *Chlamydastis christhompsoni* is superficially most similar to *C. phytoptera*. The two can be distinguished by the position of the white spot in the FW, which is more crescent-shaped and basal to the dark brown

blotch in *C. christhompsoni* rather than more rounded and apical to the brown blotch in *C. phytoptera*. In the male genitalia, the shape of the distal portion of the valva is truncate in *C. christhompsoni* and round in *C. phytoptera*.

Chlamydastis christhompsoni is also very similar to *C. scutellata* (Meyrick, 1916) from French Guiana, but the two can be distinguished by differences in the shape of the projections from the dorsum of abdominal segment 8, and a more rounded, wider valva in the male genitalia of *C. christhompsoni*.

Description. MALE (Fig. 19). *Head*. Frons whitish; vertex brownish, collar brownish; labial palpus pale brown with scattered white scales; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Anterior band adjacent to collar and base of tegula brownish, greenish posteriorly. FW length 10.1–12.0 mm; FW dark brown with mossy green overscaling, especially dense along hind margin; a distinct, dark brown, circular blotch near middle of termen with a smaller white to cream crescent-shaped spot adjacent to its inner (basal) margin, sometimes extending along apical and terminal margin of dark brown blotch; hind margin densely overscaled with green. HW brown. *Abdomen*. Externally pale brown; a pair of elongate-triangular projections from last segment (visible on descaled abdomen) (Fig. 66a). Genitalia (Fig. 66) with uncus long, slender; gnathos with an angulate dilation near middle; valva subovate, with somewhat square apex, weakly veined, with dense cluster of specialized setae from costa subapically; sacculus short, elongate-triangular, with a free distal end, confined to basal 0.3 of valva; lateral lobes of juxta long; phallus weakly curved with long sclerite in vesica.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 13.1–15.1 mm. *Abdomen*. Genitalia (Fig. 104) with papillae anales diverging and rounded distally, together weakly chordate; ductus bursae slender, 10–12 times as long as width at middle, slightly longer than corpus bursae; corpus bursae ovoid with an irregularly ovoid, spiny signum.

DNA barcodes. The 69 barcode sequences of *C. christhompsoni* form a uniform BIN (BOLD:AAA11184) with an average distance of 0.11% among sequences, and a distance of 9.22% to its nearest neighbor, *C. phytoptera*.

Distribution. *Chlamydastis christhompsoni* has been collected in ACG from 130 to 1450 m in cloud forest, rain forest, and rain forest-dry rain forest lowland intergrade.

Biology. *Chlamydastis christhompsoni* has been reared from larvae feeding on *Pouteria reticulata* (Engl.) Eyma (n = 124) and *Pouteria campechiana* (n = 1) (both Sapotaceae) (Table 1).

Immature stages (Fig. 128). Head pale orange; prothorax pale green; T2–T3 with large, irregular, reddish blotch dorsally, T2 with irregular yellow band posterior to reddish blotch; A1–A7 with red shield covering most of segments, with irregular yellow band posterior to red blotch on A1, A4, and A5; A8 pale green with a few red dots and a central yellow spot; A9 and A10 pale green.

Parasitoids. Hymenoptera: Braconidae: Microgastrinae: *Hypomicrogaster* Whitfield21 (n = 4, e.g., DHJPAR 0039649), *Hypomicrogaster* Janzen27 (n = 3, e.g., DHJPAR0049864), *Hypomicrogaster* Janzen01 (e.g., DHJPAR 0057747); Diptera: Tachinidae: Exoristinae: *Hyphantrophaga* Wood15 (e.g., DHJPAR0050501).

Etymology. The specific epithet *christhompsoni* is a patronym for the late Christian Thompson, a noted U.S. dipterist, in recognition of his taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis paulhansoni Phillips and Brown, new species

Figures 20, 67

Holotype. Male, Costa Rica, Puntarenas, Area de Conservación Osa, Los Charcos, 1 km E de Banegas, 50 m, 6.x.2010, E. Phillips, INB0004269423, GenBank accession code MH827052 (MNCR-A).

Paratypes (15♂). See Appendix 1.

Diagnosis. *Chlamydastis paulhansoni* is most similar to the Costa Rican species *C. elenaulateae* and *C. gladysrojasae* and the Peruvian species *C. chlorosticta* (TL: Chanchamayo, Perú). It can be distinguished from the last by its smaller forewing length (10.1 mm in *C. paulhansoni*, 15.0 mm in *C. chlorosticta*), its paler hindwing color (grayish brown in *C. paulhansoni*, dark brown in *C. chlorosticta*), and its more extensive green scaling (less green scaling in *C. chlorosticta*). *Chlamydastis paulhansoni* can be distinguished from *C. elenaulateae* by its longer gnathos and narrower and less deeply emarginated apex of the uncus.

Chlamydastis chlorosticta was described from the holotype female illustrated by Clarke (1955: 183) that lacks its abdomen. Hence, for comparison of this species to *C. paulhansoni*, we used a male from the type locality of *C. chlorosticta* deposited in the USNM. The most conspicuous difference in the male genitalia bewteen *C. paulhansoni* and *C. chlorosticta* are the lateral processes of the juxta, which are uniform in width in the specimen from Perú (i.e., *C. chlorosticta*) in contrast to those of *C. paulhansoni* that are broadened at each end.

Description. MALE (Fig. 20). *Head*. Frons and vertex cream, collar brownish; labial palpus with first and second segment brownish, third segment paler; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Base of tegulae and anterior margin of prothorax brownish, mesothorax pale brown, metathorax pale brown with a semicircular blotch of green scales on posterior end. FW length 9.6–10.1 mm; FW brown with faint olive green overscaling on most of wing; brown in costal 0.5, with faint black lines along veins; slightly paler in lower 0.5, without lines along veins; a small green spot near premedial line. *Abdomen*. Dorsum pale brown, venter darker with paired, tiny cream spots on A4–7. Genitalia (Fig. 67) with uncus long, slender, emarginated apically; valva ovate, with rounded apex, strongly veined, with dense cluster of specialized setae near mid-costa; sacculus short, rhomboidal, with a free distal end, confined to basal 0.15 of valva; juxta with slender, slightly apically-dilated lateral processes; phallus nearly straight with long, slender sclerite in vesica.

FEMALE. Unknown.

DNA barcodes. The three barcodes of *C. paulhansoni* are identical and form a uniform BIN (BOLD:ABU9416) with a distance of 3.85% to the nearest neighbor, *C. elenaulateae*.

Distribution. *Chlamydastis paulhansoni* is only known from the lowlands of the Península de Osa in southern Costa Rica.

Biology. The immature stages and larva are unknown.

Etymology. *Chlamydastis paulhansoni* is named in honor of Paul Hanson in recognition of his taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis elenaulateae Phillips and Brown, new species

Figures 21, 68, 105, 129

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Rincón Rain Forest, Río Francia, 410 m, 25.i.2009, R. Franco and H. Cambronero, GenBank accession code GU675011 (USNM).

Paratypes (28♂, 15♀). See Appendix 1.

Diagnosis. *Chlamydastis elenaulateae* is most similar to *C. paulhansoni*. It can be distinguished by its shorter gnathos and broader uncus with a more deeply emarginated apex. *Chlamydastis elenaulateae* can be distinguished from the related *C. gladysrojasae* by the larger, more rectangular signum (smaller and more rounded in *C. gladysrojasae*).

Description. MALE (Fig. 21). *Head*. Frons and vertex brownish, collar light brown; labial palpus with first and second segments brownish, third segment paler; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Base of tegula and anterior margin of prothorax brownish, mesothorax gray, metathorax gray with a semicircular blotch of green scales on posterior end. FW length 10.0–10.4 mm; FW brown with faint olive green overscaling on most of wing, browner in costal 0.5, with faint black lines along veins, paler in lower 0.5, without lines along veins; small irregular green blotches near premedial line. *Abdomen*. Dorsum light brown, venter darker with paired whitish spots on central segments. Genitalia (Fig. 68) with uncus slender, ca. 0.7 times length of valva, with deeply emarginated apex; gnathos short; valva ovate, with rounded apex, strongly veined, with dense cluster of specialized setae near mid-costa; sacculus short, subrectangular, with a free distal end, confined to basal 0.15 of valva; phallus curved throughout, with small hook distally and a slender sclerite in vesica.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 12.7–12.9 mm. *Abdomen*. Genitalia (Fig. 105) with papillae anales with rounded outer margin in posterior 0.5, together weakly cordate, each papilla with a distinct line of sclerotization in basal 0.5; ductus bursae

slender, weakly broadened anteriorly to ill-defined junction with corpus bursae; corpus bursae subrectangular, with distinct, more-or-less parallel longitudinal creases or lines, signum subrectangular, rounded at each end.

DNA barcodes. The 79 barcode sequences of *C. elenaulateae* form a uniform BIN (BOLD:AAA1073) with an average distance of 0.04% among sequences and a distance of 3.19% to its nearest neighbor, *C. paulhansoni*.

Distribution. *Chlamydastis elenaulateae* has been collected in ACG from 140 to 675 m in the rain forest and rain forest-dry rain forest lowland intergrade, and in ACC Turrialba at 630 m.

Biology. *Chlamydastis elenaulateae* has been reared from caterpillars feeding on *Chrysophyllum brenesii* Cronquist (n = 57), *Chrysophyllum cainito* L. (n = 9), *Pouteria reticulata* (Engl.) Eyma (n = 20), and *Sideroxylon capiri* (A. DC.) Pittier (n = 4) (all Sapotaceae) (Table 1).

Immature stages (Fig. 129). Head, T1, T2, and T3 bright red, T2 with broad yellow dorso-posterior band; abdominal segments bright red, with yellow dorso-posterior bands on A1, A2, A4, A5 and A8; A9 and A10 translucent reddish orange.

Etymology. *Chlamydastis elenaulateae* is named in honor of Elena Ulate in recognition of her technical support of the national biodiversity inventory of Costa Rica.

Chlamydastis gladysrojasae Phillips and Brown, new species

Figures 22, 69, 106

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Rincón Rain Forest, Manta Hugo, 491 m, 13.iii.2009, F. Quesada and S. Rios, 10-SRNP-106674, GenBank accession code HQ556226 (USNM).

Paratypes (2♂, 3♀). See Appendix 1.

Diagnosis. *Chlamydastis gladysrojasae* is most similar to *C. paulhansoni* and *C. elenaulateae*, from which it can be distinguished by its shorter uncus with a rounded apex, its shorter gnathos, and its more rounded sacculus. Superficially, the vertex of the head and the adjacent collar of scales are much darker brown in *C. gladysrojasae*.

Description. MALE (Fig. 22). *Head*. Frons whitish, vertex blackish, collar blackish; labial palpus with all segments light brown, second segment with a lighter ring at anterior end; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Base of tegula and anterior margin of prothorax brown, mesothorax and metathorax gray with faint pale purplish tint. FW length 9.5–11.0 mm; FW brownish with faint olive green overscaling and small green irregular blotches; costal 0.5 darker with faint black lines along veins; lower 0.5 paler, without lines along veins. *Abdomen*. Dorsum grayish, venter darker with paired whitish spots. Genitalia (Fig. 69) with uncus slender, ca. 0.5 length of valva, with rounded apex; gnathos short; valva subrectangular with rounded apex, strongly veined, with dense cluster of specialized setae near mid-costa; sacculus a short, free, rounded lobe; phallus curved throughout, with round-tipped sclerite in vesica.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 12.9–13.5 mm. *Abdomen*. Genitalia (Fig. 106) with papillae anales slightly diverging and rounded posteriorly, each papilla with a distinct broad line of sclerotization; ductus bursae slender, weakly broadened anteriorly to ill-defined junction with corpus bursae; corpus bursae pear-shaped, signum subrectangular, gradually narrowed at each end.

DNA barcodes. The 13 barcodes of *C. gladysrojasae* form a BIN (BOLD:AAD8085) with an average distance of 0.32% among barcodes, and a distance of 7.22% to its nearest neighbor, *C. elenaulateae*.

Distribution. *Chlamydastis gladysrojasae* has been collected from 491 to 610 m in ACG.

Biology. The immatures and host plants are unknown.

Etymology. *Chlamydastis gladysrojasae* is named in honor of Gladys Rojas in recognition of her logistic support of the national biodiversity inventory of Costa Rica.

Tryphon Species Group

The Tryphon Species Group is composed of six species: *C. powelli*, *C. gracewoodae*, *C. juanmatai*, *C. isidrochaconi* (all from Costa Rica), *C. tryphon* (Busck, 1920) from Guatemala, and *C. lactis* (Busck, 1911) from French Guiana,

the last illustrated by Clarke (1955: 175). The forewing pattern is sexually dimorphic: males typically have a broad, dark media fascia originating near the middle of the costa and extending to the hind margin, leaving a uniform pale area in the basal half of the forewing (the distal portion beyond the fascia may be pale or concolorous with the fascia), and the costa has an extremely shallow, broad concavity near the middle; females typically have a more uniform ground color (light or dark) with a dark semicircular blotch near the middle of the hind margin. Males of all species have a patch of long, fine, pale scales along the surface of the antenna opposite of the sensory setae, extending from the pedicel to ca. 0.5 the length of the antenna.

The six species share very similar male genitalia with a long, slender, slightly curved uncus; a well-developed gnathos with a flattened distal process at the junction of the lateral arms; a valva with a large, distally attenuate sacculus that projects outward from the vinculum and bears a dense patch of scales (hairpencil); and the dorsoposterior portion of the valva with a broad rounded-triangular lobe near the middle of the outer margin bearing a second dense patch of scales (hairpencil), and its upper, apical portion with a rounded or pointed apex. The specialized arrowhead-tipped setae of the male originate as a dense bundle slightly basal of the middle of the costa of the valva. *Chlamydastis powelli*, *C. gracewoodae*, and *C. juanmatai* share a dorsal, semi-membranous, hump near the middle of the phallus. *Chlamydastis tryphon* can be distinguished from the four Costa Rican species by its more pointed valva and its short, stout phallus with a small, ventrally directed, sclerotized tip.

The male genitalia of *C. powelli*, *C. gracewoodae*, and *C. juanmatai* are nearly identical, differing only in subtle and/or qualitative features. Of the three, females are known for *C. powelli* and *C. gracewoodae*, and they likewise are nearly identical in appearance. However, barcodes convincingly separate the species.

In the female genitalia the length of the anterior apophysis may be useful for separating *C. powelli* and *C. gracewoodae*. Females have a long, slender ductus bursae that gradually broadens into the corpus bursae. The signum is a U-shaped sclerite at the anterior end of the corpus bursae, spiny at each distal 0.33, unspined in the middle.

Chlamydastis powelli Phillips and Brown, new species

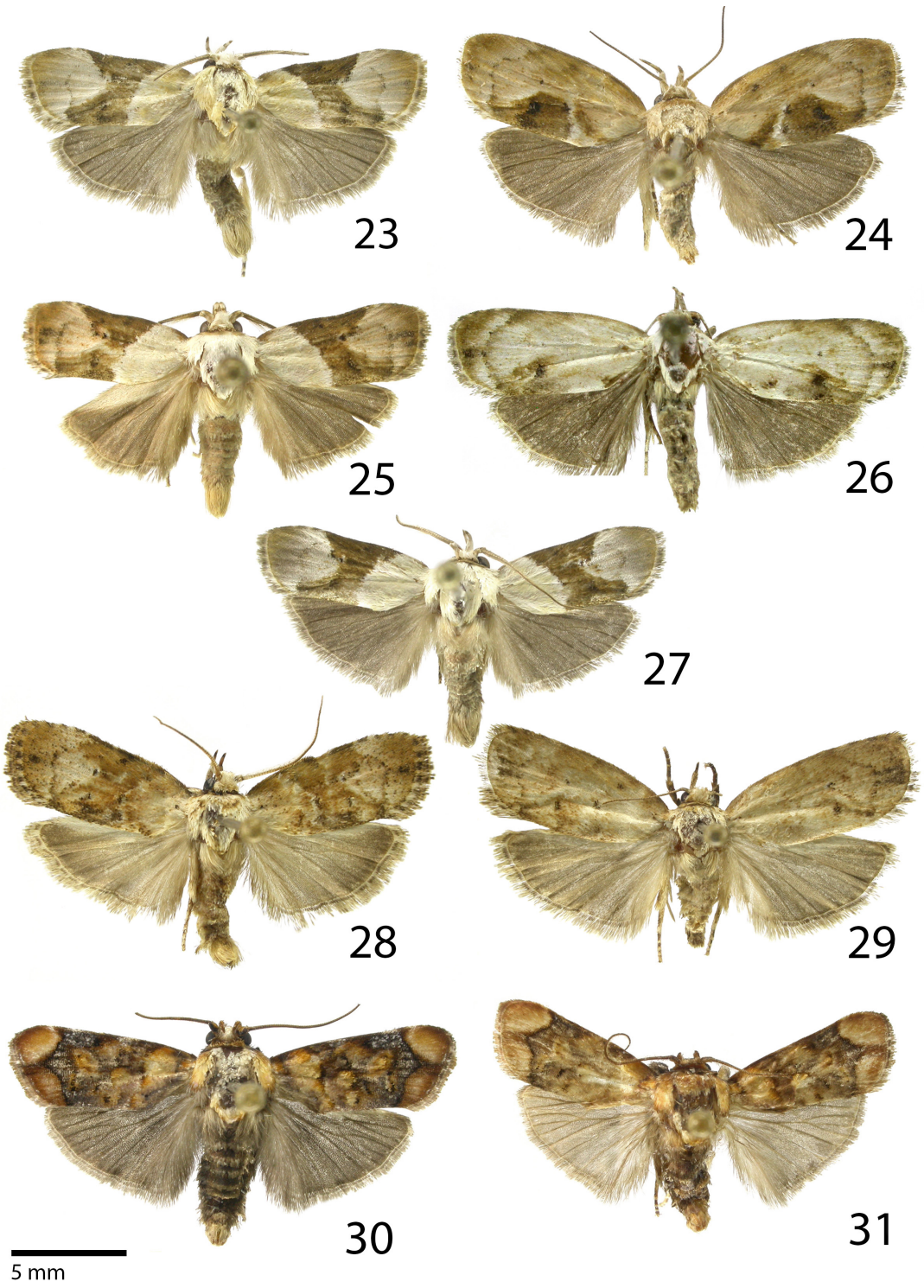
Figures 23, 24, 70, 107, 130

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Pailas, Palmeras, 1368 m, 10.vi.2010, H. Cambronero and S. Rios, 10-SRNP-114461, GenBank accession code JN284982 (USNM).

Paratypes (32♂, 21♀). See Appendix 1.

Diagnosis. Males of *C. powelli* are superficially most similar to those of *C. gracewoodae* (Fig. 25, 26) and *C. juanmatai* (Fig. 27), but the three species can be distinguished by subtle features of the genitalia and by barcodes. In the male genitalia of *C. powelli* the sacculus is broader; the lateral processes of the juxta are shorter and wider; and the venter of the phallobase opposite of the ductus ejaculatoris is narrower and more strongly curved. The female genitalia of *C. powelli* are most similar to those of *C. gracewoodae* and can be distinguished by the length of the posterior apophysis, which is shorter in *C. powelli*.

Description. MALE (Fig. 23). *Head*. Vertex and frons white, collar white; labial palpus with first segment dark brown, second segment dark brown in basal 0.5, third segment with two narrow, light brown rings, one at base and one near tip; antenna with length of sensory setae ca. equal to width of flagellomere, a patch of long, fine, whitish scales along surface opposite of sensory setae, extending from pedicel to ca. 0.5 length of antenna. *Thorax*. Prothorax with a narrow brown band adjacent to collar and continuing over base of tegula; meso- and metathorax yellowish. FW length 8.6–9.8 mm; FW yellowish in basal 0.33, bordered by a narrow white line adjacent to a broad, brown, median fascia with a gently curved inner margin and extending from mid-costa to middle of hind margin; FW pale brown ocherous distad of median fascia, darker near middle of termen; small dark patches of raised scales near center of outer margin of median fascia, another patch closer to fascia at hind margin. HW grey. *Abdomen*. Externally grey with whitish scales on first and second segment dorsally. Genitalia (Fig. 70) with uncus long, slender, rodlike; gnathos arms ca. 0.75 length of uncus with flattened distal process at junction of arms; valva with large subtriangular expansion near middle of lower (ventral) margin, valva rounded in distal 0.3, with dense patch of specialized setae near mid-costa; sacculus broad at base, slender, attenuate distally; basal portion (sacculus) and subtriangular mesial expansion bearing long hairpencils; juxta with short, broad, slightly



Figures 23–31. Adults of *Chlamydastis* from Costa Rica – Tryphon and Molinella Species Groups. **23)** *C. powelli*, male, holotype, 10-SRNP-114461. **24)** *C. powelli*, female, paratype, 04-SRNP-33602. **25)** *C. gracewoodae*, male, holotype, 06-SRNP-109407. **26)**. *C. gracewoodae*, female, paratype, 09-SRNP-105095. **27)** *C. juanmatai*, male, holotype, INB0004269414. **28)** *C. isidrochaconi*, male, paratype, INB0003041706. **29)** *C. isidrochaconi*, female, paratype, INBIOCRI000263379. **30)** *C. jimlewisi*, male, holotype, 11-SRNP-104260. **31)** *C. jimmilleri*, male, paratype, INBIOCRI001755621.

rounded, lateral processes; phallobase narrow, conspicuously curved along venter opposite of ductus ejaculatoris; distal pointed process of phallus relatively straight; cornutus small, U-shaped, dentate distally (Fig. 70a).

FEMALE. *Head*. Essentially as described for male, except sensory setae of antenna short, sparse. *Thorax*. FW length 10.1–10.3 mm (Fig. 24), costa gently arched throughout; FW ground color variable from pale brown ocherous to brown, with large, semicircular, dark brown blotch near middle of hind margin; a whitish narrow band followed by an oblique narrow brownish band adjacent to blotch. *Abdomen*. Genitalia (Fig. 107) with papillae anales short, broad, slightly diverging and rounded posteriorly; anterior apophysis ca. 1.8 times length of posterior apophysis; ductus bursae long, slender, gradually broadened into corpus bursae (i.e., lacking distinct junction of ductus and corpus); signum U-shaped, situated at anterior end of corpus bursae, spiny at each distal 0.33, unspined in middle.

DNA barcodes. The 124 barcode sequences of *C. powelli* occupy two BINS (BOLD:AAA0963 and BOLD:ACE9459) separated by a shallow split with a distance of 1.44%, indicating that two species may be involved. However, we are unable to find morphological or ecological evidence in support of this. Adopting a conservative approach, we base our circumscription of *C. powelli* on BIN BOLD:AAA0963 in which there is an average distance of 0.13% among sequences. It is likely that the other BIN eventually will be shown to be a different species, as has been found in other species of Lepidoptera elsewhere with shallow splits among sequences (e.g., Huemer et al. 2018).

Distribution. *Chlamydastis powelli* is widely distributed in ACG from 400 m to 1400 m. It occurs in the dry forest in the rainy season, and throughout the year in Caribbean and Pacific evergreen forests.

Biology. *Chlamydastis powelli* has been reared from larvae feeding on *Pouteria reticulata* (Engl.) Eyma (n = 113) (Sapotaceae) (Table 1).

Immature stages (Fig. 130). Head and prothoracic shield reddish; T2, T3 and abdominal segments pale green with faint lateral reddish spots (representing lateral pinacula); A9 and A10 pale pinkish orange.

Parasitoids. Several parasitoids have been reared from *C. powelli* caterpillars, including the following: Hymenoptera: Microgastrinae: *Hypomicrogaster* Janzen04 (n = 3, e.g., DHJPAR0041146), *Dolichogenidea* Janzen36 (e.g., DHJPAR0041632); Diptera: Tachinidae: Tachininae: *Genea* Janzen03 (e.g., DHJPAR0029596).

Etymology. *Chlamydastis powelli* is named in honor of Jerry A. Powell, mentor and professor of the first and second authors, in recognition of his many years of taxonomic support of the national biodiversity inventory of Costa Rica, and curation of the Costa Rican national collection.

Chlamydastis gracewoodae Phillips and Brown, new species

Figures 25, 26, 71

Holotype. Male, Costa Rica, Alajuela, ACG, Sector San Cristóbal, Estación San Gerardo, 575 m, R. Franco and H. Cambronero, 06-SRNP-109407, GenBank accession code JQ573454 (USNM).

Paratypes (16♂, 5♀). See Appendix 1.

Diagnosis. The male genitalia of *C. gracewoodae* can be distinguished from those of other species in the group by a slightly narrower sclerotized dorsal edge of the sacculus and subtle features of the juxta (Fig. 70, 71, 72). In *C. gracewoodae* the phallobase is slightly broader than that of *C. powelli*; the venter of the phallobase opposite the ductus ejaculatoris is slightly less curved than in *C. powelli*; and the cornutus is a longer, irregularly shaped band rather than the crescent-shaped sclerite of *C. powelli* and *C. juanmatai*. The female genitalia are nearly indistinguishable from those of *C. powelli*, but the signum is slightly larger.

Description. MALE (Fig. 25). *Head*. Frons and vertex white, collar white with scattered brownish scales; labial palpus with first segment white with scattered brown scales, second segment brown in basal half, third segment with two narrow, light brown rings, one at base and one near tip; antenna with length of sensory setae ca. equal to width of flagellomere, a patch of long, fine, whitish scales along surface opposite of sensory setae, extending from pedicel to ca. 0.5 length of antenna. *Thorax*. Prothorax with a narrow brown band adjacent to collar; meso- and metathorax whitish. FW length 8.0–9.2 mm; FW whitish with faint yellowish scales in basal 0.33, bordered by a thin white line adjacent to a broad, brown median fascia extending from mid-costa to middle of hind margin, with inner margin gently curved; FW pale brown ocherous distad of median fascia, darker near middle of termen; small darker patches of raised scales near center of outer margin of median fascia, another patch closer to

intersection of median fascia with hind margin. HW light brown. *Abdomen*. Externally pale brown. Genitalia (Fig. 71) with uncus long, slender; gnathos arms slender, ca. 0.75 length of uncus, flattened distally at junction of arms; valva with large subtriangular expansion near middle of lower (ventral) margin, rounded in distal 0.3, with dense patch of specialized setae near mid-costa; sacculus broadest at base, attenuate distally ended in a pointed tip; basal portion (sacculus) and subtriangular mesial expansion bearing long hairpencils; lateral processes of juxta short, digitate from rounded lobes; phallus stout, with distal pointed process relatively straight, phallobase with curved venter opposite of ductus ejaculatoris; cornutus moderate in size, U-shaped, dentate distally.

FEMALE (Fig. 26). *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 9.3–10.9 mm, shallow concavity near mid-costal weakly defined; FW ground color mostly pale beige to cream, with a small, diffuse, irregular brown blotch slightly distal to middle of hind margin; narrow brown line in subterminal area parallel to termen, with small, diffuse blotch near middle; narrow, faint, brown region at costa ca. 0.4–0.6 from base to apex; apex pale brown. *Abdomen*. Genitalia (not illustrated) typical of species group, but signum slightly larger.

DNA barcodes. The 30 barcode sequences of *C. gracewoodae* form a uniform BIN (BOLD:AAA0962) with an average distance of 0.13% among them, and a distance of 4.41% to its nearest neighbor, *C. isidrochaconi*.

Distribution. *Chlamydastis gracewoodae* has been found in the ACG rainforest from 150 m to 700 m, on both sides of the mountain range.

Biology. Nothing is known of the early stages of this species.

Etymology. *Chlamydastis gracewoodae* is named in honor of Grace Wood in recognition of her multifaceted support of the national biodiversity inventory of Costa Rica.

Chlamydastis juanmatai Phillips and Brown, new species

Figures 27, 72

Holotype. Male, Costa Rica, Puntarenas, Area de Conservación Osa, Los Charcos, 1 km E de Banegas, 50 m, 06.x.2010, E. Phillips, INB0004269414**,** GenBank accession code MH827054 (MNCR-A).

Paratypes (2♂). See Appendix 1.

Diagnosis. Males of *C. juanmatai* are nearly indistinguishable from those of *C. powelli* and *C. gracewoodae*, superficially and in genital morphology; however, the three can be separated by barcodes and subtle features of the male genitalia. *Chlamydastis powelli* is distinguished by its slightly longer uncus (Fig. 64); and *C. juanmatai* and *C. gracewoodae* can be distinguished from each other by the shape of the dorso-posterior margin of the free basal process of the valva (Fig. 65, 66). Also, in *C. juanmatai* the attenuate portion of the phallobase is slightly smaller than in the other two species.

Description. MALE (Fig. 27). *Head*. Vertex and frons white, collar white intermixed with brown scales; labial palpus with first segment dark brown, second segment light brown in basal half, third segment with two narrow light brown rings, one at base and one near tip; antenna with length of sensory setae ca. equal to width of flagellomere, an appressed patch of long, fine, whitish scales along surface opposite of sensory setae, originating from pedicel, extending ca. 0.5 length of antenna. *Thorax*. Prothorax with a narrow brown band adjacent to collar and continuing over base of tegula; meso- and metathorax white. FW length 7.7–7.9 mm; FW white in basal 0.33, with broad, brown, median fascia extending from mid-costa to middle of hind margin, with gently curved inner margin, beige distad of median fascia, becoming darker near middle of termen; small darker patches of raised scales near center of outer margin of median fascia, and another patch closer to hind margin. HW dark gray-brown. *Abdomen*. Dorsum gray with whitish scales on first and second segment. Genitalia (Fig. 72) with uncus long, slender; gnathos arms slender, ca. 0.8 length of uncus, flattened at distal junction of arms; valva with large subtriangular expansion near middle of lower (ventral) margin, rounded in distal 0.3, with dense patch of specialized setae near mid-costa; sacculus broadest at base, attenuate distally, ending in a pointed tip; basal portion (sacculus) and subtriangular mesial expansion bearing long hairpencils; lateral processes of juxta short, digitate from rounded lobes; phallus stout, with short distal pointed process relatively straight, phallobase with curved venter opposite of ductus ejaculatoris; cornutus small, U-shaped, dentate distally.

FEMALE. Unknown.

DNA barcodes. The three barcodes of *C. juanmatai* (BOLD:ABU8622) are identical, with a distance of 3.37% to its nearest neighbor, *C. powelli*.

Distribution. *Chlamydastis juanmatai* has been collected in the southern Pacific region of Costa Rica at 50 m elevation.

Biology. The immature stages and food plants remain unknown.

Etymology. *Chlamydastis juanmatai* is named in honor of Juan Mata in recognition of his technical support of the national biodiversity inventory of Costa Rica.

Chlamydastis isidrochaconi Phillips and Brown, new species

Figures 28, 29, 73, 108

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Santa María, Manta Claro, 1610 m, 2.iii.2011, H. Cambronero and R. Franco, 11-SRNP-101196, GenBank accession code JN297218 (USNM).

Paratypes (12♂, 2♀). See Appendix 1.

Diagnosis. Superficially, *C. isidrochaconi* can be distinguished from the other members of the Tryphon Species Group by the FW pattern of the male, in which the median fascia is ill-defined owing to a darker ground color, resulting in less contrast between the fascia and the ground. In the male genitalia, the uncus is much larger than in other members of the species group.

Description. MALE (Fig. 28). *Head*. Frons white, collar light brown; labial palpus with first segment light brown, intermixed with black scales, second segment beige intermixed with brownish scales in basal 0.4, third segment with two broad, ill-defined, light brown rings, one at base and one near tip; antenna with sensory setae ca. 3.0 times width of flagellomere, lacking patch of fine pale scales. *Thorax*. Prothorax beige with a narrow brown band adjacent to collar, continuing over base of tegula; meso- and metathorax whitish intermixed with brown scales especially at mesothorax. FW length 12.2–13.2 mm; FW ground color pale brown with irregular scattered darker brown and ocherous scales; a broad, ill-defined, weakly hourglass-shaped brown median fascia extending from mid-costa, where it is broadest, to middle of hind margin, pale brown area of ground color distad of median fascia, becoming slightly darker near middle of termen, with a faint blackish brown spot near mid-termen. HW light brown. *Abdomen*. Dorsum pale brown with whitish scales on first and second segment. Genitalia (Fig. 73) with uncus long; valva with large rounded expansion near middle of lower (ventral) margin, valva rounded in distal 0.3, with dense patch of specialized setae near mid-costa; sacculus broadest at base, attenuate distally, ending in a pointed tip, lacking prominent folded dorsal edge; basal portion of valva (sacculus) and subtriangular mesial expansion bearing long hairpencils; rounded basal excavation of juxta small, paried dorsal processes digitate; phallus short, broad, slightly curved, with pointed apical spine; vesica with small, crescent-shaped sclerite.

FEMALE (Fig. 29). *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 11.9–12.5 mm; FW ground color mostly pale beige, intermixed with ocherous scales; pattern elements reduced to small brown spots and streaks, a pair of irregular brown streaks at mid-termen. *Abdomen*. Genitalia (Fig. 108) with papillae anales short, broad, relatively parallel-sided, rounded posteriorly; ductus bursae long, slender, gradually broadened into corpus bursae (i.e., lacking distinct junction of ductus and corpus); signum large, U-shaped, situated at anterior end of corpus bursae, spiny at each distal 0.33, pointed distally, unspined in middle.

DNA barcodes. The 42 barcode sequences of *C. isidrochaconi* form a uniform BIN (BOLD:AAJ4196) with an average distance of 0.22% among barcodes, and a distance of 5.71% to its nearest neighbor, *C. gracewoodae*.

Distribution. *Chlamydastis isidrochaconi* has been collected in ACG above 1000 m in cloud forest. In the Cordillera Volcánica Central it has been found from 900 to 1600 m in the mountains of Area de Conservación La Amistad Pacífico.

Biology. *Chlamydastis isidrochaconi* has been reared once from *Pouteria reticulata* (Engl.) Eyma (n = 1) (Sapotaceae) (07-SRNP-35039) (Table 1).

Etymology. *Chlamydastis isidrochaconi* is named in honor of Isidro Chacón in recognition of his curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Molinella Species Group

The Molinella Species Group is composed of three species: *C. jimlewisi* and *C. jimmilleri* from Costa Rica, and *C. molinella* (Stoll) from Surinam. The three species share similar male genitalia with a large, somewhat conical uncus that is broadly attached to the tegumen; a reduced gnathos, membranous medially; a simple valva dilated near the middle with a poorly defined sacculus; a juxta that bears a pair of long lateral processes; and a large, curved phallus with a long, slender, rodlike projection that extends well beyond the apex of the phallus. The specialized arrowhead-tipped scales of the male originate in a dense bundle near the middle of the costa of the valva. In the female genitalia the ductus bursae is strongly sclerotized in the posterior 0.5 and membranous in the anterior 0.5; the corpus bursae is membranous throughout; and the signum is in the form of a subsquare, spiny plate. The forewing pattern is nearly identical among the three species with a somewhat variegated brown and gray ground color with three round, golden-ocherous spots: one at the base of the wing, one at the apex of the wing, and one at the lower half of the termen, the last separated from the previous spot by a narrow line of ground color.

Chlamydastis jimlewisi Phillips and Brown, new species

Figures 30, 74, 109

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Orosi, Estación Maritza, Casa Rafa, 579 m, 4.vi.2011, H. Cambronero and R. Franco, 11-SRNP-104260, GenBank accession code JQ547599 (USNM).

Paratypes (18♂, 12♀). See Appendix 1.

Diagnosis. *Chlamydastis jimlewisi* is most similar to *C. jimmilleri*, but it can be easily distinguished by the shape of the valva: a broader subbasal portion and a more strongly curved outer margin.

Description. MALE (Fig. 30). *Head*. Frons and vertex whitish intermixed with grey scales, collar yellow with brown scales intermixed; labial palpus grayish; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Prothorax and base of tegulae ocherous, meso- and metathorax mostly cream intermixed with a few ocherous scales; often with two lateral black lines on mesothorax. FW length 10.4–10.7 mm; FW with middle 0.66 somewhat checkered dark brown and pale ocherous with bluish white (iridescence) highlights; three round, pale golden-ocherous spots: one ill-defined near base of wing and two well-defined along termen, latter separated by a narrow line of brown ground color. HW dark gray-brown. *Abdomen*. Externally brown. Genitalia (Fig. 74) with uncus stout, conical; gnathos membranous; valva with lower margin undulate, rounded at base, broadest ca. 0.33 distance from base to apex, slightly narrower in distal 0.25; specialized setae from near middle of costa; lateral processes of juxta long-digitate, slightly curved dorsally, reaching lower base of valva; phallus large, curved, with long, curved distal rod extending well beyond apex of phallus; phallobase rounded.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 10.7–11.6 mm. *Abdomen*. Genitalia (Fig. 109) with papillae anales slightly diverging and rounded posteriorly; sterigma with broad, strongly sclerotized, posterior band with acute lateral projections, setose at posterior margin, anterior part of sterigma semicircular, wrinkled; ductus bursae with sclerotized enlargement in posterior 0.5, narrow and membranous in anterior 0.5; corpus bursae elongate pear-shaped with a small peanut-shaped, spiny signum unsclerotized in a narrow region through its middle.

DNA barcodes. The 37 barcode sequences of *C. jimlewisi* form a cluster (BOLD:AAJ4199) with an average distance of 0.47% among the sequences, and a distance of 2.25% to its nearest neighbor, *C. jimmilleri*.

Distribution. *Chlamydastis jimlewisi* has been collected mainly in dry forest of Guanacaste during the rainy season, and in the dry forest/dry forest lowland intergrade from 300 m to 800 m.

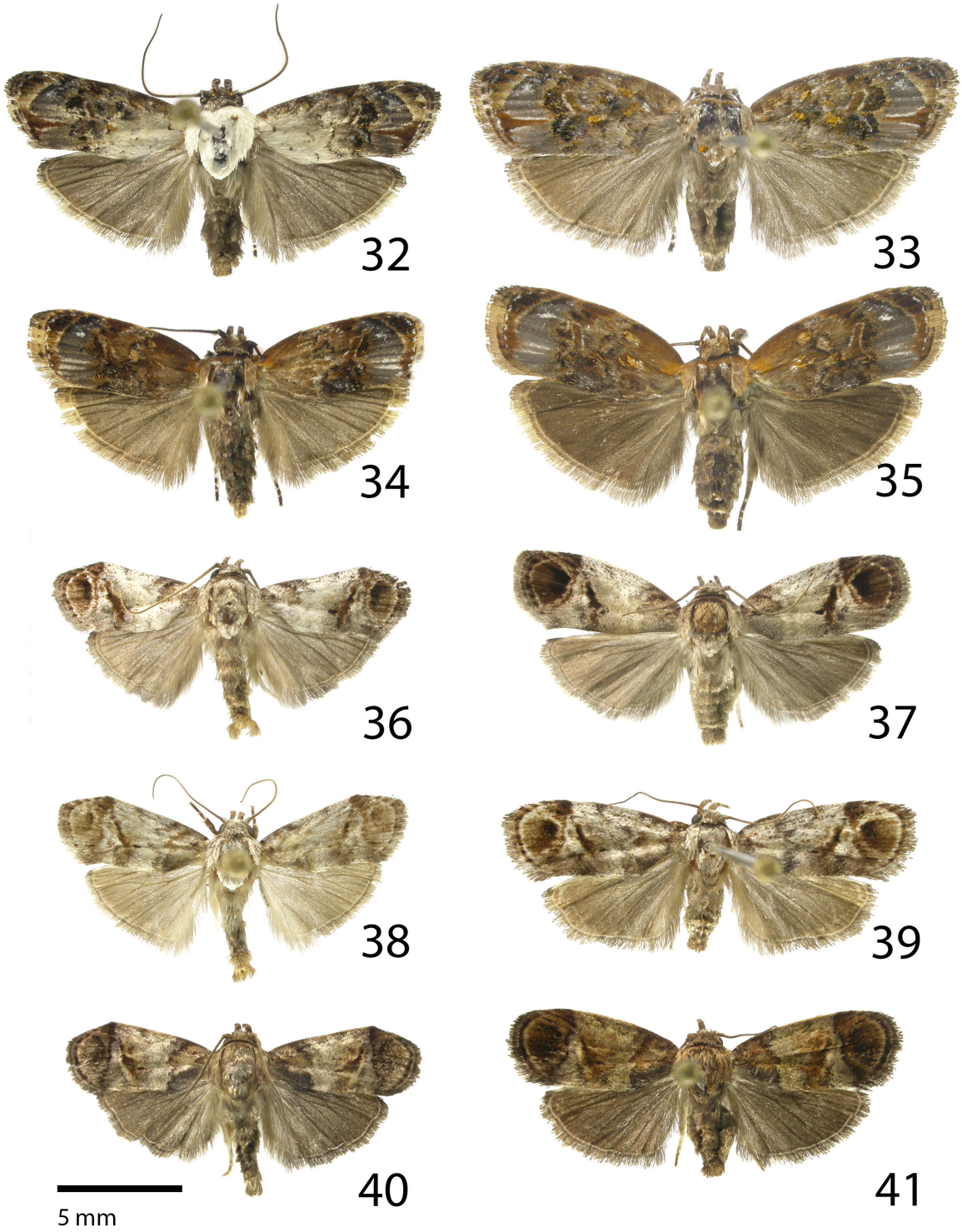
Biology. The food plants and immature stages remain unknown.

Etymology. *Chlamydastis jimlewisi* is named in honor of James Lewis in recognition of his continuous curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis jimmilleri Phillips and Brown, new species

Figures 31, 75, 110

Holotype. Male, Costa Rica, Puntarenas, Golfito, Jiménez, Estación El Tigre, 47 m, 10 Nov 2007, A. Azofeifa, INB0004127556, GenBank accession code MH827045 (MNCR-A).



Figures 32–41. Adults of *Chlamydastis* from Costa Rica – Orion and Deflexa Species Groups. **32)** *C. orion*, male, 12-SRNP-104862. **33)** *C. orion*, female, 09-SRNP-103250. **34)** *C. montywoodi*, male, holotype, 09-SRNP-1313. **35)** *C. montywoodi*, female, paratype, 03-SRNP-5768. **36)** *C. johnnoyesi*, male, holotype, 11-SRNP-104823. **37)** *C. johnnoyesi*, female, paratype, 11-SRNP-55087. **38)** *C. luisdiegogomezi*, male, holotype, INBIOCRI000484372. **39)** *C. luisdiegogomezi*, female, paratype, INBIOCRI000306703. **40)** *C. paulthiaucourti*, male, holotype, 12-SRNP-105722. **41)** *C. paulthiaucourti*, female, paratype, 09-SRNP-6356.

Paratypes (16♂, 11♀). See Appendix 1.

Diagnosis. In FW pattern and male genitalia, *C. jimmilleri* is most similar to *C. jimlewisi*. It can be distinguished most easily from the latter by the shape of the valva in male genitalia: conspicuously broadened at middle and narrowed in the distal 0.25 in *C. jimlewisi*; without a conspicuously broadened middle and more evenly attenuate throughout in *C. jimmilleri*.

Description. MALE (Fig. 31). *Head*. Frons and vertex whitish cream intermixed with gray scales, collar yellow intermixed with brown scales; labial palpus whitish intermixed with gray scales; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Prothorax and base of tegulae ocherous, meso- and metathorax mostly cream intermixed with a few ocherous scales; often with two lateral black lines on mesothorax. FW length 10.3–10.5 mm; FW with middle 0.66 somewhat checkered dark brown and pale ocherous with bluish white highlights; three round pale ocherous spots: one ill-defined near base of wing and two well-defined along termen, latter separated by a narrow line of brown ground color. HW pale brown. *Abdomen*. Externally brown. Genitalia (Fig. 75) with uncus broad basally, somewhat conical, attenuate apically; gnathos membranous; valva nearly parallel-sided, only slightly narrowed in apical 0.25; specialized setae from a linear patch near middle of costa; lateral processes of juxta slightly bent near middle, reaching base of valva; phallus large, curved, pointed apically, with long, curved distal rod extending beyond apex of phallus; phallobase long, rounded.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 10.7 mm. *Abdomen*. Genitalia (Fig. 110) with papillae anales nearly parallel-sided along outer margin, only slightly diverging posteriorly; ductus bursae strongly sclerotized in posterior 0.5, wide in anterior 0.5, without distinct junction between ductus and corpus bursae; corpus bursae pear-shaped with a small, oblong, spiny signum, unsclerotized in a narrow region through its middle.

DNA barcodes. The three barcode sequences of *C. jimmilleri* form two BINS (BOLD:ABU8074 and ABZ0878), separated by 1.77%. Because we can find no morphological differences to support species-level distinction, we treat these three specimens as conspecific.

Distribution. *Chlamydastis jimmilleri* has been collected in the lowlands of the southern Pacific region of Costa Rica.

Biology. The immature stages and food plants are unknown.

Etymology. *Chlamydastis jimmilleri* is named in honor of James Miller, a notodontid specialist, in recognition of his contributions to the national biodiversity inventory of Costa Rica.

Orion Species Group

The Orion Species Group is composed of *C. orion* Busck, 1920 and *C. montywoodi* from Costa Rica; *C. ophiopa* (Meyrick, 1916) from French Guiana, illustrated by Clarke (1955: 1960); and *C. rhomaeopa* Meyrick, 1931 from Brazil (Rio de Janeiro). The species share similar male genitalia with a moderate, rodlike uncus from a broad base; reduced gnathos; parallel-sided valva with a rounded or slightly pointed apex; and usually a thick vinculum. The arrangement of the specialized male setae varies from species to species, originating from the base of the costa of the valva to subapically on the costa, and in some species there is a second patch of specialized setae that lack the arrowhead tip. Females have a wide ductus bursae, an ovate corpus bursae, and a medium sized, slightly dentate signum. Members of the group share a very similar forewing pattern that includes a large orbicular patch of silvery gray or whitish blue scales in the tornal area. In one of the species, *C. orion*, the forewing pattern is sexually dimorphic.

Chlamydastis orion (Busck, 1920)

Figures 32, 33, 76, 111

Stenoma orion Busck 1920: 90; Brown et al. 2004: 104.
Chlamydastis orion: Becker 1984: 34

Holotype. Male, Guatemala, Cayuga, [no date], W. Schaus, USNM Type No. 22309 (USNM).

Material examined (33♂, 11♀). See Appendix 1.

Diagnosis. *Chlamydastis orion* is most similar to *C. montywoodi*. It can be distinguished superficially from the latter by the white basal third of the FW in the male of *C. orion*, which is chestnut brown in *C. montywoodi*. The

male genitalia of *C. orion* differ from those of *C. montywoodi* in the position of the specialized setae of the valva, which originate from near the base of the costa of the valva in *C. orion* and from the subapical region of the costa of the valva in *C. montywoodi*.

Description. MALE (Fig. 32). *Head*. Frons cream-ocherous; vertex and collar brown with scattered cream scales; labial palpus cream; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Tegula white, with two small brownish dots near base. FW length 8.2–8.4 mm; FW with basal 0.33 mostly white with scattered small dark strigulae, costa brownish, distal 0.33 mostly dark brown variegated with ocherous and gray, an ill-defined blotch of bluish gray scales in tornal area with two semi-square grayish spots arising from internal part of blotch. HW brownish. *Abdomen*. Externally pale brown. Genitalia (Fig. 76) with uncus long, slender from broad base; gnathos membranous; valva parallel-sided in basal 0.5, evenly attenuate in distal 0.5, costa and sacculus ill-defined, specialized setae originating subbasally from costa; lateral processes of juxta short, wide, with rounded tip; phallus short, stout, vesica lacking cornuti.

FEMALE (Fig. 33). *Head*. Essentially as described for male, except sensory setae of antenna short, sparse. and *Thorax*. Dorsum brown; FW length 10.7 mm; basal 0.33 of FW with small patches of brown, gray, and ocherous scales; shiny bluish gray blotch in subcostal forming an irregular subterminal fascia interrupted near tornus by a brown line, narrowly border by cream. HW pale grayish brown. *Abdomen*. Genitalia (Fig. 111) with outer margins of papillae anales parallel; sterigma a narrow, sclerotized band, perimeter of ostium bursae lightly sclerotized; ductus bursae wide; corpus bursae ovate with rhomboid signa.

DNA barcodes. The 59 barcode sequences of *C. orion* form a BIN (BOLD:AAA1164) with an average distance of 0.13% among samples and a distance of 9.87% to the nearest neighbor, *C. bobandersoni*. GenBank accession code JQ545473 for 11-SRNP-101965.

Distribution. *Chlamydastis orion* has been collected in Guatemala and Costa Rica. In Costa Rica, it has been found on the Pacific and Caribbean slopes and from 0 to 1300 m in the central mountain range. In ACG it has been recorded from 360 to 1050 m in rain forest and intermediate dry forest-rain forest habitat.

Biology. The early stages are unknown.

Chlamydastis montywoodi Phillips and Brown, new species

Figures 34, 35, 77, 112, 131

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector San Cristobal, Potrero Argentina, 26.iv.2009, G. Sihezer, reared from larvae feeding on *Pouteria reticulata* (Sapotaceae), 09-SRNP-1313, GenBank accession code GU651836 (USNM).

Paratypes (26♂, 29♀). See Appendix 1.

Diagnosis. *Chlamydastis montywoodi* is most similar to *C. orion* and can be distinguished by several features of the male genitalia. In *C. montywoodi* the arrowhead setae originate from the subapical region of the costa of the valva, whereas they originate near the base of costa in *C. orion*. Also, *C. montywoodi* has a patch of long straight setae immediate adjacent to the specialized setae near the apex of the valva, and these setae are lacking altogether in *C. orion*.

Chlamydastis montywoodi is superficially similar to *C. rhomaeopa* from Brazil, but based on the original description of the latter, *C. rhomaeopa* lacks the white streaks in the leaden bluish gray blotch of the distal 0.33 of the forewing characteristic of *C. montywoodi*.

Description. MALE (Fig. 34). *Head*. Vertex and frons cream ocherous; labial palpus cream-ocherous; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum dark brown, tegula chestnut-brown. FW length 8.2–9.0 mm; FW with basal 0.25 chestnut-brown with a longitudinal orange streak from base, followed by an irregular complex pattern of brown and light brown diffuse spots with a few groups of black scales distributed mainly near posterior margin and lateral to postmedial line; a subrectangular chestnut patch at distal end of discal cell faintly bordered with cream; distal 0.33 of FW occupied primarily by a large, leaden bluish-gray blotch bordered distally by a narrow cream subterminal line; blotch with short subcostal dash and two long, slender, white transversal lines in lower portion; subterminal area chestnut-brown; terminal line formed by a series of 6–8 white spots. HW dark gray-brown. *Abdomen*. Externally dark gray-brown. Genitalia (Fig. 77) with uncus ca. 0.25 length of valva, stout,

tip rounded; valva with arrowhead-tipped setae originating from subapical region of costa, a second patch of long, straight setae (without modified tips) from apex of valva; phallus with a long ribbonlike cornutus on vesica.

FEMALE (Fig. 35). *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 8.5–10.0 mm, with basal 0.25 with rufous scales in costal 0.5, overall paler in color than male. *Abdomen*. Genitalia (Fig. 112) with papillae anales narrowed posteriorly, with outer margins parallel-sided; antrum lightly sclerotized; ductus bursae broad, mostly membranous, but with region of longitudinal sclerotized ridges near middle; corpus bursae ovate with lip-shaped signum slightly constricted in center.

DNA barcodes. The 103 barcodes of *C. montywoodi* form a BIN (BOLD:AAA0211) with an average distance of 0.22% among sequences and a distance of 3.42% to its nearest neighbor, *C. dondavisi*.

Distribution. *Chlamydastis montywoodi* has been collected in Costa Rica on the east and west slopes of the central mountain range from 0 to 700 m. In ACG it occurs in the rain forest from 60 to 670 m.

Biology. *Chlamydastis montywoodi* has been reared from larvae feeding on *Chrysophyllum brenesii* Cronquist (n = 167), *Pouteria campechiana* (n = 1), *P. cainito* L. (n = 7), *P. durlandii* (Standl.) Baehni (n = 1), *P. exfoliata* T. D. Penn (n = 5), *P. izabalensis* (Standl.) Baehni (n = 4), *P. juruana* K. Krause (n = 8), and *P. reticulata* (Engl.) Eyma (n = 30) (all Sapotaceae) (Table 1).

Immature stages (Fig. 131). Head orange with black irregular blotch covering most of anterior 0.5; thoracic shield pale orange; T1–T3 brown dorsally to ca. middle of pleuron, pale yellow-orange below; A1–A8 with dorsum brown, yellow laterally; caudal segments yellow.

Parasitoids. Hymenoptera: Braconidae: Agathidinae: *Lytopylus robpringlei* (n = 4, e.g., DHJPAR0041557); Microgastrinae: *Hypomicrogaster* Janzen27 (n = 5, e.g., DHJPAR0038255), *Hypomicrogaster* Janzen01 (e.g., DHJPAR 0038248), *Dolichogenidea* Janzen36 (e.g., DHJPAR0052991); Bethylidae: Bethylinae *Goniozus* Janzen03 (e.g., DHJPAR0039062).

Etymology. *Chlamydastis montywoodi* is named in honor of the late Monty Wood, a world renowned Canadian dipterist, in recognition of his curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Deflexa Species Group

The Deflexa Species Group is composed of *C. johnnoyesi*, *C. paulthiaucourti*, and *C. luisdiegogomezi* from Costa Rica; *C. deflexa* (Meyrick, 1916) from French Guiana, illustrated by Clarke (1955: 184); and *C. ichthyodes* (Meyrick, 1926) from Perú, illustrated by Clarke (1955: 187). The five species share similar male genitalia with a short, stout uncus; a narrow gnathos with an upturned distal junction of the arms; and narrow, somewhat parallel-sided valvae with a round apex, with an unusual, long (as long as the valva), armlike projection from the base of the costa of the valva that extends dorsad beyond the uncus, often elbowed at 0.6–0.8 its length, and bears the dense patch of specialized male setae following the elbow. Based on the origin of the specialized setae, it is possible that the armlike projection is homologous with the costa of the valva; however, we are uncertain of this homology. Females have a weakly sclerotized sterigma; a narrow ductus bursae slightly shorter than the corpus bursae, with various constrictions and sclerotization; an elongate corpus bursae that bears numerous longitudinal wrinkles; and a "lip-shaped" signum (i.e., attenuate at each end and narrowed mesally). Males of the group are characterized by the shape of the forewing with the costa deflexed or angled downward in the apical 0.25 of the wing, whereas the female forewing has a much more evenly curved costa. The forewing pattern is somewhat two-toned.

Chlamydastis johnnoyesi Phillips and Brown, new species

Figures 36, 37, 78, 113, 132

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Orosi, Estación Maritza, Manta Mecate, 30.ix.2011, H. Cambronero and S. Rios, 11-SRNP-104823, GenBank accession code MH827047 (USNM).

Paratypes (22♂, 14♀). See Appendix 1.

Diagnosis. *Chlamydastis johnnoyesi* is most similar to *C. paulthiaucourti* but is easily distinguished by the patch of specialized setae of the male genitalia, which is much larger in *C. johnnoyesi*. The lateral processes of the juxta also are much larger than those of *C. paulthiaucourti*.

In *C. deflexa* (from French Guiana) the lateral processes of the juxta broaden toward the tips, and the juxta itself is conspicuously sclerotized with a mesal notch. In *C. johnnoyesi* the lateral processes of the juxta are nearly uniform in width with a narrow tip, and the juxta is only lightly sclerotized.

Description. MALE (Fig. 36). *Head*. Frons cream; vertex pale brown with scattered white scales; labial palpus with first segment dark brown laterally, second and third segments ocherous with a narrow white line; antenna with length of sensory setae ca. equal to width of flagellomere. *Thorax*. Dorsum and tegula cream. FW length 7.0–7.2 mm; FW two-toned, mostly cream in basal 0.7 with some brownish markings, darker in distal 0.25; costa deflexed in apical 0.25, termen occupied by a large ovate brown blotch surrounded by a narrow line of cream and brownish scales; irregular oblique brown line at 0.75 distance from base to apex, extending from just below costa toward hind margin ca. 0.7 distance from base to tornus. HW light brown. *Abdomen*. Externally pale brown. Male genitalia (Fig. 78) with uncus slightly longer than in other species of species group; gnathos membranous, lacking an upturned mesal process at junction of arms; valva with conspicuously long portion of armlike process beyond elbowed bend, with a long patch of specialized setae; lateral processes of juxta long; phallus broad, weakly curved; lacking conspicuous cornuti.

FEMALE (Fig. 37). *Head*. Essentially as described for male, except sensory setae of antenna short, sparse. *Thorax*. As in male, except FW length 7.8–8.5 mm; FW with evenly curved costa (rather than deflexed) and larger dark brown blotch at apex. *Abdomen*. Genitalia (Fig. 113) with papillae anales rounded and slightly diverging posteriorly; a rounded-triangular lobe at middle of anterior portion of sterigma; ductus bursae with a sclerotized band; signum pointed at both ends.

DNA barcodes. The 84 barcodes of *C. johnnoyesi* form a BIN (BOLD:AAA0918) with an average distance of 0.03% among the barcodes and a distance of 4.66% to its nearest neighbor, *C. paulthiaucourti*.

Distribution. *Chlamydastis johnnoyesi* has been collected in ACG in the dry forest and dry forest-rain forest lowland intergrade, from 40 to 860 m elevation.

Biology. *Chlamydastis johnnoyesi* has been reared only from larvae feeding on *Clethra lanata* M. Martens and Galeotti (n = 20) (Clethraceae) (Table 1).

Immature stages (Fig. 132). Head red; prothoracic shield black; body yellowish with no distinct pattern elements; caudal segments light yellow.

Parasitoids. Parasitoids from ACG include: Hymenoptera: Ichneumonidae: Campopleginae: *Campoplex* Janzen27 (n = 2, e.g., DHJPAR0055137).

Etymology. *Chlamydastis johnnoyesi* is a patronym for John Noyes in recognition of his many contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis luisdiegogomezi Phillips and Brown, new species

Figures 38, 39, 79, 114

Holotype. Male, Costa Rica, Heredia, Area de Conservación Cordillera Volcánica Central, P. N. Braulio Carrillo, Estación Magsasay, 100–200 m, 1–30.ix.1990, R. Aguilar, INBIOCRI000484372 (MNCR-A).

Paratypes (7♂, 3♀)**.** See Appendix 1.

Diagnosis. *Chlamydastis luisdiegogomezi* can be differentiated from other species of the species group found in Costa Rica by its shorter, slightly narrower uncus and by the narrower and straighter armlike projections of the valva. The female genitalia differ from other species of the group by the longer, narrower signum located in the anteriormost portion of the corpus bursae.

Description. MALE (Fig. 38). *Head*. Frons and vertex white; labial palpus with first segment dark brown, second and third segments ocherous, a narrow white ring at end of second segment; antenna with length of sensory setae ca. equal to width of flagellomere. *Thorax*. Dorsum and tegula brown. FW length 7.7–8.5 mm; FW two-toned, mostly cream in basal 0.75 with some light brownish markings; costa deflexed in apical 0.25, apical region with large ovate gray blotch surrounded by irregular line of pale brownish scales; an oblique irregular line ca. 0.75 distance from base to apex extending from costa toward hind margin, ending in an ill-defined, pale brown blotch ca. 0.7 distance from base to tornus. HW pale brown. *Abdomen*. Externally pale brown. Genitalia (Fig. 79) with

uncus slender; gnathos membranous; valva with armlike process slender, straight, with patch of specialized setae; lateral processes of juxta straight; phallus curved throughout with slender pointed apex.

FEMALE (Fig. 39). *Head*. Essentially as described for male, except sensory setae of antenna short, sparse. *Thorax.* Essentially as described for male, except FW length 9.2–10.3 mm; FW with an evenly curved costa (rather than deflexed apically) and larger dark brown blotch in subterminal region. *Abdomen*. Genitalia (Fig. 114) with papillae anales rounded and slightly diverging posteriorly; ductus bursae with a sclerotized band and a long and thin dentate signum located at anteriormost portion of corpus bursae.

DNA barcodes. We have no sequence data for this species.

Distribution. *Chlamydastis luisdiegogomezi* is primarily a lowland species, ranging from about 150–200 m, with a single individual from 700 m. It has been collected most frequently in Heredia Province, with a few individuals from Limón Province.

Biology. Nothing is known of the early stages.

Etymology. *Chlamydastis luisdiegogomezi* is named in honor of the late Luis Diego Gómez in recognition of his administrative and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis paulthiaucourti Phillips and Brown, new species

Figures 40, 41, 80, 115

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Pitilla, Estación Pitilla, 675 m, 14.xi.2012, S. Rios and H. Cambronero, 12-SRNP-105722, GenBank accession code MH827050 (USNM).

Paratypes (8♂, 4♀). See Appendix 1.

Diagnosis. *Chlamydastis paulthiaucourti* is most similar to *C. johnnoyesi*. It can be distinguished by features of the male genitalia: *C. paulthiaucourti* has a short uncus, a smaller patch of specialized setae from the valva, and smaller lateral processes of the juxta.

Description. MALE (Fig. 40). *Head*. Frons cream; vertex gray; labial palpus gray; antenna with length of sensory setae ca. equal to width of flagellomere. *Thorax*. Dorsum and tegula cream to gray. FW length 7.1–8.0 mm; FW two-toned, mostly brown in basal 0.75, cream with irregular brown marks in middle, apical region mostly brown with a dark crescent-shaped patch in termen, costa deflexed in apical 0.25; an oblique irregular line ca. 0.75 distance from base to apex extending from below costa toward hind margin. HW dark brown. *Abdomen*. Externally brown. Genitalia (Fig. 80) with uncus short; gnathos with a conspicuous upturned mesal process at junction of arms; armlike process of valva short beyond bend, with small patch of specialized setae; lateral processes of juxta short; phallus relatively slender, curved near middle, irregularly sclerotized, lacking conspicuous cornuti.

FEMALE (Fig. 41). *Head*. Essentially as described for male, except sensory setae of antenna short, sparse. *Thorax*. Essentially as described for male, except FW length 8.8–9.0 mm; FW costa evenly curved (not deflexed apically), apico-terminal blotch larger than in male, overall color darker than in male. *Abdomen*. Genitalia (Fig. 115) with papillae anales rounded and diverging posteriorly; ductus bursae slender, gradually widening to corpus bursae, lacking distinct junction; corpus bursae elongate-ovate with large mustache-shaped signum, attenuate at each end and narrowed in middle, spiny throughout with fewer spines medially.

DNA barcodes. The 25 barcode sequences of *C. paulthiaucourti* form a uniform BIN (BOLD:AAA0230) with an average distance of 0.07% among them and a distance of 8.03% to its nearest neighbor, *C. johnnoyesi*.

Distribution. This species has been collected in Costa Rica from 400 m to 1100 m. In ACG it has been collected in rain forest and dry forest-rain forest lowland intergrade.

Biology. *Chlamydastis paulthiaucourti* has been reared from larvae feeding on *Pouteria cainito* L. (n = 3) (Sapotaceae).

Etymology. *Chlamydastis paulthiaucourti* is named in honor of Paul Thiaucourt in recognition of his taxonomic contributions to the national biodiversity inventory of Costa Rica.

Disticha Species Group

The Disticha Species Group is composed of *C. disticha* (Meyrick, 1916) from French Guiana (illustrated by Clarke, 1955: 183) and two species from Costa Rica – *C. irenecanasae* and *C. dondavisi*. The most conspicuous autapomorphy in the male genitalia is the unusual, long, slender, armlike process that originates from the base of the costa of the valva and extends well beyond the uncus, curves near its middle, and bears a small, slender thorn at its apex. The specialized (arrowhead) setae lay along the inner margin of the latter process. The female genitalia are characterized by an extremely long, slender ductus bursae that intersects the corpus bursae at a rounded angle, so that much of the corpus is posterior to the junction with the ductus bursae.

Chlamydastis irenecanasae Phillips and Brown, new species

Figures 42, 81, 116

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Pitilla, Leonel, 510 m, 18.vi.2009, D. Martínez, reared from larva feeding on *Pouteria campechiana* (Sapotaceae), 09-SRNP-70878, GenBank accession code HM885042 (USNM).

Paratypes (5♂, 10♀). See Appendix 1.

Additional specimens (14♂, 2♀). See Appendix 1.

Diagnosis. *Chlamydastis irenecanasae* is most similar to *C. dondavisi*, but it can be easily distinguished by its smaller forewing length (7.0 vs. 9.0 mm) and several features of the male genitalia described below in the diagnosis of *C. dondavisi*.

Description. MALE (Fig. 42). *Head*. Frons mostly white with scattered dark brown scales, vertex mostly brown with scattered white scales; labial palpus fawn-cream, with scattered white scales on all segments; antenna with sensory setae ca. 3.0 times width of flagellomere. *Thorax*. Dorsum and tegula pale fawn brown, with band of white scales near anterior margin that extends to base of FW. FW length 7.0 mm; FW pale brown-ocherous with faint, ill-defined, slightly darker brown blotch near middle of hind margin with two or three small patches of raised brown and white scales; two or three tiny patches of raised brown scales in discal cell; usually with one or two pale red-brown lines in apical region. HW brown. *Abdomen*. Externally brown-scaled; segment 4 with lateral, membranous, conelike projections from pleural membrane (visible in dissections). Internally with sclerotized, elongate pleural processes of segments 6–7 extending deep into previous segment. Genitalia (Fig. 81) with uncus short, stout, slightly narrowed subapically; gnathos membranous; valva subtriangular with long, slender, armlike process from base extending well beyond uncus, curving near middle, with a long, slender, curved thorn at apex; specialized (arrowhead) setae along inner margin of armlike process, concentrated in basal 0.35; sacculus confined to basal 0.33 of valva with free, spinelike distal part extending behind valva; juxta with lateral processes more or less parallel-sided, rounded distally, not as long as plate of juxta; phallus pistol-shaped, vesica with long, slender, sclerotized process with three small distal teeth.

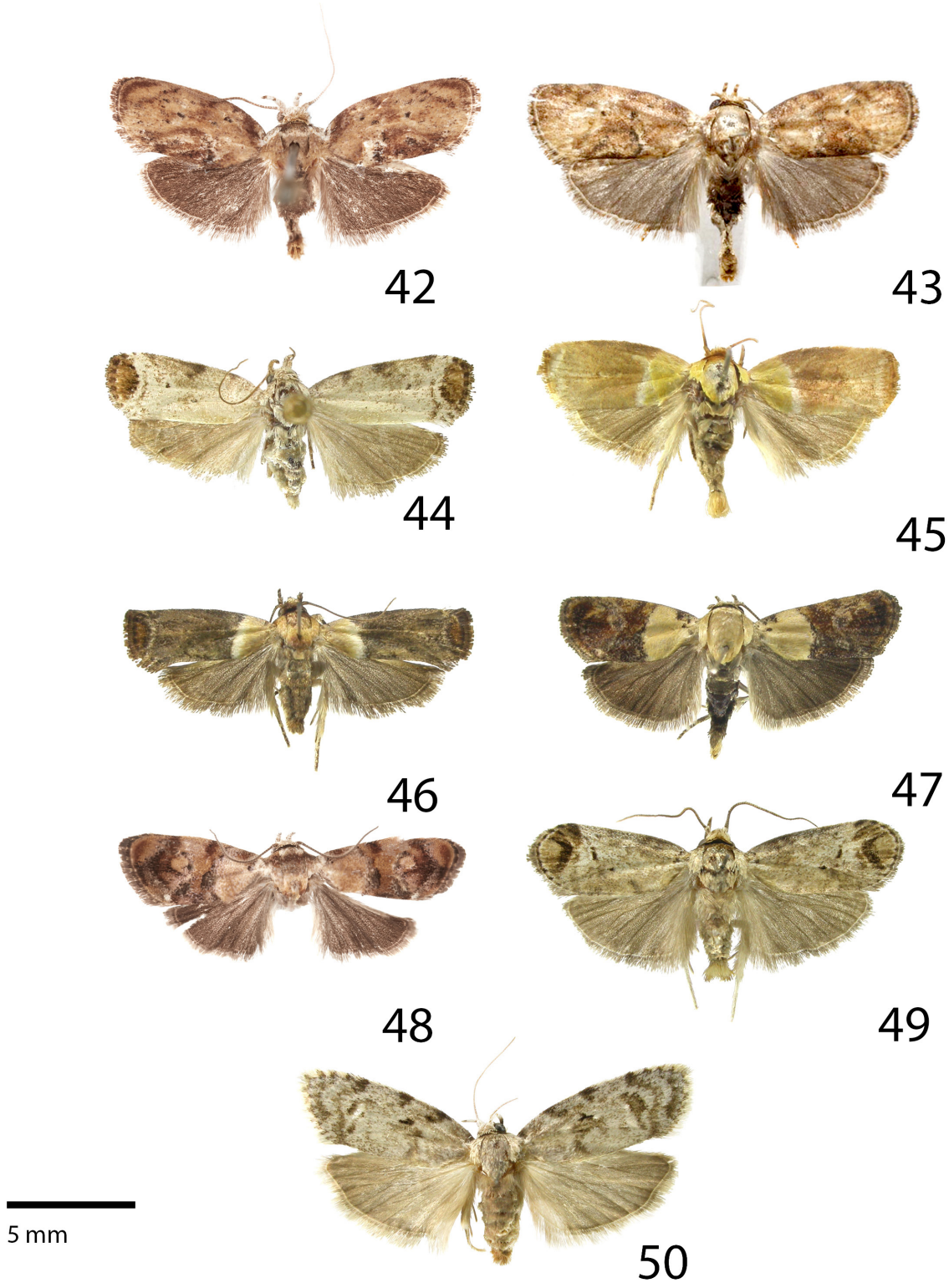
FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 7.0 mm; sometimes with narrow white line of scales from hind margin near middle of FW. *Abdomen*. Lacking conelike projections from pleuron. Genitalia (Fig. 116) with papillae anales rounded and slightly diverging posteriorly; ductus bursae long, slender, uniform in width, ca. 4 times length of corpus bursae, with region of longitudinal wrinkles in posterior 0.3; corpus bursae round with mustache-shaped signum, slightly attenuate at each end and narrowed in middle.

DNA barcodes. The six barcodes of *C. irenecanasae* form a uniform BIN (BOLD:AAA0116), with identical sequence data, with a distance of 4.33% to its nearest neighbor, *C. dondavisi*.

Distribution. *Chlamydastis irenecanasae* has been collected throughout the Pacific side of the country from ACG to ACOSA in the South. A few specimens have been light-trapped in the ACG at middle elevations.

Biology. This species has been reared from *Pouteria campechiana* Baehni (n = 3), *Pouteria viridis* (Pittier) Cronquist (n = 1), and *Pouteria cainito* L. (n = 1) (all Sapotaceae).

Etymology. The specific epithet is a patronym for Irene Cañas in recognition of her contributions to the national biodiversity inventory of Costa Rica.



Figures 42–50. Adults of *Chlamydastis* from Costa Rica. **42)** *C. irenecanasae*, USNMENT01480480. **43)** *C. dondavisi*, USNMENT01480468. **44)** *C. manuelzumbadoi*, female, paratype, INBIOCRI001956652. **45)** *C. noramartinae*, male, paratype, INBIOCRI000598917. **46)** *C. vitorbeckeri*, male, holotype, 11-SRNP-43642. **47)** *C. ronaldzunigai*, holotype, 11-SRNP-20864. **48)** *C. munifigueresae*, 12-SRNP-41409. **49)** *C. ungulifera*, male, INBIOCRI002540131. **50)** *C. willsflowersi*, male, paratype, INB0003901728.

Chlamydastis dondavisi Phillips and Brown, new species

Figures 43, 82, 117

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Santa Maria, Crater Bosque Sendero Adentro, 1594 m, 28.iv.2017, S. Rios, 17-SRNP-102684, GenBank accession code MW435314.

Paratypes (5♂, 4♀). See Appendix 1.

Diagnosis. *Chlamydastis dondavisi* is most similar to *C. irenecanasae* superficially and in the male genitalia. However, the two are easily distinguished by size alone. In *C. dondavisi* mean FW length is 9.0 mm and in *Chlamydastis irenecanasae* it is 7.0 mm. The male genitalia of *C. dondavisi* can be distinguished from those of *C. irenecanasae* by the distribution of the modified (arrowhead) setae, which are clustered in the basal 0.33 of the slender armlike process of the valva in *C. irenecanasae* and more evenly distributed throughout the basal 0.5 of the process in *C. dondavisi*. Also, the distal termination of the sacculus is longer and more hooklike in *C. dondavisi*.

Description. MALE (Fig. 43). *Head*. Frons and vertex cream-ocherous; labial palpus slightly darker, fawn-cream, second segment brown in basal 0.4, distal tip of segment three yellow-ocherous; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula pale fawn brown, intermixed with white scales. FW length 9.0 mm; FW ground color pale fawn ocherous; a faint, ill-defined brown blotch along hind margin near middle, bordered basally by a slender brown line, bordered basally by a slender white line; faint pale brown line along termen, with a second similar parallel line slightly basad of first. HW gray-brown. *Abdomen*. Externally grayish brown, segments 6 and 7 with some white scales laterally; segment 4 with a lateral, membranous, cone-like projection from pleuron (visible in dissections). Internally with slender, semi-sclerotized, elongate pleural processes of segments 6–7 extending into previous segment. Genitalia (Fig. 82) with uncus short, stout, slightly narrowed subapically; gnathos membranous; valva subtriangular with long, slender, armlike process from base extending well beyond uncus, curving near middle, with a small, slender, curved thorn at apex; specialized (arrowhead) setae along inner margin of armlike process somewhat evenly distributed in basal 0.5; sacculus robust with free, broadly hook-shaped distal part extending behind valva; juxta with lateral process somewhat thumblike, rounded distally, not as long as plate of juxta; phallus pistol-shaped, vesica with long, slender, sclerotized process with three small distal teeth.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 9.5 mm. *Abdomen*. Externally gray-brown throughout; lacking lobelike process of segment 4 and internal pleural extensions of segment 6 and 7. Genitalia (Fig. 117) with papillae anales parallel-sided, rounded posteriorly; sterigma semi-sclerotized with linear patch of long, straight setae at posterior margin of segment 8; ductus bursae long, narrow, nearly uniform in width, slightly broadened near junction with corpus bursae, which is at anterior end of corpus bursae; corpus bursae almond-shaped, signum large, wing-shaped, with patches of dense, short spines.

DNA barcodes. The 18 barcode sequences of *C. dondavisi* form a uniform BIN (BOLD:AAA1205) with identical sequence data, with a distance of 4.68% to its nearest neighbor, *C. irenecanasae*.

Distribution. *Chlamydastis dondavisi* has been collected in light traps from ca. 120 m elevation in Parque Nacional Manuel Antonio to 1600 m in rain and cloud forest in ACG.

Biology. Nothing is known of the early stages.

Etymology. The specific epithet is a patronym for Don Davis, honoring his many lepidopterological contributions to the national biodiversity inventory of Costa Rica.

Cystiodes Species Group

The Cystiodes Species Group is composed of *C. manuelzumbadoi*, *C. noramartinae*, and *C. vitorbeckeri* from Costa Rica; *C. cystiodes* (Meyrick, 1916), *C. inspectrix* (Meyrick, 1916), *C. metacymba* (Meyrick, 1916), and *C. metacystis* (Meyrick, 1918) from French Guiana, all illustrated by Clarke (1955: 184, 191, 195, and 195, respectively); and *C. illita* (Meyrick, 1926) from Perú, illustrated by Clarke (1955: 187). The species share similar male genitalia with an uncus that is either reduced to a short triangular nub or entirely absent; the gnathos extremely reduced or absent; the valva usually parallel-sided with a characteristic fanlike arrangement of the specialized

male setae originating near the middle of the apex of the valva; and a small brush of setae at the distal ends of the lateral processes of the juxta. The forewing pattern typically includes a large crescent-shaped blotch in the terminal and subterminal region.

Chlamydastis manuelzumbadoi Phillips and Brown, new species

Figures 44, 83, 118, 133

Holotype. Male, Costa Rica, Limón, Area de Conservación La Amistad Caribe, Veragua Rainforest, Campamento, 400 m, 23.iv.2009, R. Villalobos, INB0004210886, GenBank accession code MH827053 (MNCR-A).

Paratypes (9♂, 6♀). See Appendix 1.

Additional material examined. See Appendix 1.

Diagnosis. Superficially, *C. manuelzumbadoi* can be distinguished from *C. noramartinae* and other species in the group by the FW pattern, which is mostly pale throughout except for an ill-defined olive median fascia and a distinct, semicircular, terminal blotch. It is superficially most similar to *C. cystiodes* but can be distinguished by the extremely short and sparse sensory setae of the male antennae, which are long and dense in *C. cystiodes*, typical of most *Chlamydastis*. The male genitalia can be distinguished from those of congeners by the small triangular sacculus.

Description. MALE (Fig. 44). *Head*. Frons and vertex cream-ocherous; labial palpus cream-ocherous; antenna with sensory setae extremely short, sparse. *Thorax*. Dorsum and tegula mostly white intermixed with tan scales, infrequently with a narrow band of brown scales immediately posterior to collar. FW length 7.4–7.9 mm; FW white with faint, ill-defined, median fascia, broad at costa and nearly obsolete at hind margin; a few faint, ill-defined spots along costa; a large blackish brown orbicular blotch in terminal area, bordered proximally by white ground color. *Abdomen*. Externally white with fawn-ocherous overscaling; a cream tuft from segment A7. Genitalia (Fig. 83) with uncus small, triangular; valva rounded apically with specialized setae arranged somewhat fanlike, originating from a dense patch at apex of costa of valva, sacculus long, with a straight ventral edge; juxta with slender lateral lobes, each distally setose; phallus large, curved in apical 0.4, with flattened distal process.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except FW length 8.0–9.0 mm. *Abdomen*. Genitalia (Fig. 118) with papillae anales slender, slightly rounded and weakly diverging posteriorly; ductus bursae long, slender; corpus bursae elongate-ovate with mustache-shaped signum, attenuate at each end and narrowed in middle, spiny throughout with fewer spines medially.

DNA barcodes. The 74 barcode sequences of *C. manuelzumbadoi* form a uniform BIN (BOLD:AAA0106) with an average distance of 0.07% among them and a distance of 7.50% to its nearest neighbor, *C. noramartinae*.

Distribution. *Chlamydastis manuelzumbadoi* has been collected from 140 to 610 m elevation in rain forest in ACG and in the Caribbean region on the east coast of Costa Rica.

Biology. This species has been reared from larvae feeding only on *Vochysia ferruginea* Mart. (n = 21) (Vochysiaceae) (Table 1).

Immature stages (Fig. 133). Head amber with a pair of oblique dark brown bands subdorsally; T1 pale greenish in anterior 0.2, pale brown in posterior 0.8 with black and white lateral bands; T2 and T3 dark brown; A1 white in anterior 0.5, dark brown in posterior 0.5; A2 dark brown; A3 and A4 light brown with a whitish irregular posterior band; A5 pale brown; A6 dark brown; A7–A10 brown with broad, pale greenish dorsal band; A3–A6 with short white bands laterally, followed by a continuous white band laterally on A7–A10.

Parasitoids. Parasitoids recorded from ACG include the following: Hymenoptera: Braconidae: Microgastrinae: *Hypomicrogaster* Whitfield17 (e.g., DHJPAR0039018).

Etymology. The specific epithet is a patronym for Manuel Zumbado in recognition of his curatorial, administrative, and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis noramartinae Phillips and Brown, new species

Figures 45, 84

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Orosi, Manta Mecate, 587 m, 30.ix.2011, H. Cambronero and S. Ríos, 11-SRNP-104804, GenBank accession code MH827046 (USNM).

Paratypes (11♂). See Appendix 1.

Diagnosis. Superficially, *C. noramartinae* is similar to *C. vitorbeckeri*. In both, the forewing has a somewhat two-toned pattern—pale yellow in the basal 0.33 and pale brown-ocherous in the distal 0.66 (Fig. 45), with a slender copper crescent-shaped patch in the termen. The male genitalia of *C. noramartinae* can be distinguished from other members of the species group by the small, rounded uncus and the greatly reduced sacculus.

Description. MALE (Fig. 45). *Head*. Frons and vertex pale yellow, with ocherous tufts on lateral vertex and collar, labial palpus brownish; antenna with sensory setae extremely short, sparse. *Thorax*. Tegulae and dorsum pale yellow, with irregular ocherous anterior band; FW length 5.1–5.7 mm; FW pale yellow in basal 0.33, delineated distally by an arched white line; distal 0.66 pale brown-ocherous with faint subcircular blotch in terminal area. HW pale grayish brown. *Abdomen*. Externally brown with two anteriormost segments pale yellow; conspicuous bushy hairpencil from end of abdomen. Genitalia (Fig. 84) with uncus reduced to a short, rounded nub; gnathos absent; valva somewhat parallel-sided with fanlike arrangement of specialized setae originating near middle of apex of valva; lateral processes of juxta with group of setae at distal ends; phallus stout, curved at ca. 0.65 distance from base.

FEMALE. Unknown.

DNA barcodes. The three barcodes of *C. noramartinae* form a BIN (BOLD:ABW0965) with an average distance of 0.21% among sequences and a distance of 7.21% to the nearest neighbor, *C. manuelzumbadoi*.

Distribution. *Chlamydastis noramartinae* has been collected only in dry forest/dry lowland intergrade at ca. 600 m elevation in ACG.

Biology. The immature stages and food plants are unknown.

Etymology. *Chlamydastis noramartinae* is named in honor of Nora Martin in recognition of her administrative and logistic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis vitorbeckeri Phillips and Brown, new species

Figures 46, 85, 119, 134

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Rincón Rain Forest, Sendero Tucán, 410 m, 3.viii.2011, A. Cordoba, 11-SRNP-43642, GenBank accession code MH827055 (USNM).

Paratypes (10♂, 3♀). See Appendix 1.

Diagnosis. *Chlamydastis vitorbeckeri* is superficially most similar to *C. noramartinae*. Both are relatively small species with a distinctly two-toned pattern: yellow in the basal 0.33 and brown in the distal 0.66 (Fig. 45, 46), with a narrow cream dividing line, and a copper, crescent-shaped patch in the termen. In addition, males of both have a conspicuously long, bushy haripencil from the end of the abdomen, and lack the long sensory setae of the antennae present in all other species groups. The male genitalia of *C. vitorbeckeri* can be distinguished by a broad, round tegumen lacking an uncus, and the absence of a gnathos.

Description. MALE (Fig. 46). *Head*. Frons cream, vertex cream with lateral tufts of brown scales; labial palpus cream intermixed with brown scales, a broad brown lateral band ca. 0.3 distance form base of second segment; antenna with extremely short, sparse sensory setae. *Thorax*. Tegula and dorsum ocherous with a narrow anterior brownish band. FW length 6.1–6.8 mm; FW with basal 0.33 yellow with a white outer line, distal 0.66 brown with faint longitudinal reddish ocherous subcircular patch in terminal area. HW brown. *Abdomen*. Externally brown. Internally with long sheathlike hairpencil in middle of posterior 0.25–0.33 of abdomen. Genitalia (Fig. 85) with tegumen broad and rounded dorso-posteriorly, with uncus absent; gnathos absent; valva extremely short, with rounded-subtriangular basal portion and slender dorsal portion, weakly crescent-shaped, fused with lateral parts of tegumen; specialized setae divergent from rounded lobe at distal end of dorsal portion of valva fused to tegumen; lateral processes of juxta extremely long and slender; phallus moderately long, with a slender, elongate, subdistal cornutus and a weakly sclerotized distal point.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except FW length 7.1–7.3 mm. *Abdomen*. Genitalia (Fig. 119) with papillae anales narrowed and diverging posteriorly; ductus bursae extremely long,

slender; corpus bursae rounded with small mustache-shaped signum, attenuate at each end and constricted in middle, spiny throughout with fewer spines medially.

DNA barcodes. The 28 barcode sequences of *C. vitorbeckeri* form a uniform BIN (BOLD:AAA0071) with an average distance of 0.09% among the sequences and a distance of 1.44% to its nearest neighbor, BIN BOLD:ACE5261 (n = 4), which is most likely another species that we are unable to distinguish based on morphology. For purposes of this revision, we include only BIN BOLD:AAA0071 in our circumscription of *C. vitorbeckeri*.

Distribution. In Costa Rica, *C. vitorbeckeri* has been recorded from low and middle elevations in the rain forest of ACG.

Biology. In contrast to most *Chlamydastis* whose larvae feed primarily on Sapotaceae, the larvae of *Chlamydastis vitorbeckeri* have been reared only from Melastomataceae: *Adelobotrys adscendens* (Sw.) Triana (n = 6), *Conostegia xalapensis* (Bonpl.) D. Don ex DC. (n = 23), *Miconia argentea* (Sw.) DC. (n = 8), *Miconia affinis* DC. (n = 5), *Miconia trinervia* (Sw.) D. Don ex Loudon (n = 8), and *Topobea maurofernandeziana* Cogn. (n = 2) (Table 1).

Immature stages (Fig. 134). Head capsule orange; prothoracic shield pale orange; T2 pale green; T3 brown; A1–A7 pale green with light brown bands centered in each segment; caudal segments greenish with narrow, lateral brownish bands.

Parasitoids. In ACG the following parasitoids have been reared from *C. vitorbeckeri*: Hymenoptera: Braconidae: Microgastrini: *Apanteles deifiliadavilae* (n = 6, e.g., DHJPAR0051080), *Hypomicrogaster* Whitfield11.

Etymology. *Chlamydastis vitorbeckeri* is named in honor of Vitor Becker, our Brazilian colleague and friend, in recognition of his taxonomic contributions to the national biodiversity inventory of Costa Rica. Vitor first recognized this species as new, labeling it as an unidentified *Chlamydastis* in the USNM collection.

Ronaldzunigai Species Group

The Ronaldzunigai Species Group is composed of two Costa Rican species, *C. ronaldzunigai* and *C. munifigueresae*. With male forewing lengths of about 5.0 mm, the two are the smallest species of *Chlamydastis* in Costa Rica. They share similar male genitalia with an extremely long uncus, and a long, slender, free, rodlike sacculus. The forewing pattern is somewhat two-toned with the basal 0.4 uniform pale cream and the distal 0.6 darker, frequently with pattern elements.

Chlamydastis ronaldzunigai Phillips and Brown, new species

Figures 47, 86, 120

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector El Hacha, Estación Los Almendros, 5.xi.2011, E. Cantillano, reared from larvae feeding on *Chrysophyllum brenesii* (Sapotaceae), 11-SRNP-20864, GenBank accession code JQ523251 (USNM).

Paratypes (14♂, 3♀): See Appendix 1.

Diagnosis. *Chlamydastis ronaldzunigai* is most similar to *C. munifigueresae*, but it is easily distinguished from the latter by its much broader tegumen, apically more rounded valva, slenderer basal portion of the valva, and its apically pointed uncus.

Description. MALE (Fig. 47). *Head*. Frons beige, vertex beige with light brown scales; labial palpus beige; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Tegula and dorsum golden yellow. FW length 4.9–5.2 mm; FW two-toned, mostly pale cream in basal 0.4 with irregular brownish costal spot at 0.15 distance from base to apex, a brown dot near center of FW base, a faint brown dot near base near hind margin; raised brownish scales on posterior 0.5 of wing between golden FW base and remainder of wing; distal 0.6 of FW brown with irregular yellowish-pale orange markings as follow: costal 0.5 with three yellow-orange spots originating at costa, one near border with golden base of FW, second reaching 0.5 of FW, and a third originating from costa directed towards apex; an irregular yellow patch at center of FW with upraised brown scales; posterior 0.5 with another small patch of upraised brown scales at medial line level; an interrupted, terminal orange line extending from costa to posterior margin. HW dark brown. *Abdomen*. Brown externally.

Genitalia (Fig. 86) with uncus long, wide, bent ca. 0.4 distance from base to apex, with a pointed tip, bearing fine setae; gnathos narrow; valva divided longitudinally into broader, apically-rounded dorsal part bearing specialized setae subapically on costa, and narrow, elongate-digitate basal part; phallus short, broad, curved throughout.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 7.8–8.5 mm. *Abdomen*. Genitalia (Fig. 120) with papillae anales broad, narrowed and diverging posteriorly; sterigma a lightly sclerotized band; ostium with area of sclerotization; ductus bursae broad, with patch of sclerotized lines ca. 0.33 distance from ostium to junction with corpus bursae; ductus bursae intersecting ovoid corpus bursae at angle; signum a small, slender dentate patch.

DNA barcodes. The 11 barcode sequences of *C. ronaldzunigai* form a BIN (BOLD:AAH5243) with an average distance of 0.22% among sequences and a distance of 6.92% to its nearest neighbor, *C. munifigueresae*.

Distribution. *Chlamydastis ronaldzunigai* has been collected in Costa Rica in the ACG dry forest and at the dry forest-rain forest lowland intergrade, from 300 to 700 m elevation.

Biology. This species has been reared from larvae feeding on *Chrysophyllum brenesii* (Sapotaceae) (n = 3).

Etymology. *Chlamydastis ronaldzunigai* is a patronym for Ronald Zúñiga in recognition of his continuous curatorial and taxonomic contributions to the national biodiversity inventory of Costa Rica.

Chlamydastis munifigueresae Phillips and Brown, new species

Figures 48, 87, 121

Holotype. Male, Costa Rica, Alajuela, ACG, Sector San Cristobal, Río Blanco Abajo, 500 m, 27.xi.2012, Elda Araya, reared from larva feeding on *Terminalia oblonga* (Combretaceae), 12-SRNP-5249, GenBank accession code MW435315 (USNM).

Paratypes (8♂, 5♀). See Appendix 1.

Additional specimens examined (14♂, 6♀). See Appendix 1.

Diagnosis. Superficially, *C. munifigueresae* is very similar to *C. ronaldzunigai* – both are small species with a somewhat two-toned forewing pattern, pale in the basal 0.4 and dark in the distal 0.6. However, the two are easily separated by features of the male genitalia. In general, the tegumen and valva are considerably narrower in *C. munifigueresae*, and the uncus is broadly spatulate apically (pointed apically in *C. ronaldzunigai*).

Description. MALE (Fig. 48). *Head*. Frons beige, vertex beige with light brown scales; labial palpus beige; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Tegula and dorsum golden yellow. FW length 4.9–5.2 mm; FW pale fawn in basal 0.33, distal 0.66 with complex pattern of brown and red-brown with round fawn spot near end of discal cell; two conspicuous patches of raised brown scales, first at outer margin of fawn brown basal region, second midway between first and tornus. HW dark brown. *Abdomen*. Brown externally. Genitalia (Fig. 87) with uncus long, slender, strongly curved downward in distal 0.3, with enlarged spatulate apex bearing a patch of short setae; gnathos slender, somewhat semicircular, membranous; valva split longitudinally into slender, shorter basal part and a much larger, apically-attenuate dorsal part bearing specialized setae on basal 0.6 of costa; phallus short, broad, curved, with slender pointed projection distally.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 7.8–8.5 mm. *Abdomen*. Genitalia (Fig. 121) with ostium lightly sclerotized; ductus bursae simple, wide, intersecting ovoid corpus bursae at one side; signum a long, slender dentate patch.

DNA barcodes. The 19 barcode sequences of *C. munifigueresae* form a BIN (BOLD:AAY4673) with an average distance of 0.06% among sequences and a distance of 6.96% to its nearest neighbor, *C. ronaldzunigai*.

Distribution. *Chlamydastis munifigueresae* has been collected in the central Pacific lowlands, in northern Guanacaste (ACG) and in the lowlands of Sarapiquí from 80 to 500 m elevation.

Biology. This species has been reared from *Terminalia amazonia* (Combretaceae) (n = 8).

Etymology. The specific epithet is a patronym for Muni Figueres in recognition of her contributions to the biopolitics of the national biodiversity inventory of Costa Rica.

Unassigned to Species Group

One new species from Costa Rica and one previously described species do not fit convincingly into any of the species groups circumscribed above, and these two are treated below.

Chlamydastis ungulifera (Meyrick, 1929)

Figures 49, 88, 122

Ptilogenes ungulifera Meyrick 1929: 517.
Chlamydastis ungulifera: Clarke 1955: 207.

Holotype. Male, Colombia, Gorgona Island, 200′, at light, 20.xi.1924. St. George expedition, C.L. Collenette, JFGC Slide No. 5614 (NHMUK).

Specimens examined (51♂, 7♀). See Appendix 1.

Diagnosis. Superficially, *C. ungulifera* can be distinguished from Costa Rican congeners by the combination of two forewing features: a dark, crescent-shaped mark at the termen and a more rounded apex. The most conspicuous feature of the male genitalia that distinguishes it from congeners is the short, apically truncate uncus with a rounded basal portion.

Redescription. MALE (Fig. 49). *Head*. Frons mostly whitish with two dark spots between antennal base and base of haustellum, vertex beige with pale brown scales; labial palpus beige; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Tegula and dorsum beige with brown line at base of tegula and collar, four distinct darker spots in center. FW length 7.0–7.7 mm; FW ground color beige; termen with ovate blotch of pale brown scales bordered basally by a dark brown crescent; a small diffuse semicircular patch at costa ca. 0.15 from base to apex; a larger dark brown dash from costa just before apex. HW pale olive brown. *Abdomen*. Pale brown externally. Genitalia (Fig. 88) with uncus short, truncate distally, with rounded base; gnathos with long, triangular plate at distal junction of arms; tegumen slightly sclerotized anterior to base of uncus, with short portion of posterior border strongly sclerotized; lateral processes of juxta bladelike, sclerotized; valva with specialized setae from a rounded subapical patch; phallus simple with a crescent-shaped, dentate cornutus.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 7.1–7.3 mm. *Abdomen*. Genitalia (Fig. 122) with outer margins of papillae anales slightly diverging posteriorly; sterigma a simple band with sclerotized area around ostium; ductus bursae short, wide; corpus bursae ovate with small, weakly dentate signum.

DNA barcodes. Sequence data are unavailable for this species.

Distribution. *Chlamydastis ungulifera* was described from Gorgona Island, Colombia; we recorded it in Costa Rica from 0 to 200 m elevation in the central and south Pacific coasts.

Biology. The immatures and food plant are unknown.

Chlamydastis willsflowersi Phillips and Brown, new species

Figures 50, 89, 123

Holotype. Male, Costa Rica, Guanacaste, ACG, Sector Cacao, Estación Cacao, 1150 m, 23.vii.2009, R. Franco and S. Ríos, 09-SRNP-106691, GenBank accession code GU698980 (USNM).

Paratypes (7♂, 6♀). See Appendix 1.

Diagnosis. Superficially, *C. willsflowersi* is somewhat similar to *C. christerhanssoni* with a gray to beige FW ground color and a rather nondescript pattern. It can be distinguished easily from all other congeners by its unique male genitalia with a patch of 4–5 long, thick, distally curved setae between the lobes of the valva (Fig. 78). Although barcodes are similar to those of the Curviliniella Species Group, the male genitalia contradict this placement.

Description. MALE (Fig. 50). *Head*. Frons beige, vertex beige mixed with light brown scales; labial palpus mostly beige with dark brown exterior of second segment; antenna with sensory setae ca. 1.5 times width of flagellomere. *Thorax*. Dorsum and tegula whitish with light brown scales distributed evenly throughout. FW length 8.2–8.7 mm; FW ground color mostly beige, with four, irregular, variably developed, costal lines at base of FW and at 0.25, 0.50, and 0.75 distance from base to apex; small patch of raised white and brown scales near end of discal

cell; subterminal and terminal lines brownish, undulate; posterior 0.5 without markings basally; a "comb" of short lines of pale-yellow scales at base. HW beige. *Abdomen*. Beige externally. Genitalia (Fig. 89) with uncus short, strong; valva with round apex, with an unusual, long, armlike projection from base of costa extending dorsad, bearing dense patch of specialized setae subapically; 4–5 long, thick, distally-curved setae originating from sacculus between dorsal and ventral lobes of valva; phallus moderately long, curved, with sclerotized distal tip; vesica with single large cornutus.

FEMALE. *Head* and *Thorax*. Essentially as described for male, except sensory setae of antenna short, sparse; FW length 9.2–9.3 mm. *Abdomen*. Genitalia (Fig. 123) with papillae anales rather broad, rounded and slightly diverging posteriorly, with slender line of sclerotization near middle of inner margin; sterigma a simple band; ductus bursae narrow at sclerotized antrum, remainder broad, lightly sclerotized throughout; corpus bursae rounded with a large, spindle-shaped, spiny signum.

DNA barcodes. The 19 barcode sequences of *C. willsflowersi* form a uniform BIN (BOLD:ABX6593) with an average distance of 0.15% among sequences and a distance of 8.39% to the nearest neighbor, *C. marianofigueresi*.

Distribution. *Chlamydastis willsflowersi* has been collected primarily in the cloud forest and dry forest-rain forest lowland intergrade in ACG from 634 to 1150 m, with a single specimen from 1400 m on the west side of Volcan Cacao.

Biology. Food plants and immature stages remain unknown.

Etymology. *Chlamydastis willsflowersi* is named in honor of Wills Flowers in recognition of his taxonomic contributions to the national biodiversity inventory of Costa Rica.

Acknowledgments

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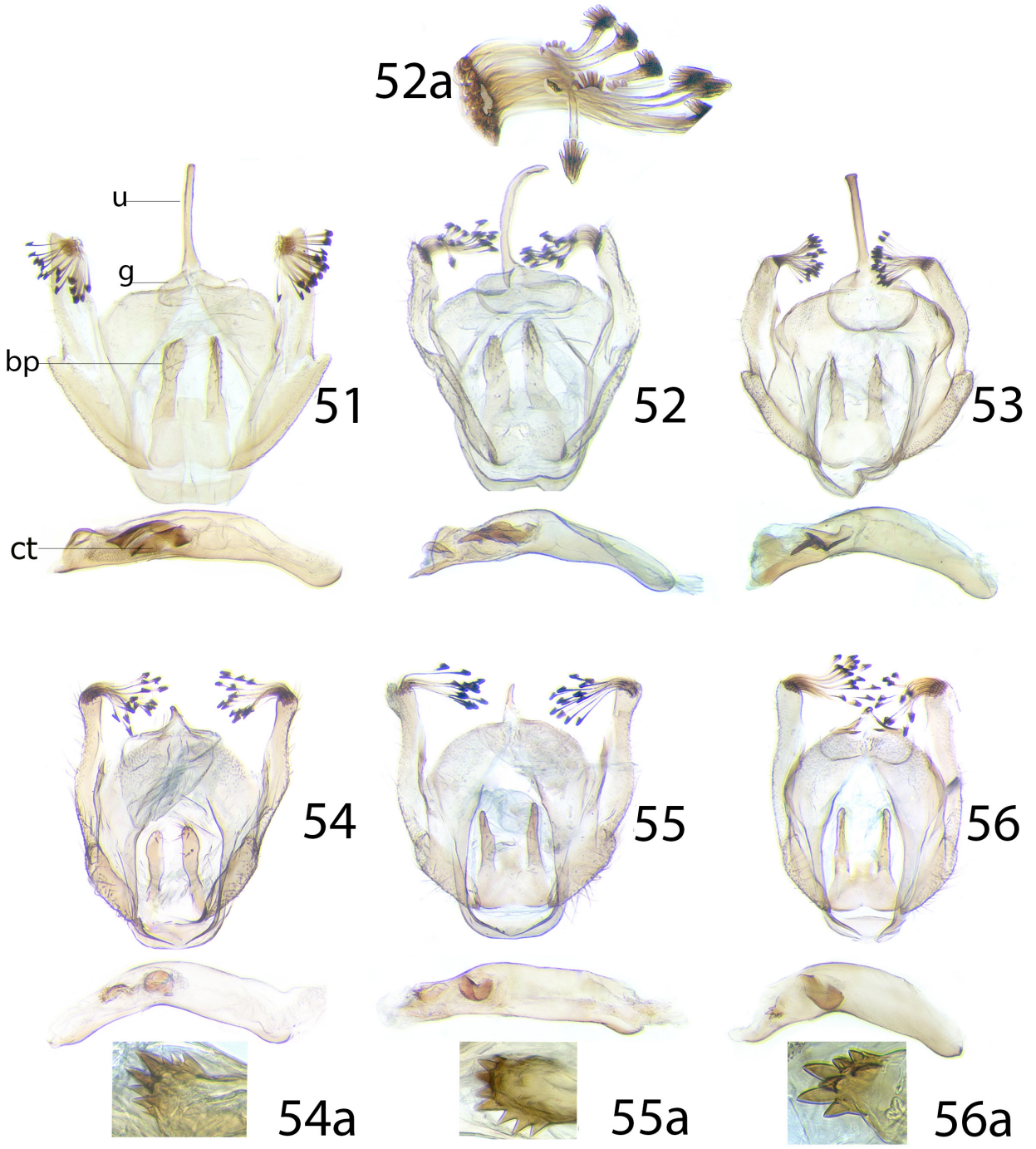
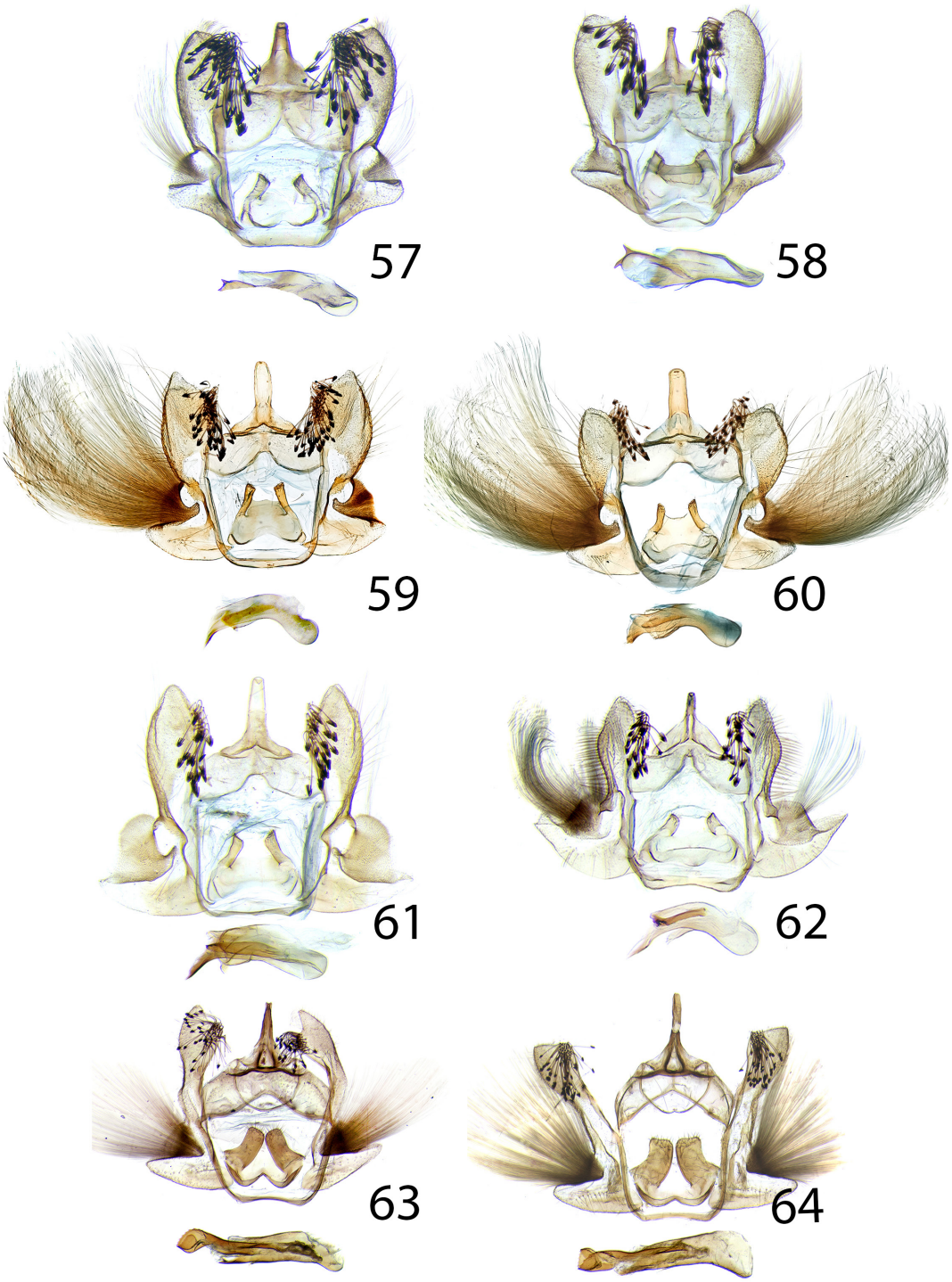
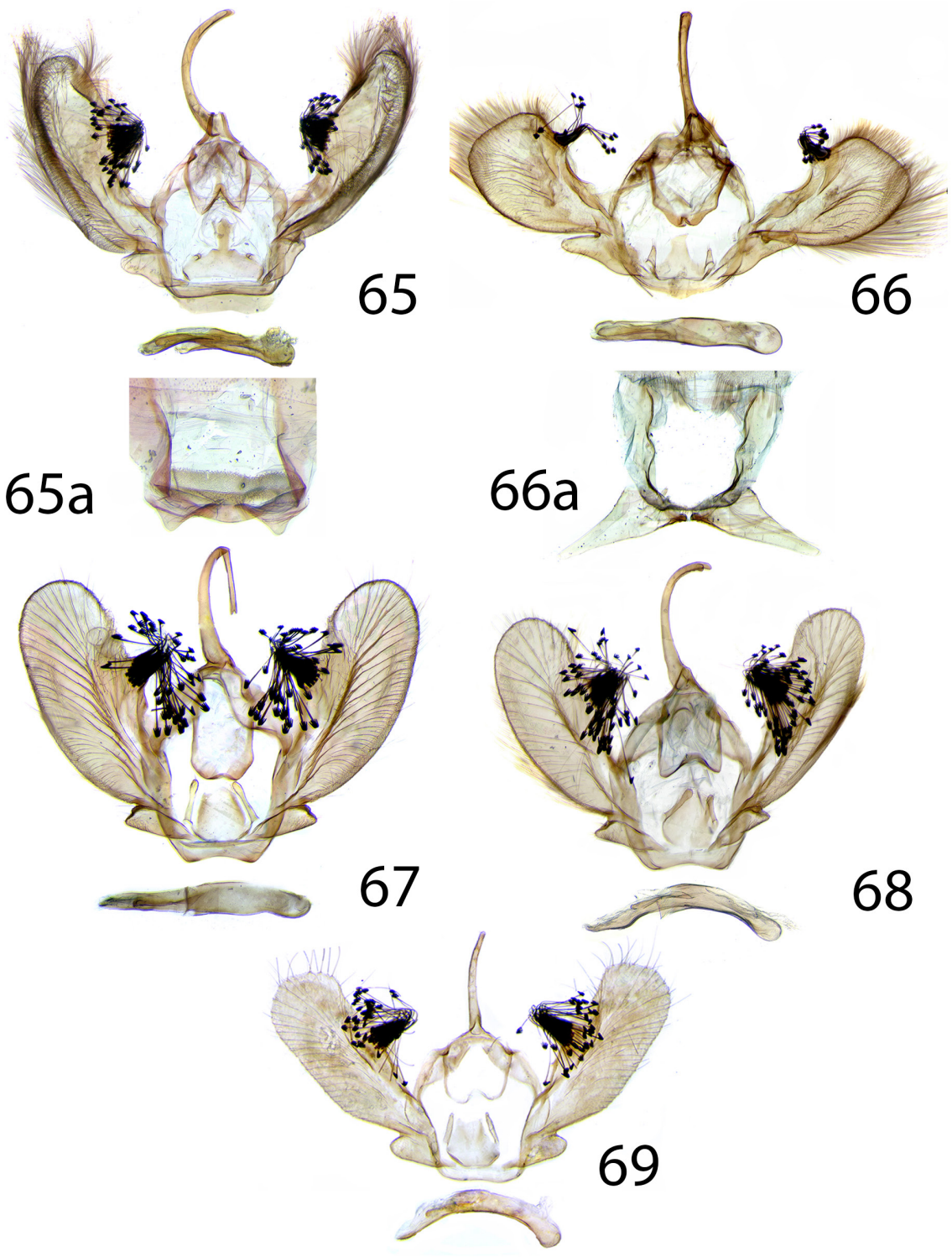


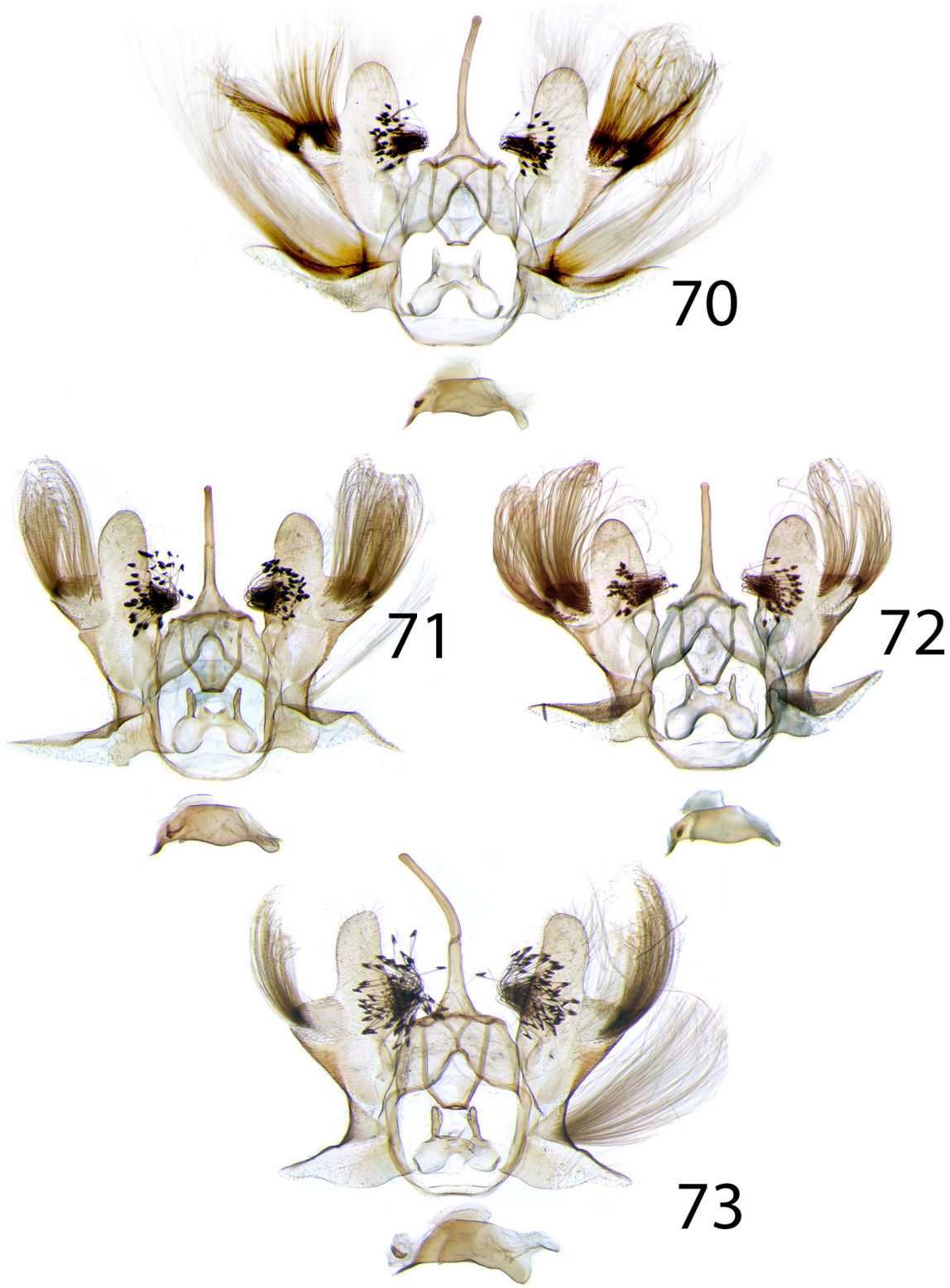
Figures 51–56. Male genitalia (phallus detached) of *Chlamydastis* from Costa Rica – Vividella Species Group. **51)** *C. vividella*, 09-SRNP-69457 (u = uncus; g = gnathos; lp = lateral process of the juxta; vl = valva; ct = cornuti plates). **52)** *C. abelulatei*, holotype, 09-SRNP-69457 (52a = detail of specialized setae). **53)** *C. carolinagodoyae*, paratype, INB00CR0001410730. **54)** *C. angelsolisi*, paratype, (54a = detail of cornuti) 07-SRNP-112603. **55)** *C. lindapitkinae*, paratype, INBIO0001999736, (55a = detail of cornuti). **56)** *C. iangauldi*, paratype, INB000588749, (56a = detail of cornuti).



Figures 57–64. Male genitalia (phallus detached) of *Chlamydastis* from Costa Rica – Curviliniella and Mendoron Species Groups. **57)** *C. anniapicadoae*, paratype, INBIOCRI0004263586. **58)** *C. antonioazofeifai*, paratype, 09-SRNP-103461. **59)** *C. marianofigueresi*, holotype, 16-SRNP-105662 (USNM 153,780) (phallus INBIOCRI002183316). **60)** *C. colleenhitchcockae*, holotype, 97-SRNP-1651. **61)** *C. bernardoespinozai*, paratype, 10-SRNP-104626. **62)** *C. bobandersoni*, paratype, 09-SRNP-111006. **63)** *C. carlosviquezi*, paratype, INBIOCRI000616538. **64)** *C. christerhanssoni*, paratype, INBIOCRI000788466.

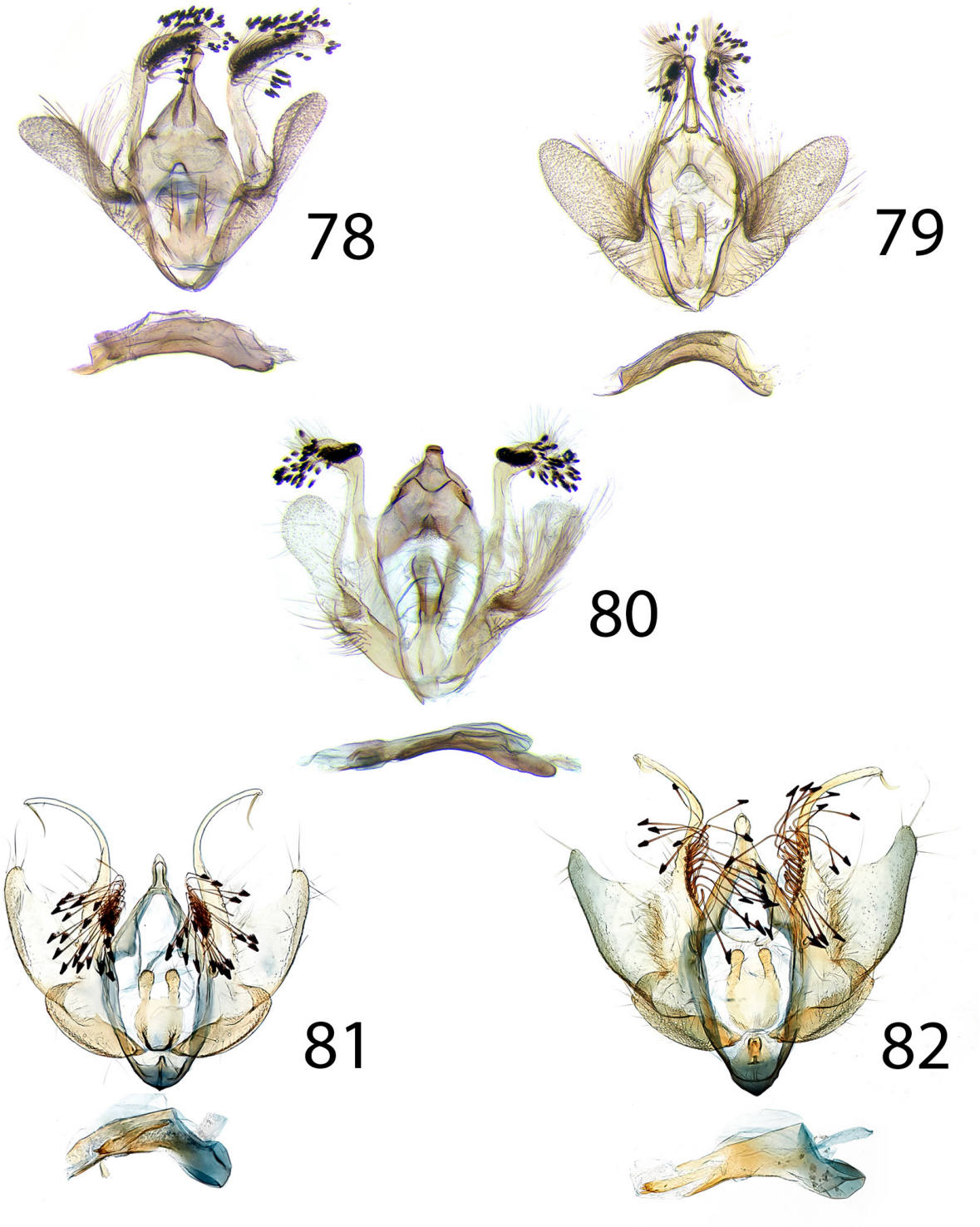


Figures 65–69. Male genitalia (phallus detached) of *Chlamydastis* from Costa Rica – Phytoptera Species Group. **65)** *C. phytoptera*, 10-SRNP-101654 (65a = last abdominal segment). **66)** *C. christhompsoni*, paratype, INBIOCRI000543326 (66a = last abdominal segment). **67)** *C. paulhansoni*, paratype, INBIOCRI0004269421. **68)** *C. elenaulateae*, paratype, 10-SRNP-1458. **69)** *C. gladysrojasae*, paratype, 09-SRNP-101325.

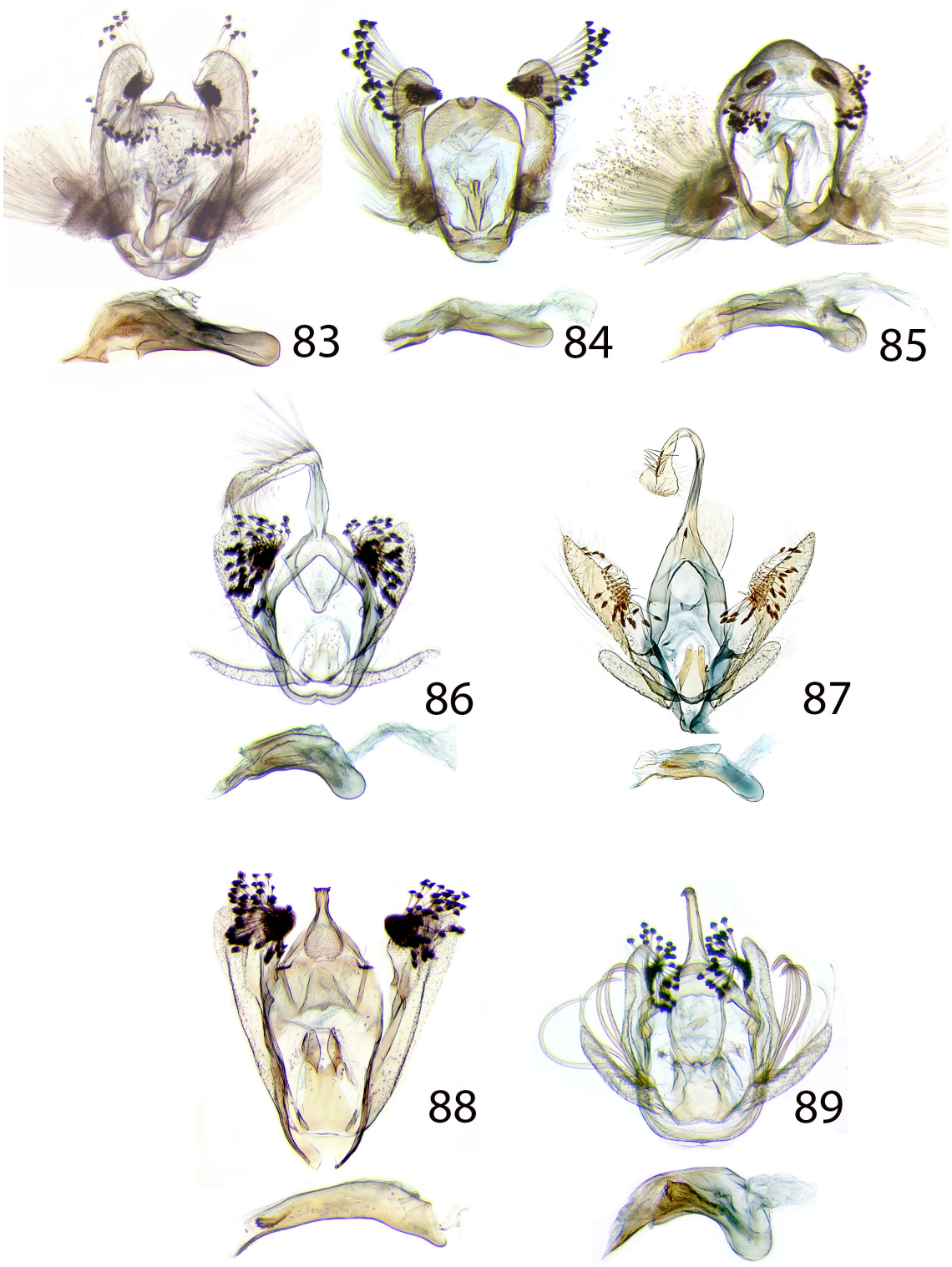


Figures 70–73. Male genitalia (phallus detached) of *Chlamydastis* from Costa Rica – Tryphon Species Group. **70)** *C. powelli*, 06-SRNP-107213, paratype. **71)** *C. gracewoodae*, paratype, 10-SRNP-101168. **72)** *C. juanmatai*, paratype, INB0004269413. **73)** *C. isidrochaconi*, paratype, 11-SRNP-100689.

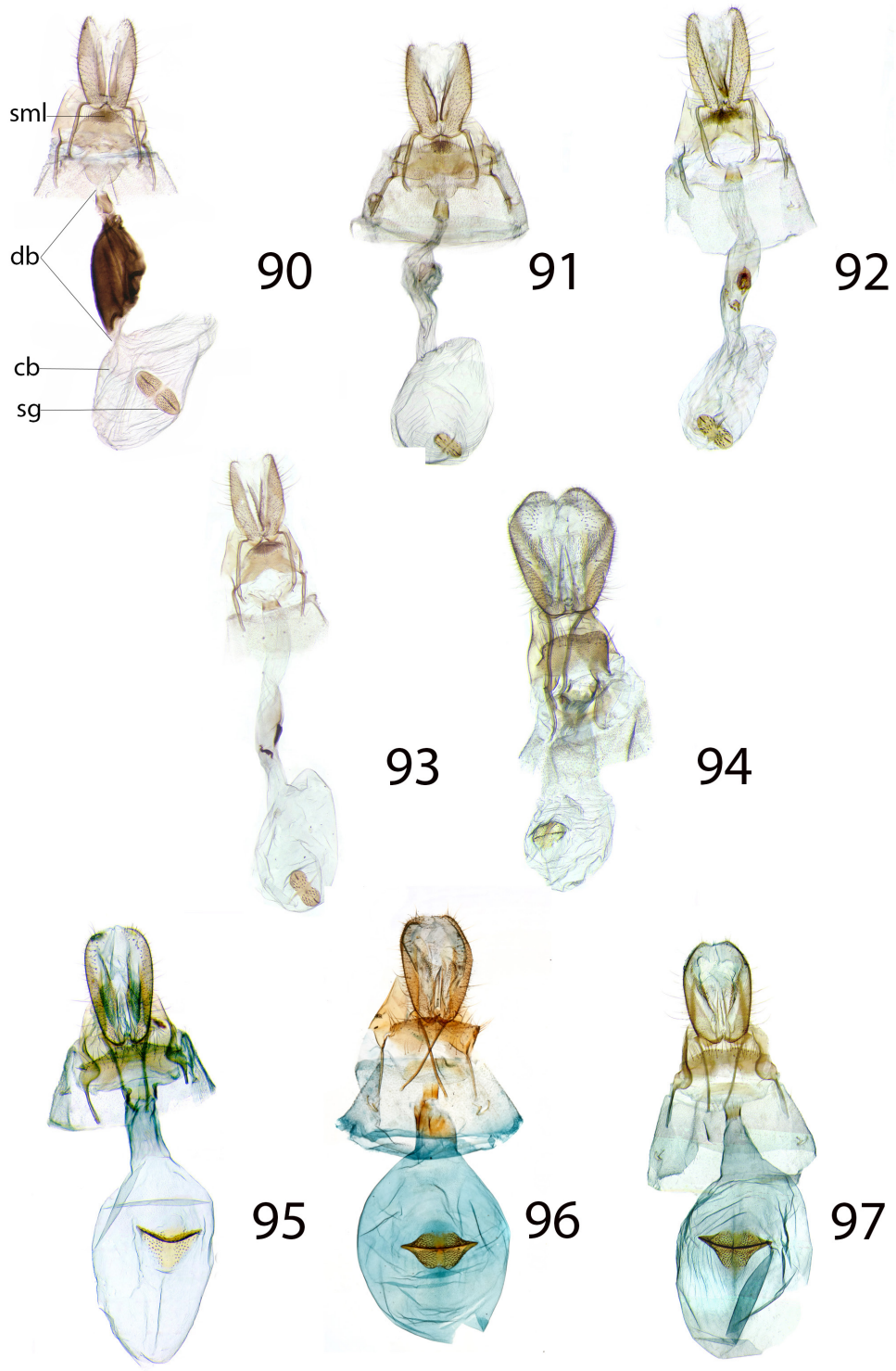
Figures 74–77. Male genitalia (phallus detached) of *Chlamydastis* from Costa Rica – Molinella and Orion Species Groups. **74)** *C. jimlewisi*, paratype, 12-SRNP-102168. **75)** *C. jimmilleri*, paratype, INBio 3000691. **76)** *C. orion*, 09-SRNP-101673. **77)** *C. montywoodi*, paratype, 09-SRNP-101318.



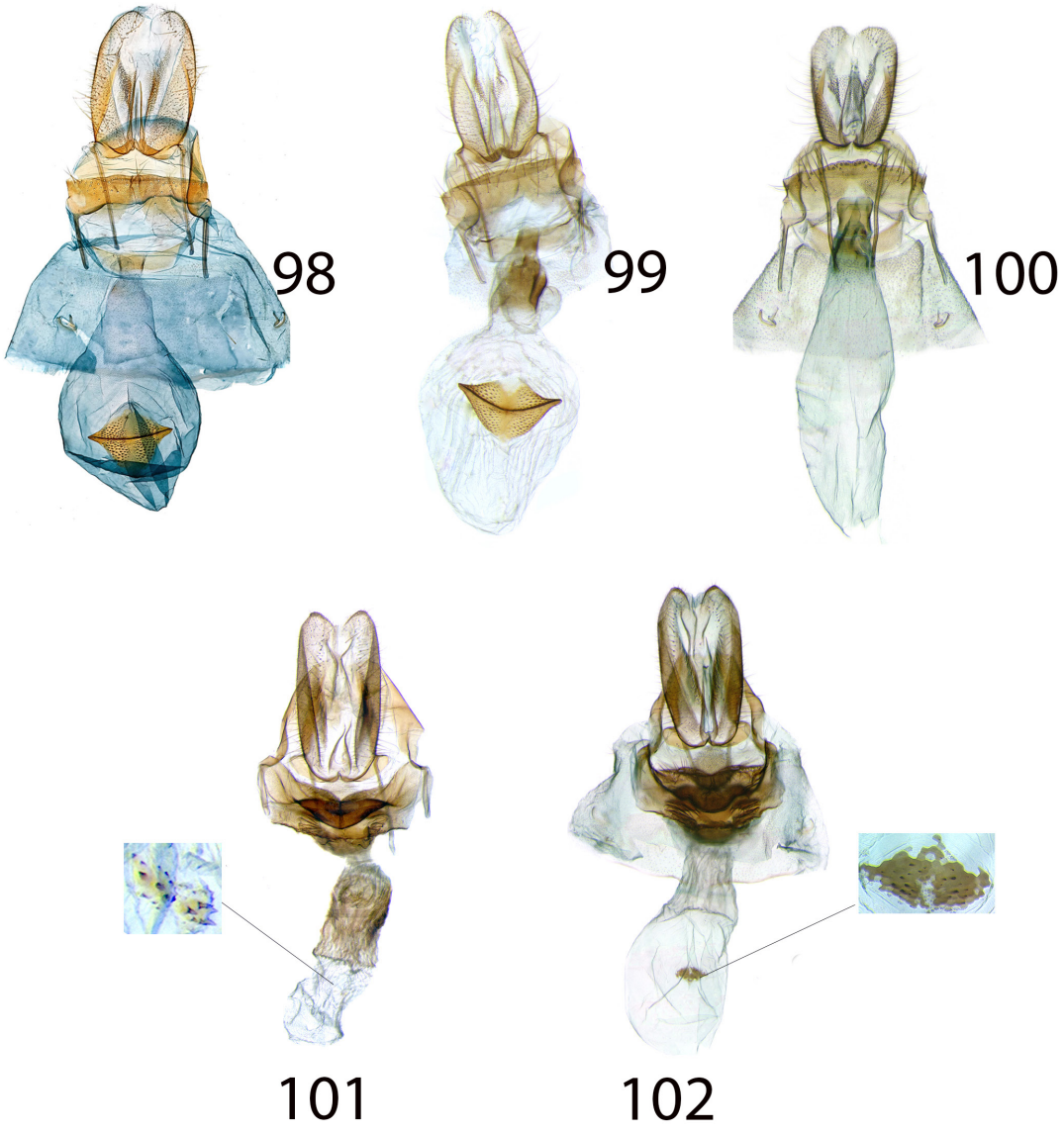
Figures 78–82. Male genitalia (phallus detached) of *Chlamydastis* from Costa Rica – Deflexa and Disticha Species Groups. **78)** *C. johnnoyesi*, paratype, 11-SRNP-55090. **79)** *C. luisdiegogomezi*, paratype, INB00306661. **80)** *C. paulthiaucourti*, paratype, 09-SRNP-100416. **81)** *C. irenecanasae*, paratype, Turrialba. **82)** *C. dondavisi*, paratype, 16-SRNP-101329.



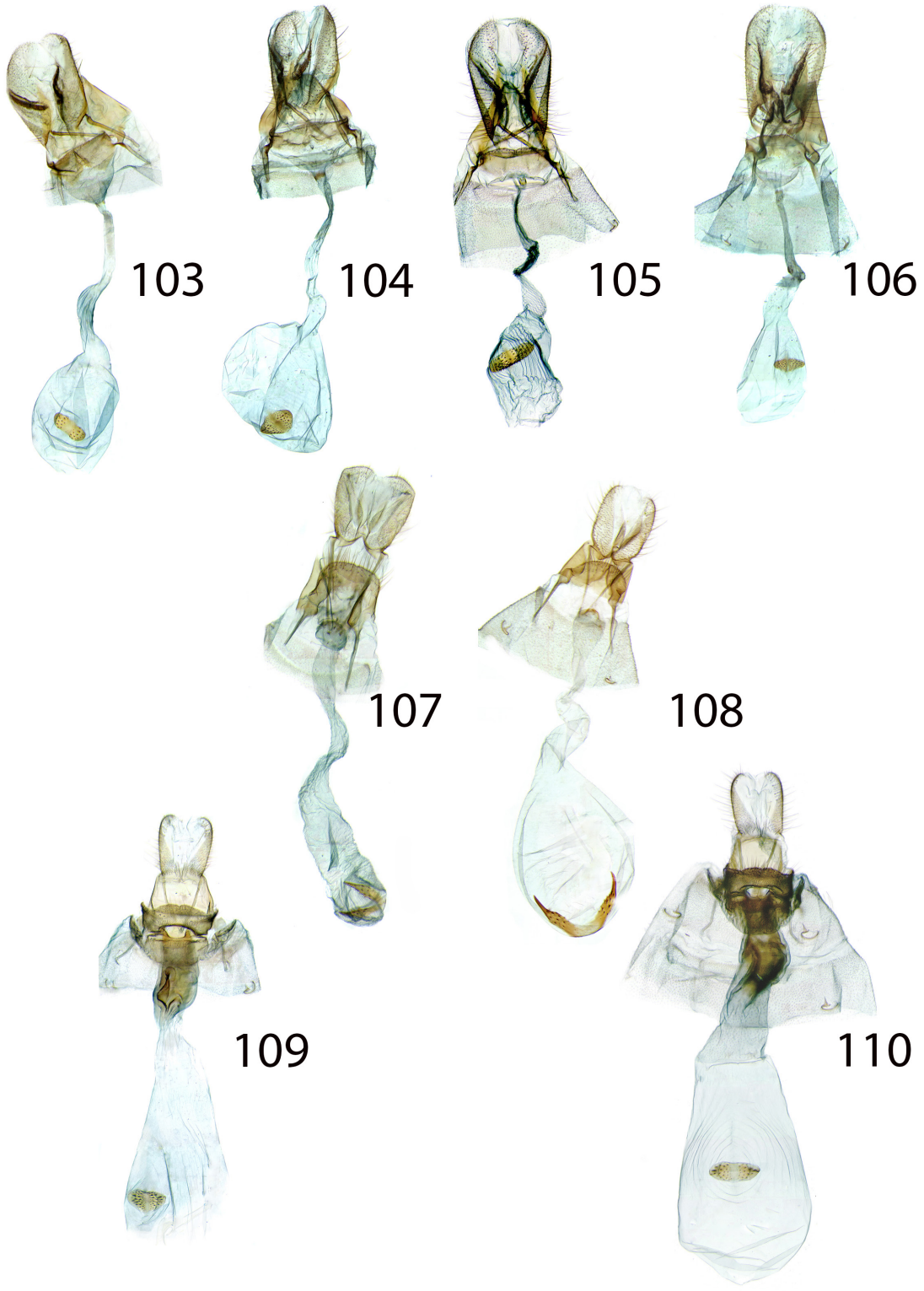
Figures 83–89. Male genitalia (phallus detached) of *Chlamydastis* from Costa Rica – Cystiodes, Ronaldzunigai, Unassigned Species Groups. **83)** *C. manuelzumbadoi*, paratype, 08-SRNP-70120. **84)** *C. noramartinae*, holotype, 11-SRNP-104804. **85)** *C. vitorbeckeri*, paratype, 09-SRNP-73023. **86)** *C. ronaldzunigai*, paratype, INBIOCRI000306854. **87)** *C. munifigueresae*, paratype, 12-SRNP-41409. **88)** *C. ungulifera*, INB001969967. **89)** *C. willsflowersi*, paratype, 09-SRNP-106691.



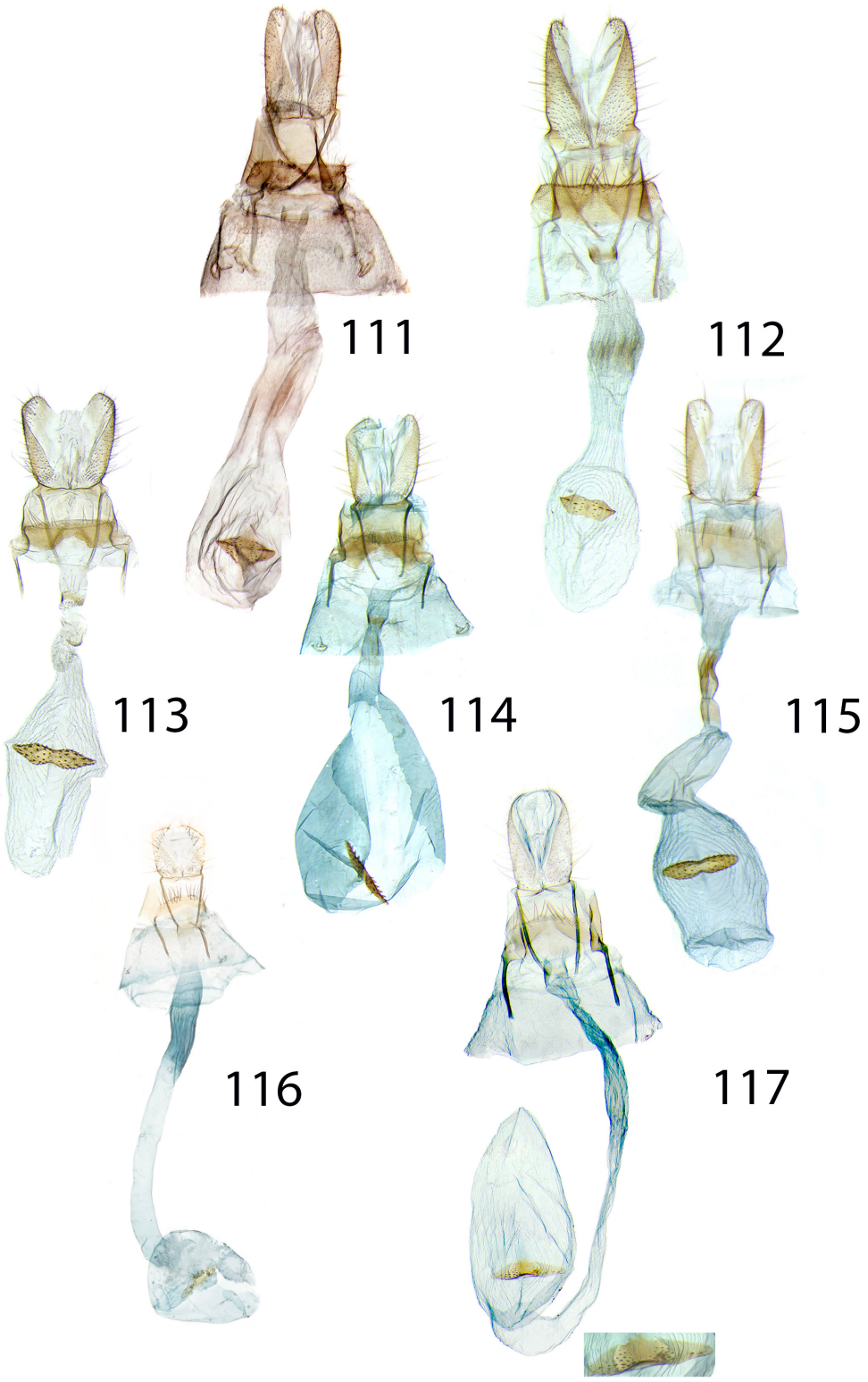
Figures 90–97. Female genitalia of *Chlamydastis*. **90)** *C. vividella*, 09-SRNP-3713 (sml = sterigma median lobe; db = ductus bursae; cb = corpus bursae; sg = signum). **91)** *C. carolinagodoyae*, paratype, INBIOCRI000428629. **92)** *C. angelsolisi*, paratype, INBIOCRI0003903651. **93)** *C. lindapitkinae*, paratype, INBIOCRI001827059. **94)** *C. anniapicadoae*, paratype, INB0004263590. **95)** *C. antonioazofeifai*, paratype, INBIOCRI001881279. **96)** *C. mignondavisae*, paratype, Turrialba, USNM slide 13,244. **97)** *C. marianofigueresi*, paratype, 16-SRNP-105464.



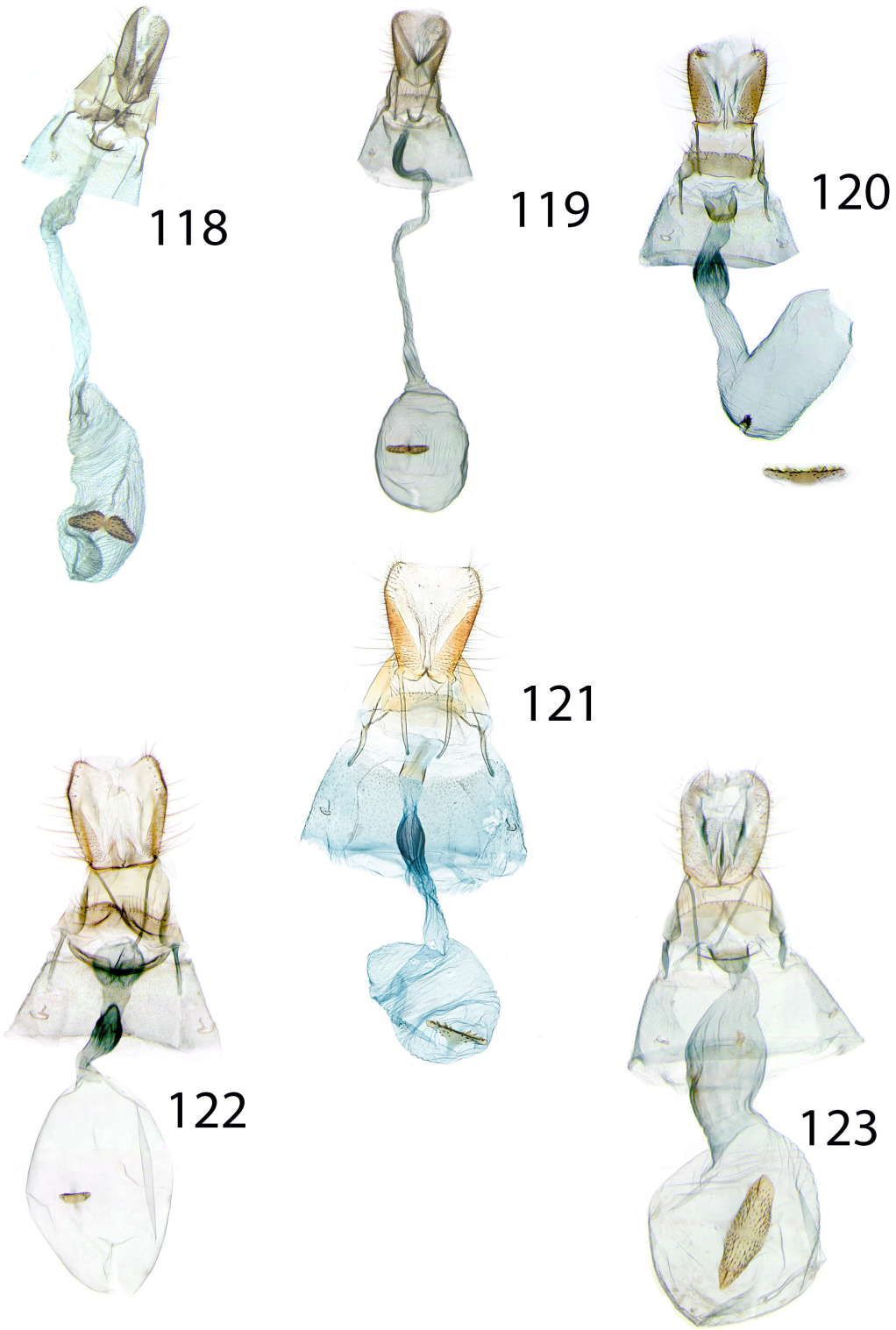
Figures 98–102. Female genitalia of *Chlamydastis*. **98)** *C. colleenhitchcockae*, paratype, 99-SRNP-17199. **99)** *C. bernardoespinozai*, paratype, 07-SRNP-40851. **100)** *C. bobandersoni,* paratype, INBIOCRI00206262590. **101)** *C. carlosviquezi*, paratype, 07-SRNP-40632. **102)** *C. christerhanssoni*, paratype, 07-SRNP-40631.



Figures 103–110. Female genitalia of *Chlamydastis*. **103)** *C. phytoptera*, INBIOCRI000650708. **104)** *C. christhompsoni*, paratype, INBIOCRI002553979. **105)** *C. elenaulateae*, paratype, 03-SRNP-10412. **106)** *C. gladysrojasae*, paratype, 08-SRNP-102184. **107)** *C. powelli*, paratype, 06-SRNP-3185. **108)** *C. isidrochaconi*, paratype, INB00151483. **109)** *C. jimlewisi*, paratype, INB0073276. **110)** *C. jimmilleri*, paratype, INB003326762.



Figures 111–117. Female genitalia of *Chlamydastis*. **111)** *C. orion*, 05-SRNP-6105. **112)** *C. montywoodi*, paratype, 07-SRNP-100462. **113)** *C. johnnoyesi*, paratype, 10-SRNP-115646. **114)** *C. luisdiegogomezi*, paratype, INBIOCRI00306701. **115)** *C. paulthiaucourti*, paratype, INBIOCRI003154784. **116)** *C. irenecanasae*, paratype, Turrialba, USNM slide 153,777. **117)** *C. dondavisi*, paratype, 10-SRNP-107941.



Figures 118–123. Female genitalia of *Chlamydastis*. **118)** *C. manuelzumbadoi*, paratype, 08-SRNP-70122. **119)** *C. vitorbeckeri*, paratype, 09-SRNP-44277. **120)** *C. ronaldzunigai*, paratype, INBIOCRI000306853 (detail of signum, INBIOCRI0001747283). **121)** *C. munifigueresae*, paratype, 10-SRNP-42832. **122)** *C. ungulifera*, INBIOCRI000445676. **123)** *C. willsflowersi*, paratype, INBIOCRI003901728.

Figures 124–129. *Chlamydastis* immature stages. **124)** *C. vividella*, 09-SRNP-1964. **125)** *C. bernardoespinozai,* 09-SRNP-114. **126)** Cocoon of *C. marianofigueresi,* 08-SRNP-36402. **127)** *C. carlosviquezi*, 07-SRNP-40631. **128)** *C. christhompsoni*, 09-SRNP-71014. **129)** *C. elenaulateae*, 09-SRNP-2109.

Figures 130–134. *Chlamydastis* larvae. **130)** *C. powelli*, 03-SRNP-4036. **131)** *C. montywoodi*, 05-SRNP-4827. **132)** *C. johnnoyesi*, 11-SRNP-55087. **133)** *C. manuelzumbadoi*, 08-SRNP-70119. **134)** *C. vitorbeckeri*, 07-SRNP-22603.

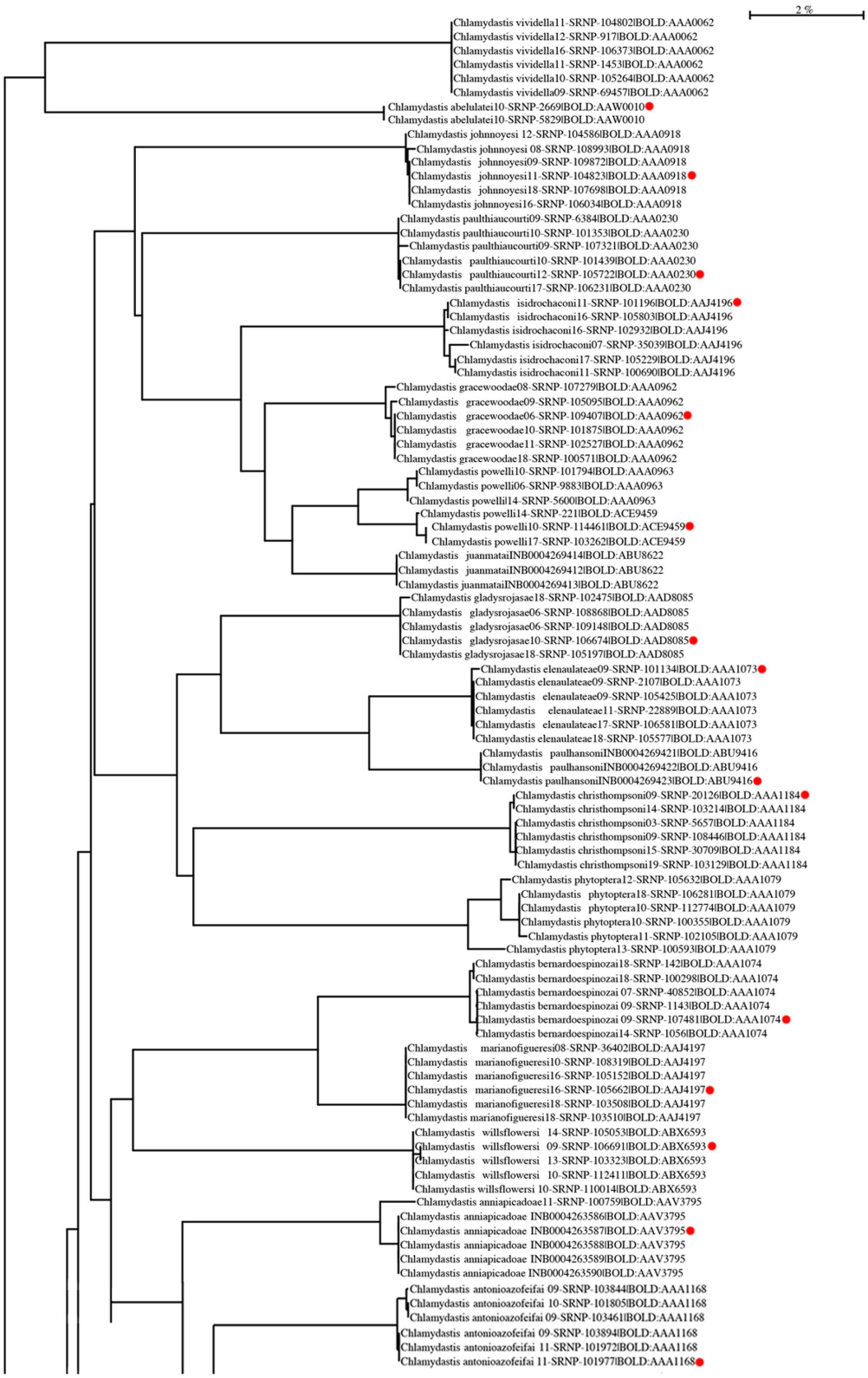
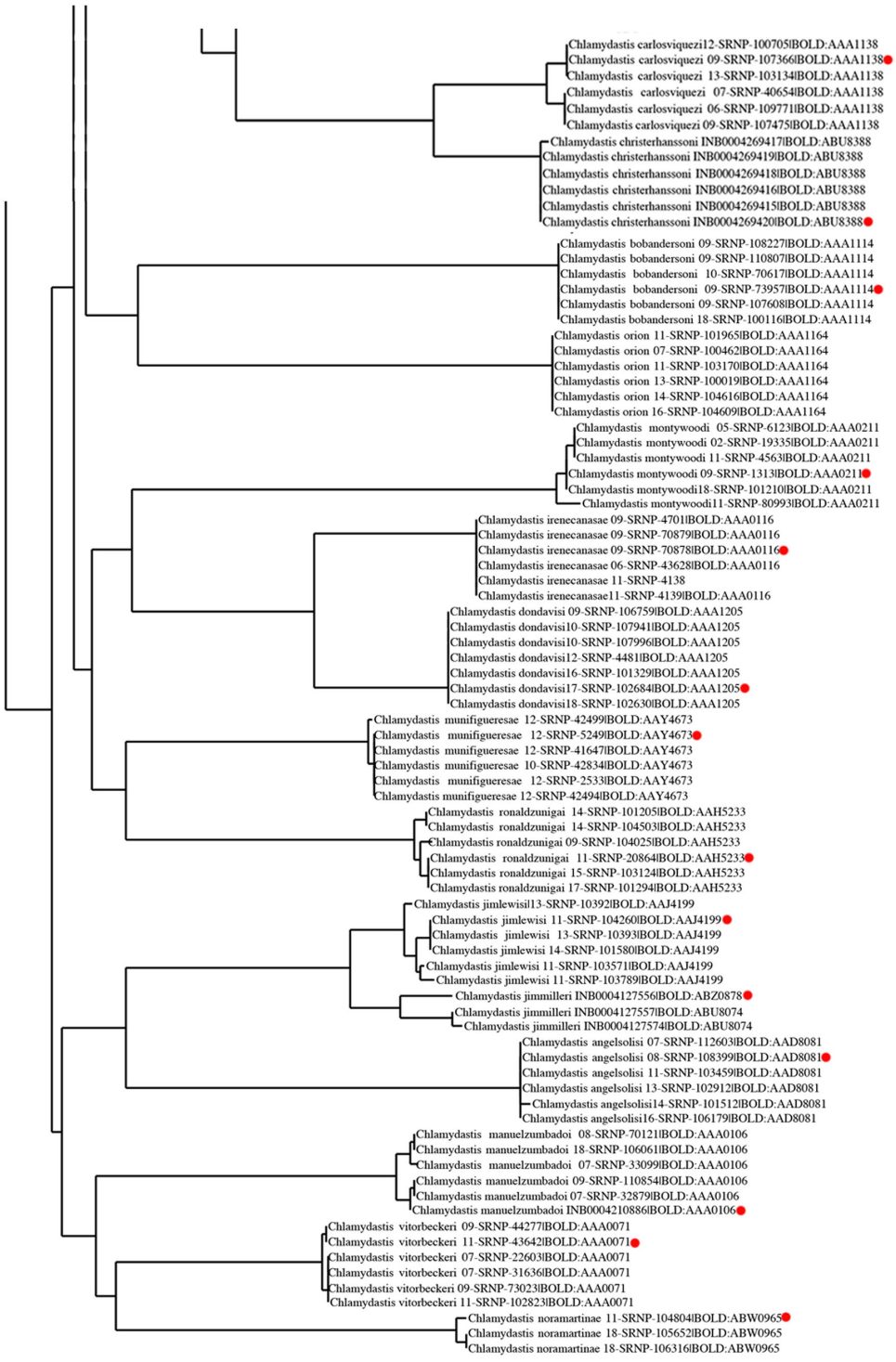


Figure 135. *Chlamydastis* from Costa Rica. Neighbor-joining (NJ) tree with a sample of a six arbitrarily selected specimens for each species. Red dots indicate the sequences of holotypes for the new species described herein.


Chlamydastis carlosviquezi12-SRNP-100705|BOLD:AAA1138
Chlamydastis carlosviquezi 09-SRNP-107366|BOLD:AAA1138
Chlamydastis carlosviquezi 13-SRNP-103134|BOLD:AAA1138
Chlamydastis carlosviquezi 07-SRNP-40654|BOLD:AAA1138
Chlamydastis carlosviquezi 06-SRNP-109771|BOLD:AAA1138
Chlamydastis carlosviquezi 09-SRNP-107475|BOLD:AAA1138
Chlamydastis christerhanssoni INB0004269417|BOLD:ABU8388
Chlamydastis christerhanssoni INB0004269419|BOLD:ABU8388
Chlamydastis christerhanssoni INB0004269418|BOLD:ABU8388
Chlamydastis christerhanssoni INB0004269416|BOLD:ABU8388
Chlamydastis christerhanssoni INB0004269415|BOLD:ABU8388
Chlamydastis christerhanssoni INB0004269420|BOLD:ABU8388
Chlamydastis bobandersoni 09-SRNP-108227|BOLD:AAA1114
Chlamydastis bobandersoni 09-SRNP-110807|BOLD:AAA1114
Chlamydastis bobandersoni 10-SRNP-70617|BOLD:AAA1114
Chlamydastis bobandersoni 09-SRNP-73957|BOLD:AAA1114
Chlamydastis bobandersoni 09-SRNP-107608|BOLD:AAA1114
Chlamydastis bobandersoni 18-SRNP-100116|BOLD:AAA1114
Chlamydastis orion 11-SRNP-101965|BOLD:AAA1164
Chlamydastis orion 07-SRNP-100462|BOLD:AAA1164
Chlamydastis orion 11-SRNP-103170|BOLD:AAA1164
Chlamydastis orion 13-SRNP-100019|BOLD:AAA1164
Chlamydastis orion 14-SRNP-104616|BOLD:AAA1164
Chlamydastis orion 16-SRNP-104609|BOLD:AAA1164
Chlamydastis montywoodi 05-SRNP-6123|BOLD:AAA0211
Chlamydastis montywoodi 02-SRNP-19335|BOLD:AAA0211
Chlamydastis montywoodi 11-SRNP-4563|BOLD:AAA0211
Chlamydastis montywoodi 09-SRNP-1313|BOLD:AAA0211
Chlamydastis montywoodi18-SRNP-101210|BOLD:AAA0211
Chlamydastis montywoodi11-SRNP-80993|BOLD:AAA0211
Chlamydastis irenecanasae 09-SRNP-4701|BOLD:AAA0116
Chlamydastis irenecanasae 09-SRNP-70879|BOLD:AAA0116
Chlamydastis irenecanasae 09-SRNP-70878|BOLD:AAA0116
Chlamydastis irenecanasae 06-SRNP-43628|BOLD:AAA0116
Chlamydastis irenecanasae 11-SRNP-4138
Chlamydastis irenecanasae11-SRNP-4139|BOLD:AAA0116
Chlamydastis dondavisi 09-SRNP-106759|BOLD:AAA1205
Chlamydastis dondavisi10-SRNP-107941|BOLD:AAA1205
Chlamydastis dondavisi10-SRNP-107996|BOLD:AAA1205
Chlamydastis dondavisi12-SRNP-4481|BOLD:AAA1205
Chlamydastis dondavisi16-SRNP-101329|BOLD:AAA1205
Chlamydastis dondavisi17-SRNP-102684|BOLD:AAA1205
Chlamydastis dondavisi18-SRNP-102630|BOLD:AAA1205
Chlamydastis munifigueresae 12-SRNP-42499|BOLD:AAY4673
Chlamydastis munifigueresae 12-SRNP-5249|BOLD:AAY4673
Chlamydastis munifigueresae 12-SRNP-41647|BOLD:AAY4673
Chlamydastis munifigueresae 10-SRNP-42834|BOLD:AAY4673
Chlamydastis munifigueresae 12-SRNP-2533|BOLD:AAY4673
Chlamydastis munifigueresae 12-SRNP-42494|BOLD:AAY4673
Chlamydastis ronaldzunigai 14-SRNP-101205|BOLD:AAH5233
Chlamydastis ronaldzunigai 14-SRNP-104503|BOLD:AAH5233
Chlamydastis ronaldzunigai 09-SRNP-104025|BOLD:AAH5233
Chlamydastis ronaldzunigai 11-SRNP-20864|BOLD:AAH5233
Chlamydastis ronaldzunigai 15-SRNP-103124|BOLD:AAH5233
Chlamydastis ronaldzunigai 17-SRNP-101294|BOLD:AAH5233
Chlamydastis jimlewisi13-SRNP-10392|BOLD:AAJ4199
Chlamydastis jimlewisi 11-SRNP-104260|BOLD:AAJ4199
Chlamydastis jimlewisi 13-SRNP-10393|BOLD:AAJ4199
Chlamydastis jimlewisi 14-SRNP-101580|BOLD:AAJ4199
Chlamydastis jimlewisi 11-SRNP-103571|BOLD:AAJ4199
Chlamydastis jimlewisi 11-SRNP-103789|BOLD:AAJ4199
Chlamydastis jimmilleri INB0004127556|BOLD:ABZ0878
Chlamydastis jimmilleri INB0004127557|BOLD:ABU8074
Chlamydastis jimmilleri INB0004127574|BOLD:ABU8074
Chlamydastis angelsolisi 07-SRNP-112603|BOLD:AAD8081
Chlamydastis angelsolisi 08-SRNP-108399|BOLD:AAD8081
Chlamydastis angelsolisi 11-SRNP-103459|BOLD:AAD8081
Chlamydastis angelsolisi 13-SRNP-102912|BOLD:AAD8081
Chlamydastis angelsolisi14-SRNP-101512|BOLD:AAD8081
Chlamydastis angelsolisi16-SRNP-106179|BOLD:AAD8081
Chlamydastis manuelzumbadoi 08-SRNP-70121|BOLD:AAA0106
Chlamydastis manuelzumbadoi 18-SRNP-106061|BOLD:AAA0106
Chlamydastis manuelzumbadoi 07-SRNP-33099|BOLD:AAA0106
Chlamydastis manuelzumbadoi 09-SRNP-110854|BOLD:AAA0106
Chlamydastis manuelzumbadoi 07-SRNP-32879|BOLD:AAA0106
Chlamydastis manuelzumbadoi INB0004210886|BOLD:AAA0106
Chlamydastis vitorbeckeri 09-SRNP-44277|BOLD:AAA0071
Chlamydastis vitorbeckeri 11-SRNP-43642|BOLD:AAA0071
Chlamydastis vitorbeckeri 07-SRNP-22603|BOLD:AAA0071
Chlamydastis vitorbeckeri 07-SRNP-31636|BOLD:AAA0071
Chlamydastis vitorbeckeri 09-SRNP-73023|BOLD:AAA0071
Chlamydastis vitorbeckeri 11-SRNP-102823|BOLD:AAA0071
Chlamydastis noramartinae 11-SRNP-104804|BOLD:ABW0965
Chlamydastis noramartinae 18-SRNP-105652|BOLD:ABW0965
Chlamydastis noramartinae 18-SRNP-106316|BOLD:ABW0965

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Appendix 1. Collection data for Costa Rican *Chlamydastis* specimens examined in this study.

Species	Type/ sex	Sample ID	Species group	State/ province	Region	Sector	Exact site	Elev. (m)	Collection date	Collectors	Lat.	Lon.
C. anniapicadoae	**HT♂**	**INB0004263587**	**curviliniella**	**Cartago**	**ACLAP**	**P. N. Tapanti**	**3.5 km Porton hacia Humo**	**1650**	**08-Sep-2010**	**E. Phillips**	**9.721**	**−83.778**
C. anniapicadoae	PT♀	11-SRNP-100759	curviliniella	Guanacaste	ACG	Sector Santa María	Manta Claro	1610	03-Feb-2011	H. Cambronero & S. Rios	10.803	−85.326
C. anniapicadoae	PT♀	INB0003388545	curviliniella	Cartago	ACLAP	P. N. Tapanti	La Represa	1600	1-Oct-01	R. Delgado	9.69521	−83.78115
C. anniapicadoae	PT♀	INB0004263590	curviliniella	Cartago	ACLAP	P. N. Tapanti	3.5 km Porton hacia Humo	1650	08-Sep-2010	E. Phillips	9.721	−83.778
C. anniapicadoae	PT♂	INB0003040501	curviliniella	Cartago	ACLAP	P. N. Tapanti	La Represa	1600	15-May-99	R. Delgado	9.69521	−83.78115
C. anniapicadoae	PT♂	INB0003041833	curviliniella	Cartago	ACLAP	P. N. Tapanti	Est. Quebrada Segunda	1250	Oct-99	R. Delgado	9.76258	−83.78833
C. anniapicadoae	PT♂	INB0003079972	curviliniella	Cartago	ACLAP	P. N. Tapanti	La Represa	1600	Jun-00	R. Delgado	9.69521	−83.78115
C. anniapicadoae	PT♂	INB0003388546	curviliniella	Cartago	ACLAP	P. N. Tapanti	La Represa	1600	1-Oct-01	R. Delgado	9.69521	−83.78115
C. anniapicadoae	PT♂	INB0003545153	curviliniella	Cartago	ACLAP	P. N. Tapanti	Est. Quebrada Segunda	1200	Oct-02	R. Delgado	9.76258	−83.78833
C. anniapicadoae	PT♂	INB0003545350	curviliniella	Cartago	ACLAP	P. N. Tapanti	La Represa	1600	1-Oct-02	R. Delgado	9.69521	−83.78115
C. anniapicadoae	PT♂	INB0004263586	curviliniella	Cartago	ACLAP	P. N. Tapanti	3.5 km Porton hacia Humo	1650	08-Sep-2010	E. Phillips	9.721	−83.778
C. anniapicadoae	PT♂	INB0004263588	curviliniella	Cartago	ACLAP	P. N. Tapanti	3.5 km Porton hacia Humo	1650	08-Sep-2010	E. Phillips	9.721	−83.778
C. anniapicadoae	PT♂	INB0004263589	curviliniella	Cartago	ACLAP	P. N. Tapanti	3.5 km Porton hacia Humo	1650	08-Sep-2010	E. Phillips	9.721	−83.778
C. anniapicadoae	PT♂	INBIOCRI000441755	curviliniella	Cartago	ACLAP	P. N. Tapanti	Est. Quebrada Segunda	1250	15-Sep-91	G. Mora	9.76258	−83.78833
C. antonioazofeifai	**HT♂**	**11-SRNP-101977**	**curviliniella**	**Guanacaste**	**ACG**	**Sector Pitilla**	**Sendero Memo**	**774**	**02-Apr-2011**	**H. Cambronero & F. Quesada**	**10.985**	**−85.428**
C. antonioazofeifai	PT♀	INBIOCRI001881279	curviliniella	Cartago	ACC	Turrialba	Monumento Nacional Guayabo	1100	Jun-94	G. Fonseca	9.973979	−83.694936
C. antonioazofeifai	PT♂	09-SRNP-103894	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar,Manta Trocha	719	25-Mar-2009	R. Franco & F. Quesada	10.866	−85.327
C. antonioazofeifai	PT♂	10-SRNP-101805	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Casa	725	13-Jan-2010	F. Quesada & R. Franco	10.866	−85.326
C. antonioazofeifai	PT♂	10-SRNP-102530	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	14-Jan-2010	F. Quesada & S. Rios	10.868	−85.327
C. antonioazofeifai	PT♂	11-SRNP-100759	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar,Manta Trocha	719	25-Mar-2009	H. Cambronero & S. Rios	10.866	−85.327
C. antonioazofeifai	PT♂	INB0003072801	curviliniella	Alajuela	ACAT	P. N. Volcán Tenorio	Albergue Heliconias	800	1-Mar-00	G. Rodríguez	10.718881	−85.029934
C. antonioazofeifai	PT♂	INB0003317783	curviliniella	Alajuela	ACAT	P. N. Volcán Tenorio	Albergue Heliconias	600	20 Oct-6 Nov 2000	G. Rodríguez	10.718881	−85.029934
C. antonioazofeifai	PT♂	INB0003317813	curviliniella	Alajuela	ACAT	P. N. Volcán Tenorio	Albergue Heliconias	800	20 Oct-6 Nov 2000	G. Rodríguez	10.718881	−85.029934
C. antonioazofeifai	PT♂	INB0003319294	curviliniella	Alajuela	ACAT	P. N. Volcán Tenorio	Albergue Heliconias	800	Dec-00	G. Rodríguez	10.718881	−85.029934
C. antonioazofeifai	PT♂	INBIOCRI000226700	curviliniella	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Nov-90	R. Aguilar	10.401255	−84.049314
C. antonioazofeifai	PT♂	INBIOCRI000360818	curviliniella	Limón	ACTo	Cerro Cocori	Fca E. Rojas	150	Dec-91	E. Rojas	10.594274	−83.716512
C. antonioazofeifai	PT♂	INBIOCRI000502687	curviliniella	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	4-13 Dec 1991	D. García	10.992609	−85.429477
C. antonioazofeifai	PT♂	INBIOCRI000527290	curviliniella	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	4-13 Dec 1991	C. Moraga	10.992609	−85.429477

Species	Type/ sex	Sample ID	Species group	State/ province	Region	Sector	Exact site	Elev. (m)	Collection date	Collectors	Lat.	Lon.
C. antonioazofeifai	PT♂	INBIOCRI001641970	curviliniella	Limón	ACTo	Cerro Cocori	Fca E. Rojas	100	Oct-93	E. Rojas	10.594274	−83.716512
C. antonioazofeifai	PT♂	INBIOCRI001881264	curviliniella	Cartago	ACC	Turrialba	Monumento Nacional Guayabo	1100	Jun-94	G. Fonseca	9.973979	−83.694936
C. antonioazofeifai	PT♂	INBIOCRI002040477	curviliniella	Cartago	ACC	Turrialba	Monumento Nacional Guayabo	1100	Sep-94	G. Fonseca	9.973979	−83.694936
C. antonioazofeifai	PT♂	INBIOCRI002040510	curviliniella	Cartago	ACC	Turrialba	Monumento Nacional Guayabo	1100	Sep-94	G. Fonseca	9.973979	−83.694936
C. antonioazofeifai	PT♂	INBIOCRI002203501	curviliniella	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	700	May-95	P.Ríos	10.992609	−85.429477
C. antonioazofeifai	PT♂	USNM	curviliniella	Heredia	ACC	P. N. Braulio Carrillo	Est. El Ceibo	450	Apr-03	D. R. & M. M. Davis		
C. bernardoespinozai	**HT♂**	**09-SRNP-107481**	**curviliniella**	**Alajuela**	**ACG**	**Sector Rincon Rain Forest**	**Est. Leiva**	**454**	**19-Aug-2009**	**F. Quesada & R. Franco**	**10.943**	**−85.318**
C. bernardoespinozai	PT♀	07-SRNP-40851	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	08-May-2007	J. Perez	10.904	−85.303
C. bernardoespinozai	PT♂	07-SRNP-40852	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	09-May-2007	J. Perez	10.904	−85.303
C. bernardoespinozai	PT♂	09-SRNP-108444	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Est. Leiva	454	18-Sep-2009	H. Cambronero & S. Rios	10.943	−85.318
C. bernardoespinozai	PT♂	09-SRNP-1143	curviliniella	Alajuela	ACG	Sector San Cristobal	Rio Blanco Abajo	500	15-Apr-2009	E. Araya	10.9	−85.373
C. bernardoespinozai	PT♂	09-SRNP-1144	curviliniella	Alajuela	ACG	Sector San Cristobal	Rio Blanco Abajo	500	07-Apr-2009	E. Araya	10.9	−85.373
C. bernardoespinozai	PT♂	10-SRNP-102760	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	15-Jan-2010	F. Quesada & H. Cambronero	10.868	−85.327
C. bernardoespinozai	PT♂	10-SRNP-104626	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Casa	725	16-Jan-2010	R. Franco & H. Cambronero	10.866	−85.326
C. bernardoespinozai	PT♂	INB0003087785	curviliniella	Alajuela	ACAT	Reserva Forestal Arenal	Sendero Pilón	700	Oct-99	G. Rodríguez	10.442743	−84.71649
C. bernardoespinozai	PT♂	INB0003319324	curviliniella	Alajuela	ACAT	P. N. Volcán Tenorio	Albergue Heliconias	800	Dec-00	G. Rodríguez	10.718881	−85.029934
C. bernardoespinozai	PT♂	INB0003445794	curviliniella	Alajuela	ACAT	P. N. Volcán Tenorio	Sector El Pilón	750	Mar-02	G. Rodríguez	10.704603	−84.992304
C. bernardoespinozai	PT♂	INB0003943110	curviliniella	Cartago	ACLAC	P. N. Barbilla	Tayutic, Campamento 2	1200	8–9 May 2005	B. Gamboa		
C. bernardoespinozai	PT♂	INB0004162446	curviliniella	Limon	ACLC	Veragua Rain Forest	Restaurant	400	24-Aug-2008	B. Hernandez & J. Mata	9.926	−83.191
C. bernardoespinozai	PT♂	INBIOCRI000024748	curviliniella	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	27 Jan/4 Feb 1989	GNP Biodiversity Survey		
C. bernardoespinozai	PT♂	INBIOCRI000445656	curviliniella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Nov-90	G. Fonseca	8.480171	−83.591289
C. bernardoespinozai	PT♂	INBIOCRI000786680	curviliniella	Limón	ACTo	Sector Cerro Cocori	Fca. E. Rojas	150	Apr-92	E. Rojas	10.594274	−83.716512
C. bernardoespinozai	PT♂	INBIOCRI000790583	curviliniella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Apr-92	G. Fonseca	8.480171	−83.591289
C. bernardoespinozai	PT♂	INBIOCRI001295064	curviliniella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Jan-91	F. Quesada	8.679096	−83.566714
C. bernardoespinozai	PT♂	INBIOCRI001320503	curviliniella	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	May-91	R. Aguilar	10.401256	−84.050228
C. bernardoespinozai	PT♂	INBIOCRI002411288	curviliniella	Alajuela	ACAT	P. N. Volcán Tenorio	Puesto Quebradón	300	Oct-97	G. Rodríguez	10.639558	−84.909117
C. bernardoespinozai	PT♂	INBIOCRI002724762	curviliniella	Heredia	ACC	Sarapiqui	Est. Biológica La Selva	150	Feb-00	D. Wagner	10.433333	−84.016667
C. bobandersoni	**HT♀**	**09-SRNP-73957**	**curviliniella**	**Guanacaste**	**ACG**	**Sector Pitilla**	**Leonel**	**510**	**30-Nov-09**	**R. Calero**	**10.996**	**−85.402**

Species	Type/ sex	Sample ID	Species group	State/ province	Region	Sector	Exact site	Elev. (m)	Collection date	Collectors	Lat.	Lon.
C. bobandersoni	PT♀	09-SRNP-101183	curviliniella	Guanacaste	ACG	Sector Rincon Rain Forest	Rio Francia	410	Jan-09	R. Franco & S. Rios	10.904	−85.287
C. bobandersoni	PT♀	INBIOCRI001843846	curviliniella	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	700	Jan-94	P. Ríos	10.992609	−85.429477
C. bobandersoni	PT♀	INBIOCRI002062644	curviliniella	Heredia	ACC	Sarapiqui	Est. Biológica La Selva	150	May-96	ALAS	10.433333	−84.016667
C. bobandersoni	PT♂	09-SRNP-108227	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Est. Leiva	454	17-Sep-2009	F. Quesada & R. Franco	10.943	−85.318
C. bobandersoni	PT♂	09-SRNP-108362	curviliniella	Alajuela	ACG	Sector Rincon Rain Forest	Est. Leiva	454	18-Sep-2009	H. Cambronero & S. Rios	10.943	−85.318
C. bobandersoni	PT♂	09-SRNP-111006	curviliniella	Guanacaste	ACG	Sector Del Oro	Bosque Aguirre	571	18-Nov-2009	R. Franco & S. Rios	11.004	−85.441
C. bobandersoni	PT♂	09-SRNP-111046	curviliniella	Guanacaste	ACG	Sector Del Oro	Bosque Aguirre	571	18-Nov-2009	R. Franco & S. Rios	11.004	−85.441
C. bobandersoni	PT♂	INBIOCRI000481294	curviliniella	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	Jul-91	C. Moraga	10.992609	−85.429477
C. bobandersoni	PT♂	INBIOCRI001138251	curviliniella	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	6–10 Sep 1993	P. Ríos	10.992609	−85.429477
C. bobandersoni	PT♂	INBIOCRI001258336	curviliniella	Heredia	ACC	Sarapiqui	Est. Biológica La Selva	300	Feb-96	Proyecto ALAS	10.433333	−84.016667
C. colleenhitchcockae	**HT♂**	**97-SRNP-1651**	**curviliniella**	**Guanacaste**	**ACG**	**Sector Cacao**	**Sendero Derrumbe**	**1220**	**13-Aug-97**	**R. Moraga**	**10.92918**	**−85.46426**
C. colleenhitchcockae	PT♀	02-SRNP-9032	curviliniella	Guanacaste	ACG	Sector Cacao	Sendero Derrumbe	1220	15-May-02	F. Quesada	10.92918	−85.46426
C. colleenhitchcockae	PT♀	97-SRNP-1652	curviliniella	Guanacaste	ACG	Sector Cacao	Sendero Derrumbe	1220	13-Aug-97	R. Moraga	10.92918	−85.46426
C. colleenhitchcockae	PT♀	99-SRNP-17199	curviliniella	Guanacaste	ACG	Sector Cacao	Sendero Cima	1460	31-Dec-99	M. Pereira	10.93328	−85.45729
C. marianofigueresi	**HT♂**	**16-SRNP-105662**	**curviliniella**	**Guanacaste**	**ACG**	**Sector Santa Rosa**	**Area administrativa**	**295**	**Sep-16**	**H. Cambronero & R. Franco**	**10.83764**	**−85.61871**
C. marianofigueresi	PT♀	08-SRNP-36402	curviliniella	Guanacaste	ACG	Sector Cacao	Sendero Cima	1460	Nov-08	M. Pereira	10.93328	−85.45729
C. marianofigueresi	PT♀	16-SRNP-102328	curviliniella	Guanacaste	ACG	Sector Santa María	Manta Claro	1610	Jun-16	H.Cambronero & R. Franco	10.80345	−85.32621
C. marianofigueresi	PT♀	16-SRNP-105463	curviliniella	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	May-16	S. Ríos	10.80348	−85.32729
C. marianofigueresi	PT♀	16-SRNP-105464	curviliniella	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	Mar-17	S. Ríos	10.80348	−85.32729
C. marianofigueresi	PT♀	17-SRNP-100959	curviliniella	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	Sep-16	S. Ríos	10.80348	−85.32729
C. marianofigueresi	PT♀	INBIOCRI002343530	curviliniella	Puntarenas	ACLAP	Buenos Aires	Est. Altamira	1400	23–30 Oct 1995	R. Villalobos	9.032987	−83.010887
C. marianofigueresi	PT♂	INBIOCRI002183316	curviliniella	Puntarenas	ACLAP	Estación Pittier	4.2 km SW Cerro Gemelo	1600	5–18 Jan 1995	R. Villalobos	9.025664	−82.962695
C. marianofigueresi	amU	10-SRNP-108069	curviliniella	Guanacaste	ACG	Sector Cacao	Sendero Derrumbe	1310	May-10	F. Quesada & S. Rios	10.9311	−85.46194
C. marianofigueresi	amU	10-SRNP-108319	curviliniella	Guanacaste	ACG	Sector Cacao	Sendero Derrumbe	1310	May-10	F. Quesada & S. Rios	10.9311	−85.46194
C. marianofigueresi	amU	18-SRNP-103508	curviliniella	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. marianofigueresi	amU	18-SRNP-103509	curviliniella	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. marianofigueresi	amU	18-SRNP-103510	curviliniella	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. mignondavisae	**HT♀**	**USNMENT 01480465**	**curviliniella**	**Cartago**	**ACC**	**Turrialba**	**Turrialba**	**630**	**1–6 Mar 1965**	**S. S. & W. D. Duckworth**	**9.9067**	**−83.6801**

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C. mignondavisae	PT♀	USNMENT 01480466	curviliniella	Cartago	ACC	Turrialba	Turrialba	630	17–21 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. mignondavisae	PT♀	USNMENT 01480467	curviliniella	Cartago	ACC	Turrialba	Turrialba	630	15–19 Jul 1965	P. J. Spangler	9.9067	−83.6801
C. manuelzumbadoi	**HT♂**	**INB0004210886**	**cystiodes**	**Limon**	**ACLAC**	**Veragua Rain Forest**	**Campamento**	**400**	**23-Apr-09**	**R. Villalobos**	**9.92573**	**−83.191405**
C. manuelzumbadoi	PT♀	08-SRNP-70122	cystiodes	Guanacaste	ACG	Sector Pitilla	Cano	490	18-Apr-08	L. Siezar	10.9954	−85.3998
C. manuelzumbadoi	PT♀	08-SRNP-70124	cystiodes	Guanacaste	ACG	Sector Pitilla	Cano	490	18-Apr-08	L. Siezar	10.9954	−85.3998
C. manuelzumbadoi	PT♀	09-SRNP-101922	cystiodes	Guanacaste	ACG	Sector Pitilla	Manta Miranda	774	4-Apr-11	R. Franco & S. Rios	10.98518	−85.42811
C. manuelzumbadoi	PT♀	09-SRNP-70890	cystiodes	Guanacaste	ACG	Sector Pitilla	Quebradona	475	19-Jun-09	R. Calero	10.99102	−85.39539
C. manuelzumbadoi	PT♀	10-SRNP-73021	cystiodes	Guanacaste	ACG	Sector Pitilla	Est. Quica	470	30-Sep-10	R. Calero	10.99697	−85.39666
C. manuelzumbadoi	PT♀	INBIOCRI001956652	cystiodes	Puntarenas	ACOSA	P. N. Corcovado	Est. Esquinas	200	Nov-93	M. Segura	8.759387	−83.283128
C. manuelzumbadoi	PT♀	USNM	cystiodes	Heredia	ACC	11Kms ESE La Virgen	Est. Cantarrana	539	Jan-09	R. Franco & S. Rios	11.00778	−85.42085
C. manuelzumbadoi	PT♀	USNM	cystiodes	San José	ACC	Puriscal	Chires, Mastatal	954	16–18 Oct 2011	J. B. Sullivan	9.8321	−84.3332
C. manuelzumbadoi	PT♂	08-SRNP-70120	cystiodes	Guanacaste	ACG	Sector Pitilla	Cano	490	18-Apr-08	L. Eliezer	10.9954	−85.3998
C. manuelzumbadoi	PT♂	09-SRNP-71732	cystiodes	Guanacaste	ACG	Sector Pitilla	Manguera	470	4-Aug-09	Manuel Ríos	10.9959	−85.39842
C. manuelzumbadoi	PT♂	10-SRNP-75727	cystiodes	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Pila	157	6-May-10	D. Briceño	10.93038	−85.25682
C. manuelzumbadoi	PT♂	11-SRNP-101815	cystiodes	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	1-Apr-11	S. Rios & H. Cambronero	10.98931	−85.42581
C. manuelzumbadoi	PT♂	11-SRNP-102688	cystiodes	Guanacaste	ACG	Sector Pitilla	Sendero Memo	774	4-Apr-11	R. Franco & S. Rios	10.98518	−85.42811
C. manuelzumbadoi	PT♂	INB0003301336	cystiodes	Puntarenas	ACOSA	P. N. Piedras Blancas	Est. El Bonito	100	25 Nov 2000	M. Moraga	8.680656	−83.227328
C. manuelzumbadoi	PT♂	INBIOCRI001836150	cystiodes	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	23–26 Jun 1993	Taller Microlepid	10.992609	−85.429477
C. manuelzumbadoi	PT♂	INBIOCRI001903897	cystiodes	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	May-91	R. Aguilar	10.401256	−84.050228
C. manuelzumbadoi	PT♂	INBIOCRI001956619	cystiodes	Puntarenas	ACOSA	P. N. Corcovado	Est. Esquinas	100	Nov-93	M. Segura	8.759387	−83.283128
C. manuelzumbadoi	PT♂	USNM	cystiodes	Heredia	ACC	10 Kms Se La Virgen	Est. El Ceibo	500	13-Apr-03	D. Davis		
C. noramartinae	**HT♂**	**11-SRNP-104804**	**cystiodes**	**Guanacaste**	**ACG**	**Sector Orosi**	**Manta Mecate**	**587**	**30-Nov-11**	**H. Cambronero & S. Ríos**	**10.95415**	**−85.49155**
C. noramartinae	PT♂	INBIOCRI000181503	cystiodes	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	100	Mar-91	E. Rojas	10.594274	−83.716512
C. noramartinae	PT♂	INBIOCRI000333892	cystiodes	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	150	Jan-92	E. Rojas	10.594274	−83.716512
C. noramartinae	PT♂	INBIOCRI000363628	cystiodes	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	150	Mar-92	E. Rojas	10.594274	−83.716512
C. noramartinae	PT♂	INBIOCRI000588668	cystiodes	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	150	Aug-91	E. Rojas	10.594274	−83.716512
C. noramartinae	PT♂	INBIOCRI000598914	cystiodes	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	Jun-93	P. Ríos	10.992609	−85.429477
C. noramartinae	PT♂	INBIOCRI000598917	cystiodes	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	150	Sep-91	E. Rojas	10.594274	−83.716512
C. noramartinae	PT♂	INBIOCRI000652664	cystiodes	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	Dec-90	P. Ríos	10.992609	−85.429477
C. noramartinae	PT♂	INBIOCRI001135623	cystiodes	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	150	Aug-93	E. Rojas	10.594274	−83.716512
C. noramartinae	PT♂	INBIOCRI001835095	cystiodes	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	19–23 Jun 93	P. Ríos	10.992609	−85.429477
C. noramartinae	PT♂	INBIOCRI001856503	cystiodes	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	100	Jan-94	E. Rojas	10.594274	−83.716512
C. noramartinae	PT♂	INBIOCRI002203531	cystiodes	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	May-95	P. Ríos	10.992609	−85.429477

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C. vitorbeckeri	**HT♂**	**11-SRNP-43642**	**cystiodes**	**Guanacaste**	**ACG**	**Sector Rincon Rain Forest**	**Sendero Tucan**	**410**	**3-Aug-11**	**A. Cordoba**	**10.90424**	**−85.2712**
C. vitorbeckeri	PT♀	09-SRNP-44277	cystiodes	Alajuela	ACG	Sector Rincon Rain Forest	Est. Llanura	135	23-May-09	C. Umana	10.93332	−85.25331
C. vitorbeckeri	PT♀	11-SRNP-43029	cystiodes	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Anonas	405	26-Jun-11	P. Umana	10.90528	−85.27882
C. vitorbeckeri	PT♀	INB0003486051	cystiodes	Puntarenas	ACOSA	P. N. Piedras Blancas	Sector Riyito	10	13-May-02	M. Moraga	8.680656	−83.227328
C. vitorbeckeri	PT♂	07-SRNP-31636	cystiodes	Guanacaste	ACG	Sector Pitilla	Pasmompa	440	6-Mar-07	D. Briceño	11.01926	−85.40997
C. vitorbeckeri	PT♂	09-SRNP-100898	cystiodes	Guanacaste	ACG	Sector Rincon Rain Forest	Río Negro	329	24-Jan-09	H. Cambronero & F. Quesada	10.90403	−85.30316
C. vitorbeckeri	PT♂	09-SRNP-110748	cystiodes	Guanacaste	ACG	Sector del Oro	Sendero Manta	610	16-Nov-09	R. Franco & S. Rios	10.99689	−85.45679
C. vitorbeckeri	PT♂	09-SRNP-44540	cystiodes	Alajuela	ACG	Sector Rincon Rain Forest	Est. Llanura	135	9-Jun-09	M. Moraga	10.93332	−85.25331
C. vitorbeckeri	PT♂	09-SRNP-73023	cystiodes	Guanacaste	ACG	Sector Pitilla	Est. Quica	470	8-Oct-09	D. Martinez	10.99697	−85.39666
C. vitorbeckeri	PT♂	11-SRNP-102823	cystiodes	Alajuela	ACG	Sector San Cristobal	Est. San Gerardo	575	1-May-11	H. Cambronero & S. Rios	10.88009	−85.38887
C. vitorbeckeri	PT♂	INB0003486066	cystiodes	Puntarenas	ACOSA	P. N. Piedras Blancas	Sector Riyito	10	13-May-02	M. Moraga	8.736111	−83.288889
C. vitorbeckeri	PT♂	INB0003554764	cystiodes	Puntarenas	ACOSA	P. N. Piedras Blancas	Est. El Bonito	100	Nov-02	M. Moraga	8.680656	−83.227328
C. vitorbeckeri	PT♂	INBIOCRI001698952	cystiodes	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	150	Jul-93	E. Rojas	10.594274	−83.716512
C. vitorbeckeri	PT♂	INBIOCRI001772432	cystiodes	Puntarenas	ACOSA	P. N. Corcovado	Bosque Esquinas	200	Mar-94	F. Quesada	8.759387	−83.283128
C. johnnoyesi	**HT♂**	**11-SRNP-104823**	**deflexa**	**Guanacaste**	**ACG**	**Sector Orosi**	**Est. Maritza, Manta Mecate**	**587**	**30-Sep-2011**	**H. Cambronero & S. Rios**	**10.954**	**−85.492**
C. johnnoyesi	PT♀	09-SRNP-110791	deflexa	Guanacaste	ACG	Sector Del Oro	Sendero Manta	610	17-Nov-2009	R. Franco & F. Quesada	10.997	−85.457
C. johnnoyesi	PT♀	09-SRNP-111100	deflexa	Guanacaste	ACG	Sector Del Oro	Bosque Aguirre	571	18-Nov-2009	R. Franco & H. Cambronero	11.004	−85.441
C. johnnoyesi	PT♀	10-SRNP-114005	deflexa	Guanacaste	ACG	Sector Pailas	Manta Rio Blanco	790	09-Oct-2010	S. Rios & R. Franco	10.775	−85.35
C. johnnoyesi	PT♀	10-SRNP-115646	deflexa	Guanacaste	ACG	Sector Santa María	Santa Maria	832	11-Jun-2010	R. Franco & F. Quesada	10.765	−85.303
C. johnnoyesi	PT♀	11-SRNP-104623	deflexa	Guanacaste	ACG	Sector Orosi	Est. Maritza, Maritza	548	29-Sep-2011	H. Cambronero & S. Rios	10.957	−85.495
C. johnnoyesi	PT♀	11-SRNP-104824	deflexa	Guanacaste	ACG	Sector Orosi	Est. Maritza, Manta Mecate	587	30-Sep-2011	H. Cambronero & S. Rios	10.954	−85.492
C. johnnoyesi	PT♀	11-SRNP-104825	deflexa	Guanacaste	ACG	Sector Orosi	Est. Maritza, Manta Mecate	587	30-Sep-2011	H. Cambronero & S. Rios	10.954	−85.492
C. johnnoyesi	PT♀	11-SRNP-104826	deflexa	Guanacaste	ACG	Sector Orosi	Est. Maritza, Manta Mecate	587	30-Sep-2011	H. Cambronero & S. Rios	10.954	−85.492
C. johnnoyesi	PT♀	11-SRNP-55087	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	740	2-Jan-11	M. Pereira	10.763	−85.413
C. johnnoyesi	PT♀	11-SRNP-55089	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	740	2-Jan-11	M. Pereira	10.763	−85.413
C. johnnoyesi	PT♀	11-SRNP-55192	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	740	11-Jan-11	J. Cortez	10.763	−85.413
C. johnnoyesi	PT♀	11-SRNP-55213	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	740	14-Jan-11	M. Pereira	10.763	−85.413
C. johnnoyesi	PT♀	11-SRNP-55269	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	740	21-Jan-11	M. Pereira	10.763	−85.413
C. johnnoyesi	PT♂	08-SRNP-108804	deflexa	Guanacaste	ACG	Sector Santa Rosa	Mirador Patos	251	26-Dec-2008	R. Franco & S. Rios	10.821	−85.633
C. johnnoyesi	PT♂	08-SRNP-109064	deflexa	Guanacaste	ACG	Sector Santa Rosa	Luces	300	27-Dec-2008	R. Franco & S. Rios	10.854	−85.609
C. johnnoyesi	PT♂	08-SRNP-109098	deflexa	Guanacaste	ACG	Sector Santa Rosa	Luces	300	27-Dec-2008	R. Franco & S. Rios	10.854	−85.609

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C. johnnoyesi	PT♂	09-SRNP-105304	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Manta Canon	700	21-Jun-2009	H. Cambronero & S. Rios	10.77	−85.373
C. johnnoyesi	PT♂	09-SRNP-109201	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Manta Canon	700	17-Oct-2009	S. Rios & F. Quesada	10.77	−85.373
C. johnnoyesi	PT♂	09-SRNP-109558	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Pozo # 3	634	16-Oct-2009	H. Cambronero & F. Quesada	10.768	−85.373
C. johnnoyesi	PT♂	11-SRNP-102541	deflexa	Guanacaste	ACG	Sector Pitilla	Sector Pitilla	675	04-Apr-2011	H.Cambronero & S. Rios	10.989	−85.426
C. johnnoyesi	PT♂	11-SRNP-103299	deflexa	Guanacaste	ACG	Sector Santa Rosa	Luces	575	30-May-2011	R. Franco & S. Rios	10.854	−85.609
C. johnnoyesi	PT♂	11-SRNP-103938	deflexa	Guanacaste	ACG	Sector Orosi	Est. Maritza, Casa Rafa	579	01-Jun-2011	H. Cambronero & R. Franco	10.959	−85.495
C. johnnoyesi	PT♂	11-SRNP-104517	deflexa	Guanacaste	ACG	Sector Santa Elena	La Angostura	300	27-Sep-2011	H. Cambronero & R. Franco	10.856	−85.67
C. johnnoyesi	PT♂	11-SRNP-104821	deflexa	Guanacaste	ACG	Sector Orosi	Est. Maritza, Manta Mecate	587	30-Sep-2011	H. Cambronero & S. Rios	10.954	−85.492
C. johnnoyesi	PT♂	11-SRNP-104822	deflexa	Guanacaste	ACG	Sector Orosi	Est. Maritza, Manta Mecate	587	30-Sep-2011	H. Cambronero & S. Rios	10.954	−85.492
C. johnnoyesi	PT♂	11-SRNP-104931	deflexa	Guanacaste	ACG	Sector Orosi	Est. Maritza, Manta Mecate	587	01-Oct-2011	R. Franco & S. Rios	10.954	−85.492
C. johnnoyesi	PT♂	11-SRNP-55090	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	740	2-Jan-11	M. Pereira	10.763	−85.413
C. johnnoyesi	PT♂	11-SRNP-55147	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	540	5-Jan-11	M. Pereira	10.865	−85.415
C. johnnoyesi	PT♂	11-SRNP-55149	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	740	5-Jan-11	M. Pereira	10.763	−85.413
C. johnnoyesi	PT♂	11-SRNP-55211	deflexa	Guanacaste	ACG	Sector Mundo Nuevo	Cerro Gongora Pelado	740	14-Jan-11	J. Cortez	10.763	−85.413
C. johnnoyesi	PT♂	12-SRNP-100747	deflexa	Guanacaste	ACG	Sector Santa Elena	Manta Estero	41	22-Mar-2012	H. Cambronero & R. Franco	10.855	−85.789
C. johnnoyesi	PT♂	12-SRNP-101621	deflexa	Guanacaste	ACG	Sector Pailas	Manta Rio Blanco	790	18-May-2012	H. Cambronero & S. Rios	10.775	−85.35
C. johnnoyesi	PT♂	13-SRNP-100276	deflexa	Guanacaste	ACG	Sector Santa María	Manta Naranjal	866	11-Feb-2013	S. Rios & H. Cambronero	10.77	−85.286
C. johnnoyesi	PT♂	13-SRNP-102451	deflexa	Guanacaste	ACG	Sector Pailas	PDL#1	728	05-Oct-2013	S. Rios & H. Cambronero	10.757	−85.343
C. johnnoyesi	PT♂	13-SRNP-103955	deflexa	Guanacaste	ACG	Sector Pailas	PDL#6	806	03-Nov-2013	S. Rios & H. Cambronero	10.763	−85.334
C. johnnoyesi	PT♂	USNM	Deflexa	Guanacaste	ACG	Sector Santa Rosa	Santa Rosa	575	27-29-1980	D. H. Janzen & W. Hallwachs	10.854	−85.609
C. luisdiegogomezi	**HT♂**	**INBIOCRI000484372**	**deflexa**	**Heredia**	**ACC**	**P .N. Braulio Carrillo**	**Est. Magsasay**	**200**	**Sep-90**	**R. Aguilar**	**10.401255**	**−84.049314**
C. luisdiegogomezi	PT♀	INBIOCRI000171210	deflexa	San José	ACC	P .N. Braulio Carrillo	Est. Carrillo	700	Jul-90	I curso Microlepidoptera	10.148893	−83.951906
C. luisdiegogomezi	PT♀	INBIOCRI000306701	deflexa	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Aug-90	R. Aguilar	10.401255	−84.049314
C. luisdiegogomezi	PT♀	INBIOCRI000306703	deflexa	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Aug-90	R. Aguilar	10.401255	−84.049314
C. luisdiegogomezi	PT♀	INBIOCRI001135150	deflexa	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	150	Aug-93	E. Rojas	10.594274	−83.716512
C. luisdiegogomezi	PT♀	INBIOCRI001903937	deflexa	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	May-91	R. Aguilar	10.401255	−84.049314
C. luisdiegogomezi	PT♂	INBIOCRI000306619	deflexa	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Aug-90	R. Aguilar	10.401255	−84.049314
C. luisdiegogomezi	PT♂	INBIOCRI000306661	deflexa	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Aug-90	R. Aguilar	10.401255	−84.049314
C. luisdiegogomezi	PT♂	INBIOCRI000306677	deflexa	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Sep-90	R. Aguilar	10.401255	−84.049314
C. luisdiegogomezi	PT♂	INBIOCRI001315911	deflexa	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	100	31 Jan/21 Feb 92	E. Rojas	10.594274	−83.716512
C. luisdiegogomezi	PT♂	INBIOCRI001336553	deflexa	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Jun-91	A. Fernandez	10.401255	−84.049314
C. paulthiaucourti	**HT♂**	**12-SRNP-105722**	**deflexa**	**Guanacaste**	**ACG**	**Sector Pitilla**	**Est. Pitilla**	**675**	**14-Nov-2012**	**S. Rios & H. Cambronero**	**10.989**	**−85.426**

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C. paulthiaucourti	PT♀	09-SRNP-103251	deflexa	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Manta Trocha	719	25-Mar-2009	R. Franco & F. Quesada	10.866	−85.327
C. paulthiaucourti	PT♀	09-SRNP-6356	deflexa	Alajuela	ACG	Sector San Cristobal	Finca San Gabriel	645	26-Nov-09	E. Araya	10.878	−85.393
C. paulthiaucourti	PT♀	09-SRNP-6384	deflexa	Alajuela	ACG	Sector San Cristobal	Tajo Angeles	540	27-Nov-09	E. Araya	10.865	−85.415
C. paulthiaucourti	PT♀	10-SRNP-105295	deflexa	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Casa	725	12-Feb-2010	R. Franco & S. Rios	10.866	−85.326
C. paulthiaucourti	PT♀	INB0003154784	deflexa	Alajuela	ACAT	P. N. Volcán Tenorio	Albergue Heliconias	800	Oct-00	G. Rodriguez	10.718881	−85.029934
C. paulthiaucourti	PT♀	INB0003573955	deflexa	Alajuela	ACAT	P. N. Volcán Tenorio	Alto Los Masis	1100	14-Jun-02	E. Phillips	10.61451	−85.003662
C. paulthiaucourti	PT♂	09-SRNP-107322	deflexa	Alajuela	ACG	Sector Rincon Rain Forest	Leiva, Potrero Chaves	454	19-Aug-2009	R. Franco & H.Cambronero	10.943	−85.318
C. paulthiaucourti	PT♂	09-SRNP-110783	deflexa	Guanacaste	ACG	Sector Del Oro	Sendero Manta	610	17-Nov-2009	R. Franco & F. Quesada	10.997	−85.457
C. paulthiaucourti	PT♂	10-SRNP-101102	deflexa	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Termales	694	12-Jan-2010	R. Franco & F. Quesada	10.864	−85.324
C. paulthiaucourti	PT♂	10-SRNP-101353	deflexa	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	13-Jan-2010	F. Quesada & R. Franco	10.868	−85.327
C. paulthiaucourti	PT♂	10-SRNP-101439	deflexa	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	13-Jan-2010	F. Quesada & R. Franco	10.868	−85.327
C. paulthiaucourti	PT♂	10-SRNP-101444	deflexa	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	13-Jan-2010	F. Quesada & R. Franco	10.868	−85.327
C. paulthiaucourti	PT♂	10-SRNP-105059	deflexa	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar Tunel	708	12-Feb-2010	R. Franco & H. Cambronero	10.868	−85.327
C. paulthiaucourti	PT♂	INB0003498131	deflexa	Guanacaste	ACAT	P. N. Volcán Tenorio	Alto Los Masis	1100	10−14 Jun 2002	L. Chavarría	10.614089	−84.992689
C. paulthiaucourti	PT♂	INB0004239543	deflexa	Alajuela	ACAT	San Ramón	Est. Villa Blanca	1115	25-Mar-09	R. Rojas	10.201361	−84.485101
C. paulthiaucourti	PT♂	INBIOCRI000306676	deflexa	Heredia	ACAT	P .N. Braulio Carrillo	Est. Magsasay	200	Aug-90	R. Aguilar	10.401255	−84.049314
C. paulthiaucourti	PT♂	INBIOCRI000641149	deflexa	Limon	ACTo	Sector Cerro Cocori	Finca E. Rojas	200	Apr-91	E Rojas	10.594274	−83.716512
C. dondavisi	**HT♂**	**17-SRNP-102684**	**disticha**	**Guanacaste**	**ACG**	**Sector Santa María**	**Crater Bosque Sendero Adentro**	**1594**	**28-Apr-17**	**S. Rios**	**10.80348**	**−85.32729**
C. dondavisi	PT♀	12-SRNP-4481	disticha	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	31-Aug-12	A. Cordoba	10.89678	−85.27001
C. dondavisi	PT♀	16-SRNP-102926	disticha	Guanacaste	ACG	Sector Santa María	Manta Claro	1610	6-Apr-16	H. Cambronero & R. Franco		
C. dondavisi	PT♂	10-SRNP-102112	disticha	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Termales	694	13-Jan-10	F. Quesada	10.9271	−85.324
C. dondavisi	PT♂	10-SRNP-107941	disticha	Guanacaste	ACG	Sector Cacao	Derrumbe	1310	11-May-10	F. Quesada & S. Ríos	10.9311	−85.46194
C. dondavisi	PT♂	10-SRNP-107969	disticha	Guanacaste	ACG	Sector Cacao	Derrumbe	1310	11-May-10	F. Quesada & S. Ríos	10.9311	−85.46194
C. dondavisi	PT♂	10-SRNP-107996	disticha	Guanacaste	ACG	Sector Cacao	Derrumbe	1310	5-Nov-10	F. Quesada & S. Ríos	10.9311	−85.46194
C. dondavisi	PT♂	10-SRNP-108204	disticha	Guanacaste	ACG	Sector Cacao	Derrumbe	1310	12-May-10	F. Quesada & S. Ríos	10.9311	−85.46194
C. dondavisi	PT♂	10-SRNP-108666	disticha	Guanacaste	ACG	Sector Cacao	Derrumbe	1310	14-May-10	F. Quesada & S. Ríos	10.9311	−85.46194
C. dondavisi	PT♂	16-SRNP-101329	disticha	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	6-Apr-16	S. Rios	10.80348	−85.32729

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C. dondavisi	amU	09-SRNP-106759	disticha	Guanacaste	ACG	Sector Cacao	Est. Cacao	1150	23-Jul-09	R. Franco & S. Rios	10.92691	−85.46822
C. dondavisi	amU	18-SRNP-102627	disticha	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	17-May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. dondavisi	amU	18-SRNP-102628	disticha	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	17-May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. dondavisi	amU	18-SRNP-102630	disticha	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	17-May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. dondavisi	amU	18-SRNP-102804	disticha	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	17-May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. dondavisi	amU	18-SRNP-102806	disticha	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	17-May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. dondavisi	amU	18-SRNP-102808	disticha	Guanacaste	ACG	Sector Santa María	Crater Bosque Sendero Adentro	1594	17-May-18	S. Rios & H. Ramirez	10.80348	−85.32729
C. dondavisi	amU	18-SRNP-105969	disticha	Guanacaste	ACG	Sector Cacao	Toma de Agua	1160	13-Sep-18	S. Rios & H. Ramirez	10.92956	−8546512
C. dondavisi	amU	INB0003343399	disticha	Guanacaste	ACG	Sector Rincon Rain Forest	P. N. Rincón, Casetilla	700	14-Aug-81	D. H. Janzen & W. Hallwachs	10.76793	−85.28879
C. dondavisi	amU	INBIOCRI000180568	disticha	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	120	Nov-90	G. Varela & R. Zuniga	9.387739	−84.123702
C. dondavisi	amU	INBIOCRI000356877	disticha	Guanacaste	ACG	Sector Cacao	Est. Cacao	900	Sep-91	C. Chavez	10.930083	−85.470423
C. dondavisi	amU	INBIOCRI000434852	disticha	Guanacaste	ACG	Sector Cacao	Est. Cacao	900	Apr-91	C. Chavez	10.930083	−85.470423
C. dondavisi	amU	INBIOCRI000639855	disticha	Guanacaste	ACG	Sector Cacao	Est. Cacao	900	Sep-90	C. Chavez	10.930083	−85.470423
C. dondavisi	amU	INBIOCRI000700538	disticha	Guanacaste	ACG	Sector Cacao	Est. Cacao	900	Apr-91	C. Chavez	10.930083	−85.470423
C. irenecanasae	**HT♂**	**09-SRNP-70878**	**disticha**	**Guanacaste**	**ACG**	**Sector Pitilla**	**Leonel**	**510**	**18-Jun-09**	**D. Martínez**	**10.99637**	**−85.40195**
C. irenecanasae	PT♀	09-SRNP-4701	disticha	Guanacaste	ACG	Sector San Cristobal	Sendero Huerta	527	11-Sep-09	O. Espinoza	10.9305	−85.37223
C. irenecanasae	PT♀	09-SRNP-70880	disticha	Guanacaste	ACG	Sector Pitilla	Leonel	510	18-Jun-09	D. Martinez	10.99637	−85.40195
C. irenecanasae	PT♀	USNMENT 01480473	disticha	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♀	USNMENT 01480474	disticha	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♀	USNMENT 01480475	disticha	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♀	USNMENT 01480478	disticha	Cartago	ACC	Turrialba	Turrialba	630	17–21 Feb 1965	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♀	USNMENT 01480480	disticha	Cartago	ACC	Turrialba	Turrialba	630	1–6 Mar 1965	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♀	USNMENT 01480481	disticha	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♀	USNMENT 01480482	disticha	Cartago	ACC	Turrialba	Turrialba	630	17–21 Feb 1966	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♀	USNMENT 01480483	disticha	Cartago	ACC	Turrialba	Turrialba	630	17–21 Feb 1967	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♂	06-SRNP-43628	disticha	Guanacaste	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	21-Sep-06	J. Perez	10.90376	−85.30274
C. irenecanasae	PT♂	09-SRNP-70879	disticha	Guanacaste	ACG	Sector Pitilla	Leonel	510	18-Jun-09	D. Martinez	10.99637	−85.40195
C. irenecanasae	PT♂	USNMENT 01480472	disticha	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	PT♂	USNMENT 01480476	disticha	Cartago	ACC	Turrialba	Turrialba	630	1–6 Mar 1965	S. S. & D. D. Duckworth	9.9067	−83.6801

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C. irenecanasae	PT♂	USNMENT 01480479	disticha	Cartago	ACC	Turrialba	Turrialba	630	1-6 Mar 1965	S. S. & D. D. Duckworth	9.9067	−83.6801
C. irenecanasae	am♂	INBIOCRI000229245	disticha	Puntarenas	ACOPAC	P. N. Manuel Antonio	Est. Manuel Antonio	80	28-Apr-91	R. Zuñiga	9.387728	−84.132806
C. irenecanasae	am♂	INBIOCRI000365461	disticha	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-91	G. Fonseca	8.480171	−83.591289
C. irenecanasae	am♂	INBIOCRI000475812	disticha	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Apr-91	G. Fonseca	8.480171	−83.59129
C. irenecanasae	am♂	INBIOCRI000475836	disticha	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jan-91	G. Fonseca	8.480171	−83.591289
C. irenecanasae	am♂	INBIOCRI000564559	disticha	Puntarenas	ACOPAC	P. N. Manuel Antonio	Est. Manuel Antonio	80	Jan-91	R. Zuñiga	9.387728	−84.132806
C. irenecanasae	am♂	INBIOCRI000564575	disticha	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Feb-93	G. Fonseca	8.480171	−83.591289
C. irenecanasae	am♂	INBIOCRI000580625	disticha	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	28-Apr-91	R. Zuñiga	9.767452	−84.60811
C. irenecanasae	am♂	INBIOCRI000580646	disticha	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-91	R. Zuñiga	9.767453	−84.608119
C. irenecanasae	am♂	INBIOCRI000580650	disticha	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Feb-93	G. Fonseca	8.480171	−83.591289
C. irenecanasae	am♂	INBIOCRI000580655	disticha	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	31-Jan-91	R. Zuñiga	9.767452	−84.60811
C. irenecanasae	am♂	INBIOCRI000593359	disticha	Puntarenas	ACOPAC	P. N. Manuel Antonio	Est. Manuel Antonio	80	7-Dec-92	G. Varela & R. Zunniga	9.387728	−84.132806
C. irenecanasae	am♂	INBIOCRI000593436	disticha	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	31-Jan-91	R. Zuñiga	9.767452	−84.60811
C. irenecanasae	am♂	INBIOCRI001210627	disticha	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Feb-93	G. Fonseca	8.480171	−83.59129
C. irenecanasae	am♂	INBIOCRI001782033	disticha	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	30-Apr-94	R. Zuñiga	9.767452	−84.60811
C. irenecanasae	amU	11-SRNP-4138	disticha	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Rincon	430	23-Mar-11	J. Hernández	10.8962	−85.27769
C. irenecanasae	amU	11-SRNP-4139	disticha	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Rincon	430	23-Mar-11	A. Cordoba	10.8962	−85.27769
C. irenecanasae	am♀	INBIOCRI000940877	disticha	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Aug-92	G. Varela	9.387728	−84.132806
C. irenecanasae	am♀	INBIOCRI002003585	disticha	Puntarenas	ACOSA	P. N. Corcovado	Bosque Esquinas	200	Jun-94	F. Quesada	8.768853	−83.256761
C. ungulifera	am♂	INBIOCRI000241423	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jul-90	E. Bello & E. Rojas	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI000299882	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000299951	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000345586	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jun-91	R. Zuñiga	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI000348012	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Oct-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000348053	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Oct-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000357778	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Sep-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000357782	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Sep-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000365339	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000365405	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000365685	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000449463	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Apr-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000563270	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000563279	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000563428	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-91	G. Fonseca	8.480171	−83.591289

Species	Type/ sex	Sample ID	Species group	State/ province	Region	Sector	Exact site	Elev. (m)	Collection date	Collectors	Lat.	Lon.
C. ungulifera	am♂	INBIOCRI000563454	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000579767	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Apr-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000579839	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Apr-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000580660	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-91	R. Zuñiga	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI000590516	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jun-91	R. Zuñiga	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI000590538	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jun-91	R. Zuñiga	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI000708769	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jun-92	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI000905236	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Dec-92	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI000914808	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-92	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI001198730	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	May-93	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001204985	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jun-92	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI001350564	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Feb-93	R. Guzmán	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001681330	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Mar-94	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001681335	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Mar-94	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001681351	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Mar-94	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001681353	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Mar-94	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001684701	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jul-93	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001741383	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jul-92	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI001741678	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jul-92	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI001743713	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jul-92	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♂	INBIOCRI001754026	Incertae sedis	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Feb-93	G. Varela	9.387728	−84.132806
C. ungulifera	am♂	INBIOCRI001842335	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-94	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001842344	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-94	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001842364	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-94	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001842642	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-94	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001939683	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-94	R. Guzmán	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001939717	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-94	R. Guzmán	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001939719	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-94	R. Guzmán	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI001969967	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Nov-93	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI002465412	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jun-96	R. Guzmán	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI002479992	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jul-96	R. Guzmán	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI002540131	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Nov-95	R. Guzmán	9.767453	−84.608119
C. ungulifera	am♂	INBIOCRI002540143	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Nov-95	R. Guzmán	9.767453	−84.608119
C. ungulifera	am♀	INBIOCRI000445676	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Nov-90	G. Fonseca	8.480171	−83.591289

Species	Type/ sex	Sample ID	Species group	State/ province	Region	Sector	Exact site	Elev. (m)	Collection date	Collectors	Lat.	Lon.
C. ungulifera	am♀	INBIOCRI000579755	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Apr-91	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♀	INBIOCRI000590488	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jun-91	R. Zuñiga	9.767453	−84.608119
C. ungulifera	am♀	INBIOCRI001655396	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Sep-93	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♀	INBIOCRI001655407	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Sep-93	J. C. Saborio	9.767453	−84.608119
C. ungulifera	am♀	INBIOCRI001741414	Incertae sedis	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jul-92	G. Fonseca	8.480171	−83.591289
C. ungulifera	am♀	INBIOCRI001939744	Incertae sedis	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	Jan-94	R. Guzmán	9.767453	−84.608119
C. willsflowersi	**HT♂**	**09-SRNP-106691**	**Incertae sedis**	**Guanacaste**	**ACG**	**Sector Cacao**	**Est. Cacao**	**1150**	**Jul-09**	**R. Franco & S. Rios**	**10.92691**	**−85.46822**
C. willsflowersi	PT♀	09-SRNP-106680	Incertae sedis	Guanacaste	ACG	Sector Cacao	Est. Cacao	1038	22-Jul-09	R. Franco & S. Rios	10.92802	−85.47198
C. willsflowersi	PT♀	12-SRNP-101623	Incertae sedis	Guanacaste	ACG	Sector Pailas	Manta Río Blanco	790	18-May-12	H. Cambronero & S. Rios	10.77464	−85.35001
C. willsflowersi	PT♀	INB0003072843	Incertae sedis	Alajuela	ACAT	P. N. Volcán Tenorio	Albergue Heliconias	900	29-Oct-02	J. Esquivel	10.718881	−85.029934
C. willsflowersi	PT♀	INBIOCRI000306081	Incertae sedis	Guanacaste	ACG	Sector Cacao	Est. Cacao	1000	9-Nov-90	C. Chavez	10.930083	−85.470423
C. willsflowersi	PT♀	INBIOCRI001054401	Incertae sedis	Guanacaste	ACG	Sector Cacao	Est Mengo	1100	May-88	D. H. Janzen & W. Hallwalchs	10.930083	−85.470423
C. willsflowersi	PT♀	INBIOCRI002497599	Incertae sedis	Puntarenas	ACLAP	Finca Cafrosa	Embalce	1280	8-10 Feb 1997	A. Picado	8.906843	−82.79199
C. willsflowersi	PT♂	09-SRNP-106690	Incertae sedis	Guanacaste	ACG	Sector Cacao	Est. Cacao	1150	23-Jul-09	R. Franco & S. Rios	10.92691	−85.46822
C. willsflowersi	PT♂	09-SRNP-109501	Incertae sedis	Guanacaste	ACG	Sector Mundo Nuevo	Pozo #3	634	16-Oct-09	R. Franco & S. Rios	10.76833	−85.37243
C. willsflowersi	PT♂	12-SRNP-102121	Incertae sedis	Guanacaste	ACG	Sector Pailas	Manta Río Blanco	790	19-May-12	H. Cambronero & S. Rios	10.77464	−85.35001
C. willsflowersi	PT♂	INBIOCRI000125462	Incertae sedis	Guanacaste	ACG	Sector Cacao	Est Mengo	1100	Feb-89	GNP Biodiversity Survey	10.930083	−85.470423
C. willsflowersi	PT♂	INBIOCRI000125463	Incertae sedis	Guanacaste	ACG	Sector Cacao	Est Mengo	1100	Feb-89	GNP Biodiversity Survey	10.930083	−85.470423
C. willsflowersi	PT♂	INBIOCRI000125470	Incertae sedis	Guanacaste	ACG	Sector Cacao	Est Mengo	1100	Feb-89	GNP Biodiversity Survey	10.930083	−85.470423
C. willsflowersi	PT♂	INBIOCRI001054490	Incertae sedis	Guanacaste	ACG	Sector Cacao	Est Mengo	1100	Feb-89	GNP Biodiversity Survey	10.930083	−85.470423
C. carlosviquezi	**HT♂**	**09-SRNP-107366**	**mendoron**	**Alajuela**	**ACG**	**Sector Rincon Rain Forest**	**Leiva, Potrero Chaves**	**454**	**19-Aug-2009**	**R. Franco & H.Cambronero**	**10.943**	**−85.318**
C. carlosviquezi	PT♀	03-SRNP-12009	mendoron	Guanacaste	ACG	Sector Santa Elena	Casa Potrero Grande	17	05-Apr-2003	G. Pereira	10.849	−85.773
C. carlosviquezi	PT♀	06-SRNP-109771	mendoron	Guanacaste	ACG	Sector Del Oro	Serrano	585	20-Dec-2006	F. Quesada & R. Franco	11.0002	−85.4562
C. carlosviquezi	PT♀	07-SRNP-40630	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	15-Apr-2007	J. Perez	10.904	−85.303
C. carlosviquezi	PT♀	07-SRNP-40631	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	16-Apr-2007	J. Perez	10.904	−85.303
C. carlosviquezi	PT♀	07-SRNP-40632	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	18-Apr-2007	M. Carmona	10.904	−85.303
C. carlosviquezi	PT♀	INB0003903650	mendoron	Guanacaste	ACG	Sector Santa Rosa	Santa Rosa	300	Jan-84	D. H. Janzen & W. Hallwachs	9.622929	−82.772958
C. carlosviquezi	PT♂	07-SRNP-112317	mendoron	Guanacaste	ACG	Sector Santa Rosa	Sendero los Patos	251	07-Dec-2007	R. Franco & F. Quesada	10.821	−85.633
C. carlosviquezi	PT♂	07-SRNP-112318	mendoron	Guanacaste	ACG	Sector Santa Rosa	Sendero los Patos	251	07-Dec-2007	R. Franco & F. Quesada	10.821	−85.633
C. carlosviquezi	PT♂	07-SRNP-112844	mendoron	Guanacaste	ACG	Sector Santa Rosa	Sendero los Patos	251	09-Dec-2007	F. Quesada & R. Franco	10.821	−85.633
C. carlosviquezi	PT♂	07-SRNP-112845	mendoron	Guanacaste	ACG	Sector Santa Rosa	Sendero los Patos	251	09-Dec-2007	F. Quesada & R. Franco	10.821	−85.633

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C. carlosviquezi	PT♂	07-SRNP-40474	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	08-Apr-2007	J. Perez	10.904	−85.303
C. carlosviquezi	PT♂	07-SRNP-40629	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	03-Apr-2007	J. Perez	10.904	−85.303
C. carlosviquezi	PT♂	07-SRNP-40654	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	20-Apr-2007	J. Perez	10.904	−85.303
C. carlosviquezi	PT♂	07-SRNP-40712	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	15-Apr-2007	J. Perez	10.904	−85.303
C. carlosviquezi	PT♂	08-SRNP-106449	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Manta Loma	200	27-Sep-2008	F. Quesada	10.959	−85.285
C. carlosviquezi	PT♂	09-SRNP-100280	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Rio Francia	410	23-Jan-2009	R. Franco & S. Rios	10.904	−85.287
C. carlosviquezi	PT♂	09-SRNP-107475	mendoron	Alajuela	ACG	Sector Rincon Rain Forest	Est. Leiva	454	19-Aug-2009	F. Quesada & R. Franco	10.943	−85.318
C. carlosviquezi	PT♂	09-SRNP-109200	mendoron	Guanacaste	ACG	Sector Mundo Nuevo	Manta Canon	700	17-Oct-2009	S. Rios & F. Quesada	10.77	−85.373
C. carlosviquezi	PT♂	09-SRNP-109956	mendoron	Guanacaste	ACG	Sector Mundo Nuevo	Pozo # 3	634	18-Oct-2009	R. Franco & S. Rios	10.768	−85.372
C. carlosviquezi	PT♂	09-SRNP-111285	mendoron	Guanacaste	ACG	Sector Santa Elena	Manta Potrero Grande	20	15-Dec-2009	R. Franco & H. Cambronero	10.843	−85.78
C. carlosviquezi	PT♂	11-SRNP-103659	mendoron	Guanacaste	ACG	Sector Santa Rosa	Luces	575	01-Jun-2011	H. Cambronero & S. Rios	10.854	−85.609
C. carlosviquezi	PT♂	12-SRNP-100075	mendoron	Guanacaste	ACG	Sector Santa Rosa	Manta Carbonal	26	21-Feb-2012	H. Cambronero & R. Franco	10.772	−85.651
C. carlosviquezi	PT♂	12-SRNP-100076	mendoron	Guanacaste	ACG	Sector Santa Rosa	Manta Carbonal	26	21-Feb-2012	H. Cambronero & R. Franco	10.772	−85.651
C. carlosviquezi	PT♂	12-SRNP-100705	mendoron	Guanacaste	ACG	Sector Santa Elena	Manta Estero	41	22-Mar-2012	H. Cambronero & R. Franco	10.855	−85.789
C. carlosviquezi	PT♂	13-SRNP-103134	mendoron	Guanacaste	ACG	Sector Pailas	PDL#6	806	01-Nov-2013	S. Rios & H. Cambronero	10.763	−85.334
C. carlosviquezi	PT♂	INB0003310546	mendoron	Limon	ACLAC	Pococi	Bosque Lluvioso	300	26-Sep-00	G. Rodriguez	10.19434	−83.86086
C. carlosviquezi	PT♂	INB0003310569	mendoron	Limon	ACLAC	Pococi	Bosque Lluvioso	300	26-Sep-00	G. Rodriguez	10.19434	−83.86086
C. carlosviquezi	PT♂	INB0003311753	mendoron	Limon	ACLAC	Pococi	Bosque Lluvioso	300	26-Sep-00	M. Moraga	10.1934	−83.86086
C. carlosviquezi	PT♂	INB0003895429	mendoron	Limon	ACLAC	Bribri	Suretka	200	Jun-83	D. H. Janzen & W. Hallwachs	9.622929	−82.772958
C. carlosviquezi	PT♂	INB0003895444	mendoron	Limon	ACLAC	Bribri	Suretka	200	Jun-83	D. H. Janzen & W. Hallwachs	9.622929	−82.772958
C. carlosviquezi	PT♂	INB0003903648	mendoron	Guanacaste	ACG	Sector Santa Rosa	Santa Rosa	300	Jan-84	D. H. Janzen & W. Hallwachs	10.854	−85.609
C. carlosviquezi	PT♂	INB0004068017	mendoron	Limon	ACLAC	Fila Bugu	Camp.4	1000	28-Feb-2007	B. Gamboa & M. Moraga	9.459	−83.186
C. carlosviquezi	PT♂	INB0004304708	mendoron	Limon	ACLAC	Bribri	Suretka	200	Jun-83	D. H. Janzen & W. Hallwachs	9.622929	−82.772958
C. carlosviquezi	PT♂	INBIOCRI000616538	mendoron	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	700	Jun-91	C. Moraga	10.992609	−85.429477
C. christerhanssoni	**HT♂**	**INB0004269420**	**mendoron**	**Puntarenas**	**ACOSA**	**Los Charcos**	**1 km E de Banegas**	**50**	**06-Oct-2010**	**E. Phillips**	**8.672**	**−83.505**
C. christerhanssoni	PT♀	INB0004269419	mendoron	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	06-Oct-2010	E. Phillips	8.672	−83.505

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C. christerhanssoni	PT♂	INB0003901609	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	5-11 Jan 1981	D. H. Janzen & W. Hallwachs	8.480171	−83.591289
C. christerhanssoni	PT♂	INB0004269415	mendoron	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	06-Oct-2010	E. Phillips	8.672	−83.505
C. christerhanssoni	PT♂	INB0004269416	mendoron	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	06-Oct-2010	E. Phillips	8.672	−83.505
C. christerhanssoni	PT♂	INB0004269417	mendoron	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	06-Oct-2010	E. Phillips	8.672	−83.505
C. christerhanssoni	PT♂	INB0004269418	mendoron	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	06-Oct-2010	E. Phillips	8.672	−83.505
C. christerhanssoni	PT♂	INB0004409307	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	May-84	D. H. Janzen & W. Hallwachs	8.480171	−83.591289
C. christerhanssoni	PT♂	INBIOCRI000297121	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	Dec-90	G. Fonseca	8.480171	−83.591289
C. christerhanssoni	PT♂	INBIOCRI000582897	mendoron	Puntarenas	ACOSA	35 kmS Palmar Norte	Fila Esquinas	150	Jan-83	D. H .Janzen & W. Hallwachs		
C. christerhanssoni	PT♂	INBIOCRI000788466	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	Mar-92	G. Fonseca	8.480171	−83.591289
C. christerhanssoni	PT♂	INBIOCRI000844209	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	Dec-92	D. H. Janzen & W. Hallwachs	8.480171	−83.591289
C. christerhanssoni	PT♂	INBIOCRI000844225	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	Dec-92	G. Fonseca	8.480171	−83.591289
C. christerhanssoni	PT♂	INBIOCRI000844239	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	Dec-92	G. Fonseca	8.480171	−83.591289
C. christerhanssoni	PT♂	INBIOCRI001202181	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	Apr-93	G. Fonseca	8.480171	−83.591289
C. christerhanssoni	PT♂	INBIOCRI001694590	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	Jan-93	G. Fonseca	8.480171	−83.591289
C. christerhanssoni	PT♂	INBIOCRI001799518	mendoron	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	May-94	G. Fonseca	8.480171	−83.591289
C. jimlewisi	**HT♂**	**11-SRNP-104260**	**molinella**	**Guanacaste**	**ACG**	**Sector Orosi**	**Est. Maritza, Casa Rafa**	**579**	**04-Jun-2011**	**H. Cambronero & R. Franco**	**10.959**	**−85.495**
C. jimlewisi	PT♀	11-SRNP-103572	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	31-May-2011	H. Cambronero & S. Rios	10.854	−85.609
C. jimlewisi	PT♀	11-SRNP-103573	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	31-May-2011	H. Cambronero & S. Rios	10.854	−85.609
C. jimlewisi	PT♀	11-SRNP-103574	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	31-May-2011	H. Cambronero & S. Rios	10.854	−85.609
C. jimlewisi	PT♀	11-SRNP-103575	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	31-May-2011	H. Cambronero & S. Rios	10.854	−85.609
C. jimlewisi	PT♀	11-SRNP-103789	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	01-Jun-2011	H. Cambronero & R. Franco	10.854	−85.609
C. jimlewisi	PT♀	11-SRNP-103790	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	01-Jun-2011	H. Cambronero & R. Franco	10.854	−85.609
C. jimlewisi	PT♀	11-SRNP-103791	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	01-Jun-2011	H. Cambronero & R. Franco	10.854	−85.609
C. jimlewisi	PT♀	11-SRNP-103792	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	01-Jun-2011	H. Cambronero & R. Franco	10.854	−85.609
C. jimlewisi	PT♀	11-SRNP-104113	molinella	Guanacaste	ACG	Sector Orosi	Est. Maritza, Casa Rafa	579	5-Jun-11	S. Rios & R. Franco	10.959	−85.495
C. jimlewisi	PT♀	11-SRNP-104261	molinella	Guanacaste	ACG	Sector Orosi	Est. Maritza, Casa Rafa	579	04-Jun-2011	H. Cambronero & R. Franco	10.959	−85.495
C. jimlewisi	PT♀	14-SRNP-101579	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	300	26-May-2014	H. Cambronero & S. Rios	10.854	−85.609
C. jimlewisi	PT♀	14-SRNP-101786	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	300	28-May-2014	H. Cambronero & S. Rios	10.854	−85.609
C. jimlewisi	PT♂	10-SRNP-114685	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	31-May-2011	H. Cambronero & S. Rios	10.854	−85.609
C. jimlewisi	PT♂	11-SRNP-103360	molinella	Guanacaste	ACG	Sector Pailas	Manta Rio Blanco	790	10-Aug-2010	H. Cambronero & S. Rios	10.775	−85.35
C. jimlewisi	PT♂	11-SRNP-103570	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	31-May-11	R. Franco & H. Cambronero	10.854	−85.609

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C. jimlewisi	PT♂	11-SRNP-103571	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	30-May-2011	R. Franco & S. Rios	10.854	−85.609
C. jimlewisi	PT♂	11-SRNP-103788	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	01-Jun-2011	H. Cambronero & R. Franco	10.854	−85.609
C. jimlewisi	PT♂	12-SRNP-102168	molinella	Guanacaste	ACG	Sector Pailas	Manta Rio Blanco	790	19-May-2012	S. Rios & R. Franco	10.775	−85.35
C. jimlewisi	PT♂	12-SRNP-102169	molinella	Guanacaste	ACG	Sector Pailas	Manta Rio Blanco	790	19-May-2012	S. Rios & R. Franco	10.775	−85.35
C. jimlewisi	PT♂	12-SRNP-102380	molinella	Alajuela	ACG	Sector Pailas	Manta Rio Blanco	790	20-May-2012	S. Rios & R. Franco	10.775	−85.35
C. jimlewisi	PT♂	12-SRNP-104511	molinella	Guanacaste	ACG	Sector Pailas	Manta Rio Blanco	790	21-Jul-2012	R. Franco & H. Cambronero	10.775	−85.35
C. jimlewisi	PT♂	12-SRNP-104512	molinella	Guanacaste	ACG	Sector Pailas	Manta Rio Blanco	790	21-Jul-2012	R. Franco & H. Cambronero	10.775	−85.35
C. jimlewisi	PT♂	13-SRNP-102915	molinella	Guanacaste	ACG	Sector Pailas	PDL#1	728	01-Nov-2013	S. Rios & H. Cambronero	10.757	−85.343
C. jimlewisi	PT♂	13-SRNP-103021	molinella	Guanacaste	ACG	Sector Pailas	PDL#5	825	01-Nov-2013	S. Rios & H. Cambronero	10.763	−85.334
C. jimlewisi	PT♂	13-SRNP-103022	molinella	Guanacaste	ACG	Sector Pailas	PDL#5	825	01-Nov-2013	S. Rios & H. Cambronero	10.763	−85.334
C. jimlewisi	PT♂	13-SRNP-103483	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	300	31-May-2011	H. Cambronero & S. Rios	10.854	−85.609
C. jimlewisi	PT♂	13-SRNP-103483	molinella	Guanacaste	ACG	Sector Pailas	PDL#5	825	02-Nov-2013	S. Rios & H. Cambronero	10.763	−85.334
C. jimlewisi	PT♂	12-SRNP-102290	molinella	Guanacaste	ACG	Sector Pailas	Manta Rio Blanco	790	2-Jun-12	S. Rios & R. Franco	10.775	−85.35
C. jimlewisi	PT♂	13-SRNP-102915	molinella	Guanacaste	ACG	Sector Pailas	PDL#1	728	01-Nov-2013	S. Rios & H. Cambronero	10.757	−85.343
C. jimlewisi	PT♂	13-SRNP-103023	molinella	Guanacaste	ACG	Sector Pailas	PDL#5	825	1-Nov-13	S. Rios & H. Cambronero	10.763	−85.334
C. jimlewisi	PT♂	14-SRNP-101580	molinella	Guanacaste	ACG	Sector Santa Rosa	Luces	300	26-Jun-14	H. Cambronero & S. Rios	10.854	−85.609
C. jimmilleri	**HT♂**	**INB0004127556**	**molinella**	**Puntarenas**	**ACOSA**	**Golfito. Jimenez**	**Est. El Tigre**	**47**	**10-Nov-07**	**A. Azofeifa**	**8.546**	**−83.398**
C. jimmilleri	PT♀	INB0003326762	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-01	M. Moraga	8.494637	−83.581296
C. jimmilleri	PT♀	INB0003736875	molinella	Puntarenas	ACOSA	P. N. Corcovado	La Leona, Cerro Puma	300	27-Jun	M. Moraga	8.454816	−83.495034
C. jimmilleri	PT♀	INB0003896899	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	13–22 Mar-80	D. H. Janzen & W. Hallwachs	8.480171	−83.591289
C. jimmilleri	PT♀	INB0004127557	molinella	Puntarenas	ACOSA	Golfito. Jimenez	Est. El Tigre	47	10-Nov-2007	J. A. Azofeifa	8.546	−83.398
C. jimmilleri	PT♀	INB0004127574	molinella	Puntarenas	ACOSA	Golfito. Jimenez	Est. El Tigre	47	11-Nov-2007	J. A. Azofeifa	8.546	−83.398
C. jimmilleri	PT♀	INBIOCRI000552675	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Nov-91	F. Quesada	8.679096	−83.566714
C. jimmilleri	PT♀	INBIOCRI000906129	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Nov-91	F. Quesada	8.679096	−83.566714
C. jimmilleri	PT♀	INBIOCRI000964161	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Oct-92	F. Quesada	8.679096	−83.566714
C. jimmilleri	PT♀	INBIOCRI001300476	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Oct-92	F. Quesada	8.679096	−83.566714
C. jimmilleri	PT♀	INBIOCRI001332904	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	1000	Mar-93	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♀	USNM	molinella	Puntarenas	ACOSA	Golfito. Jimenez	Golfito	200	25–28 Apr 1965	S. S. & W. D. Duckworth	8.6041	−83.1134
C. jimmilleri	PT♂	INB0003896900	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	13–22 Mar-80	D. H. Janzen & W. Hallwachs	8.480171	−83.591289
C. jimmilleri	PT♂	INB0003903676	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-84	D. H .Janzen & W. Hallwachs	8.480171	−83.591289
C. jimmilleri	PT♂	INB0003903691	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-84	D. H. Janzen & W. Hallwachs	8.480171	−83.591289

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C. jimmilleri	PT♂	INBIOCRI000277716	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Apr-91	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♂	INBIOCRI000552683	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Nov-91	F. Quesada	8.679096	−83.566714
C. jimmilleri	PT♂	INBIOCRI000552684	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Nov-91	F. Quesada	8.679096	−83.566714
C. jimmilleri	PT♂	INBIOCRI000589891	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-91	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♂	INBIOCRI000844207	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Dec-92	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♂	INBIOCRI000844208	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Dec-92	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♂	INBIOCRI000844232	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Dec-92	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♂	INBIOCRI000964134	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Oct-92	F. Quesada	8.679096	−83.566714
C. jimmilleri	PT♂	INBIOCRI000964164	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Oct-92	F. Quesada	8.679096	−83.566714
C. jimmilleri	PT♂	INBIOCRI001332911	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-93	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♂	INBIOCRI001332919	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-93	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♂	INBIOCRI001755621	molinella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-94	G. Fonseca	8.480171	−83.591289
C. jimmilleri	PT♂	INBIOCRI001853083	molinella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Oct-92	F. Quesada	8.679096	−83.566714
C. montywoodi	**HT♂**	**09-SRNP-1313**	**orion**	**Alajuela**	**ACG**	**Sector San Cristobal**	**Potrero Argentina**	**520**	**7-Apr**	**G. Sihezar**	**10.89021**	**−85.38803**
C. montywoodi	PT♀	02-SRNP-19334	orion	Alajuela	ACG	Sector San Cristobal	Sendero Carmona	670	21-Sep-02	G. Sihezar	10.87621	−85.38632
C. montywoodi	PT♀	02-SRNP-19335	orion	Alajuela	ACG	Sector San Cristobal	Sendero Carmona	670	21-Sep-02	G. Sihezar	10.87621	−85.38632
C. montywoodi	PT♀	03-SRNP-5768	orion	Alajuela	ACG	Sector San Cristobal	Rio Blanco Abajo	500	14-Mar-03	G. Sihezar	10.90037	−85.37254
C. montywoodi	PT♀	03-SRNP-5771	orion	Alajuela	ACG	Sector San Cristobal	Rio Blanco Abajo	500	14-Mar-03	G. Sihezar	10.90037	−85.37254
C. montywoodi	PT♀	03-SRNP-8191	orion	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	1-Sep-03	E. Araya	10.9163	−85.37869
C. montywoodi	PT♀	04-SRNP-164	orion	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	1-Sep-03	E. Araya	10.9163	−85.37869
C. montywoodi	PT♀	04-SRNP-165	orion	Alajuela	ACG	Sector San Cristobal	Rio Blanco Abajo	500	13-Jan-04	G. Sihezar	10.90037	−85.37254
C. montywoodi	PT♀	04-SRNP-2470	orion	Alajuela	ACG	Sector San Cristobal	Cementerio Viejo	570	25-May-04	C. Cano	10.88111	−85.38889
C. montywoodi	PT♀	05-SRNP-2004	orion	Guanacaste	ACG	Sector del Oro	Quebrada Trigal	290	2-Jan-05	L. Rios	11.02681	−85.49547
C. montywoodi	PT♀	05-SRNP-4178	orion	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Anonas	405	14-Jul-05	M. Carmona	10.90528	−85.27882
C. montywoodi	PT♀	05-SRNP-4827	orion	Alajuela	ACG	Sector San Cristobal	Sendero perdido	620	19-Aug-05	G. Sihezar	10.8794	−85.38607
C. montywoodi	PT♀	05-SRNP-6105	orion	Alajuela	ACG	Sector San Cristobal	Sendero Colegio	520	30-Sep-05	G. Sihezar	10.89296	−85.3788
C. montywoodi	PT♀	05-SRNP-6123	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	2-Oct-05	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♀	06-SRNP-8883	orion	Alajuela	ACG	Sector San Cristobal	Sendero Pinyal	630	31-Oct-06	C. Cano	10.87161	−85.39333
C. montywoodi	PT♀	09-SRNP-2720	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	4-Jun-09	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♀	09-SRNP-5291	orion	Alajuela	ACG	Sector San Cristobal	Potrero Argentina	520	11-Oct	E. Araya	10.89021	−85.38803
C. montywoodi	PT♀	09-SRNP-5471	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	19-Oct-09	E. Araya	10.86472	−85.41531
C. montywoodi	PT♀	09-SRNP-5472	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	19-Oct-09	E. Araya	10.86472	−85.41531

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C. montywoodi	PT♀	10-SRNP-1459	orion	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Anonas	405	20-Dec-10	P. Umana	10.90528	−85.27882
C. montywoodi	PT♀	10-SRNP-1460	orion	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Anonas	405	21-Dec-10	P. Umana	10.90528	−85.27882
C. montywoodi	PT♀	10-SRNP-20426	orion	Guanacaste	ACG	Sector del Oro	Bosque Aguirre	620	15-Mar-10	L. Rios	11.0006	−85.438
C. montywoodi	PT♀	10-SRNP-3992	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	19-Jul-10	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♀	10-SRNP-4161	orion	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Albergue Crater	980	30-Jul-10	G. Sihezar	10.84886	−85.3281
C. montywoodi	PT♀	10-SRNP-4178	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	19-Jul-10	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♀	10-SRNP-5190	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	16-Sep-10	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♀	10-SRNP-841	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	8-Feb-10	E. Araya	10.86472	−85.41531
C. montywoodi	PT♀	10-SRNP-979	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	18-Feb-10	E. Araya	10.86472	−85.41531
C. montywoodi	PT♀	11-SRNP-1563	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	11-Apr-11	O. Espinoza	10.86472	−85.41531
C. montywoodi	PT♀	11-SRNP-21135	orion	Guanacaste	ACG	Sector El Hacha	Est. Los Almendros	290	10-Jun-11	L. Rios	11.03226	−85.52776
C. montywoodi	PT♀	USNM	orion	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. montywoodi	PT♀	USNM	orion	Cartago	ACC	Turrialba	Turrialba	630	13–17 Mar 1968	S. S. & W. D. Duckworth	9.9067	−83.6801
C. montywoodi	PT♂	05-SRNP-21774	orion	Guanacaste	ACG	Sector del Oro	Sendero Puertas	400	31-May-05	E. Cantillano	11.01087	−85.48817
C. montywoodi	PT♂	05-SRNP-4828	orion	Alajuela	ACG	Sector San Cristobal	Sendero perdido	620	19-Aug-05	G. Sihezar	10.8794	−85.38607
C. montywoodi	PT♂	05-SRNP-6103	orion	Alajuela	ACG	Sector San Cristobal	Sendero Colegio	520	30-Sep-05	G. Sihezar	10.89296	−85.3788
C. montywoodi	PT♂	07-SRNP-101345	orion	Guanacaste	ACG	Sector Pitilla	Pasmompa	400	18-Feb-07	F. Quesada & S. Rios	11.02666	−85.41026
C. montywoodi	PT♂	07-SRNP-1829	orion	Guanacaste	ACG	Sector San Cristobal	Est. San Ramón	660	19-Apr-07	G. Sihezar	10.88354	−85.40974
C. montywoodi	PT♂	07-SRNP-323	orion	Guanacaste	ACG	Sector San Cristobal	Puente Palma	460	17-Jan-07	G. Sihezar	10.9163	−85.37869
C. montywoodi	PT♂	08-SRNP-1770	orion	Guanacaste	ACG	Sector San Cristobal	Sendero Palo Alto	570	7-Apr-08	E. Araya	10.88186	−85.38221
C. montywoodi	PT♂	09-SRNP-101318	orion	Guanacaste	ACG	Sector Pitilla	Manta Miranda	539	26-Jan-09	R. Franco & S. Rios	11.00778	−85.42085
C. montywoodi	PT♂	09-SRNP-2236	orion	Guanacaste	ACG	Sector del Oro	Sendero Puertas	400	14-Aug-09	L. Rios	11.01087	−85.48817
C. montywoodi	PT♂	09-SRNP-5466	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	19-Oct-09	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♂	10-SRNP-22601	orion	Guanacaste	ACG	Sector del Oro	Metereologico	590	8-Dec-10	L. Rios	11.00199	−85.46166
C. montywoodi	PT♂	10-SRNP-3022	orion	Guanacaste	ACG	Sector Pitilla	Sendero Mismo	680	14-Jan-10	L. Rios	10.98758	−85.41967
C. montywoodi	PT♂	10-SRNP-3405	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	25-Jun-10	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♂	10-SRNP-3718	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	8-Jul-10	C. Cano	10.86472	−85.41531
C. montywoodi	PT♂	10-SRNP-5340	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	19-Sep-10	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♂	10-SRNP-5341	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	19-Sep-10	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♂	10-SRNP-6235	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	25-Oct-10	E. Araya	10.86472	−85.41531
C. montywoodi	PT♂	10-SRNP-6236	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	25-Oct-10	E. Araya	10.86472	−85.41531
C. montywoodi	PT♂	10-SRNP-6730	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	11-Nov-10	C. Cano	10.86472	−85.41531

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C. montywoodi	PT♂	10-SRNP-69772	orion	Alajuela	ACG	Sector Rincon Rain Forest	Flecha	491	9-Jun-10	D. Briceño	10.94741	−85.31501
C. montywoodi	PT♂	10-SRNP-7483	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	31-Dec-10	C. Cano	10.86472	−85.41531
C. montywoodi	PT♂	10-SRNP-7485	orion	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	May-98	GNP Biodiversity Survey	10.992609	−85.429477
C. montywoodi	PT♂	10-SRNP-825	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	8-Feb-10	C. Cano	10.86472	−85.41531
C. montywoodi	PT♂	11-SRNP-21135.1	orion	Guanacaste	ACG	Sector El Hacha	Est. Los Almendros	290	10-Jun-11	L. Rios	11.03226	−85.52776
C. montywoodi	PT♂	11-SRNP-2893	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	23-Jul-11	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♂	11-SRNP-2895	orion	Alajuela	ACG	Sector San Cristobal	Bosque Transición	540	23-Jul-11	G. Sihezar	10.86472	−85.41531
C. montywoodi	PT♂	USNM	orion	Cartago	ACC	Turrialba	Turrialba	630	13–17 Mar 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. montywoodi	PT♂	USNM	orion	Cartago	ACC	Turrialba	Turrialba	630	13–17 Mar 1966	S. S. & W. D. Duckworth	9.9067	−83.6801
C. montywoodi	PT♂	USNM	orion	Cartago	ACC	Turrialba	Turrialba	630	13–17 Mar 1967	S. S. & W. D. Duckworth	9.9067	−83.6801
C. montywoodi	am♂	INBIOCRI000348078	orion	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Oct-91	G. Fonseca	8.480171	−83.591289
C. montywoodi	am♂	INBIOCRI000563437	orion	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-91	G. Fonseca	8.480171	−83.591289
C. montywoodi	am♂	INBIOCRI001054559	orion	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	May-88	GNP Biodiversity Survey	10.992609	−85.429477
C. montywoodi	am♂	INBIOCRI001054560	orion	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	May-88	GNP Biodiversity Survey	10.992609	−85.429477
C. montywoodi	am♂	INBIOCRI001695288	orion	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Mar-93	G. Fonseca	8.480171	−83.591289
C. montywoodi	am♂	INBIOCRI002131684	orion	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	600	Jan-95	C. Moraga	10.992609	−85.429477
C. montywoodi	am♀	INBIOCRI001377789	orion	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Jul-91	A. Fernández	10.401255	−84.049314
C. orion	am♂	06-SRNP-103816	orion	Alajuela	ACG	Sector San Cristobal	Est. San Gerardo	575	29-Apr-2006	F. Quesada & R. Franco	10.8801	−85.3889
C. orion	am♂	06-SRNP-107837	orion	Guanacaste	ACG	Sector Del Oro	Lote Serrano	585	20-Oct-2006	H. Cambronero & R. Franco	11.0002	−85.4562
C. orion	am♂	06-SRNP-109446	orion	Alajuela	ACG	Sector San Cristobal	Est. San Gerardo	575	22-Nov-2006	R. Franco & H. Cambronero	10.8801	−85.3889
C. orion	am♂	07-SRNP-103612	orion	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	17-May-2007	F. Quesada & R. Franco	10.9893	−85.4258
C. orion	am♂	08-SRNP-105057	orion	Guanacaste	ACG	Sector Del Oro	Serrano	585	02-Aug-2008	R. Franco & H. Cambronero	11.001	−85.456
C. orion	am♂	08-SRNP-105341	orion	Guanacaste	ACG	Quica	Quica	487	29-Aug-2008	F. Quesada & S. Rios	10.997	−85.397
C. orion	am♂	08-SRNP-107258	orion	Guanacaste	ACG	Quica	Quica	487	29-Sep-2008	H. Cambroero & S. Rios	10.997	−85.397
C. orion	am♂	09-SRNP-100608	orion	Guanacaste	ACG	Sector Rincon Rain Forest	Rio Francia	410	24-Jan-2009	R. Franco & S. Rios	10.904	−85.287
C. orion	am♂	09-SRNP-100638	orion	Guanacaste	ACG	Sector Rincon Rain Forest	Rio Francia	410	24-Jan-2009	R. Franco & S. Rios	10.904	−85.287
C. orion	am♂	09-SRNP-101673	orion	Guanacaste	ACG	Sector Pitilla	Pasmompa (el Naranjal)	400	28-Jan-2009	F. Quesada & R. Franco	11.027	−85.41
C. orion	am♂	09-SRNP-101920	orion	Guanacaste	ACG	Sector Pitilla	Manta Miranda	539	28-Jan-2009	F. Quesada & R. Franco	11.008	−85.421
C. orion	am♂	09-SRNP-101921	orion	Guanacaste	ACG	Sector Pitilla	Manta Miranda	539	28-Jan-2009	F. Quesada & R. Franco	11.008	−85.421
C. orion	am♂	09-SRNP-103895	orion	Alajuela	ACG	Albergue Oscar	Manta Trocha	719	25-Mar-2009	R. Franco & F. Quesada	10.866	−85.327
C. orion	am♂	09-SRNP-106875	orion	Alajuela	ACG	Leiva	Potrero Chaves	454	18-Aug-2009	R. Franco & S. Rios	10.943	−85.318
C. orion	am♂	09-SRNP-106876	orion	Alajuela	ACG	Leiva	Potrero Chaves	454	18-Aug-2009	R. Franco & S. Rios	10.943	−85.318

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C. orion	am♂	09-SRNP-107333	orion	Alajuela	ACG	Leiva	Potrero Chaves	454	19-Aug-2009	R. Franco & H.Cambronero	10.943	−85.318
C. orion	am♂	09-SRNP-107364	orion	Alajuela	ACG	Leiva	Potrero Chaves	454	19-Aug-2009	R. Franco & H.Cambronero	10.943	−85.318
C. orion	am♂	09-SRNP-108765	orion	Alajuela	ACG	Sector Rincon Rain Forest	Botarrama Manta Porton	147	19-Sep-2009	H. Cambronero & F. Quesada	10.96	−85.282
C. orion	am♂	10-SRNP-102453	orion	Alajuela	ACG	Albergue Oscar	Casa	725	14-Jan-2010	F. Quesada & S. Rios	10.866	−85.326
C. orion	am♂	10-SRNP-102470	orion	Alajuela	ACG	Albergue Oscar	Casa	725	14-Jan-2010	F. Quesada & S. Rios	10.866	−85.326
C. orion	am♂	10-SRNP-102824	orion	Alajuela	ACG	Albergue Oscar	Albergue Oscar Tunel	708	15-Jan-2010	F. Quesada & H. Cambronero	10.868	−85.327
C. orion	am♂	10-SRNP-102825	orion	Alajuela	ACG	Albergue Oscar	Albergue Oscar Tunel	708	15-Jan-2010	F. Quesada & H. Cambronero	10.868	−85.327
C. orion	am♂	10-SRNP-102826	orion	Alajuela	ACG	Albergue Oscar	Albergue Oscar Tunel	708	15-Jan-2010	F. Quesada & H. Cambronero	10.868	−85.327
C. orion	am♂	10-SRNP-102827	orion	Alajuela	ACG	Albergue Oscar	Albergue Oscar Tunel	708	15-Jan-2010	F. Quesada & H. Cambronero	10.868	−85.327
C. orion	am♂	10-SRNP-105852	orion	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar Tunel	708	15-Feb-2010	S. Rios & F. Quesada	10.868	−85.327
C. orion	am♂	10-SRNP-115290	orion	Guanacaste	ACG	Sector Santa María	Santa Maria	832	11-Apr-2010	R. Franco & F. Quesada	10.765	−85.303
C. orion	am♂	11-SRNP-101965	orion	Guanacaste	ACG	Sector Pitilla	Sendero Memo	774	02-Apr-2011	H. Cambronero & F. Quesada	10.985	−85.428
C. orion	am♂	11-SRNP-103169	orion	Alajuela	ACG	Sector San Cristobal	Est. San Gerardo	575	03-May-2011	R. Franco & H.Cambronero	10.88	−85.389
C. orion	am♂	11-SRNP-103170	orion	Alajuela	ACG	Sector San Cristobal	Est. San Gerardo	575	03-May-2011	R. Franco & H.Cambronero	10.88	−85.389
C. orion	am♂	14-SRNP-104616	orion	Guanacaste	ACG	Sector Rincon Rain Forest	Wege Palmeras	369	23-Oct-2014	H.Cambronero & R. Franco	10.969	−85.32
C. orion	am♂	INB0004173084	orion	Limon	ACLAC	Veragua Rain Forest	Restaurant	400	01-Oct-2008	R. Villalobos	9.926	−83.191
C. orion	am♂	INB0004205660	orion	Limon	ACLAC	Veragua Rain Forest	Campamento	400	01-Mar-2009	R. Villalobos	9.926	−83.191
C. orion	am♂	USNM	orion	Alajuela	ACG	Upala	Est. San Gerardo	550	17-21 Jul 2006	J. B. Sullivan & B. Espinoza	10.88	−85.389
C. orion	am♀	07-SRNP-100462	orion	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	11-Feb-2007	F. Quesada & H.Cambronero	10.9893	−85.4258
C. orion	am♀	08-SRNP-102508	orion	Alajuela	ACG	Jabalina	Manta Pizote	288	06-Jun-2008	R. Franco & H.Cambronero	10.973	−85.315
C. orion	am♀	08-SRNP-106873	orion	Guanacaste	ACG	Quica	Quica	487	28-Sep-2008	H.Cambroero & S. Rios	10.997	−85.397
C. orion	am♀	09-SRNP-101328	orion	Guanacaste	ACG	Sector Pitilla	Manta Miranda	539	26-Jan-2009	H.Cambronero & S. Rios	11.008	−85.421
C. orion	am♀	09-SRNP-101646	orion	Guanacaste	ACG	Sector Pitilla	Manta Miranda	539	27-Jan-2009	S. Rios & R. Franco	11.008	−85.421
C. orion	am♀	09-SRNP-103250	orion	Alajuela	ACG	Albergue Oscar	Manta Trocha	719	25-Mar-2009	R. Franco & F. Quesada	10.866	−85.327
C. orion	am♀	09-SRNP-107487	orion	Alajuela	ACG	Sector Rincon Rain Forest	Est. Leiva	454	19-Aug-2009	F. Quesada & R. Franco	10.943	−85.318
C. orion	am♀	10-SRNP-102471	orion	Alajuela	ACG	Albergue Oscar	Casa	725	14-Jan-2010	F. Quesada & S. Rios	10.866	−85.326
C. orion	am♀	10-SRNP-102845	orion	Alajuela	ACG	Albergue Oscar	Albergue Oscar Tunel	708	15-Jan-2010	F. Quesada & H. Cambronero	10.868	−85.327

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C. orion	am♀	10-SRNP-102866	orion	Alajuela	ACG	Albergue Oscar	Casa	725	15-Jan-2010	R. Franco & F. Quesada	10.866	−85.326
C. orion	am♀	11-SRNP-102327	orion	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	03-Apr-2011	H. Cambronero & S. Rios	10.989	−85.426
C. christhompsoni	**HT♂**	**09-SRNP-20126**	**phytoptera**	**Guanacaste**	**ACG**	**Sector Del Oro**	**Tangelo**	**410**	**28-Jan-2009**	**R. Moraga**	**11.018**	**−85.45**
C. christhompsoni	PT♀	02-SRNP-4782	phytoptera	Guanacaste	ACG	Sector Del Oro	Mena Central	345	01-Mar-2002	G. Pereira	11.03	−85.454
C. christhompsoni	PT♀	03-SRNP-5657	phytoptera	Alajuela	ACG	Sector San Cristobal	Quebrada Cementerio	700	21-Mar-2003	G. Sihezar	10.871	−85.387
C. christhompsoni	PT♀	03-SRNP-5658	phytoptera	Alajuela	ACG	Sector San Cristobal	Quebrada Cementerio	700	24-Mar-2003	G. Sihezar	10.871	−85.387
C. christhompsoni	PT♀	04-SRNP-2264	phytoptera	Alajuela	ACG	Sector San Cristobal	Rio Blanco Abajo	500	30-May-2004	C. Cano	10.9	−85.373
C. christhompsoni	PT♀	04-SRNP-4418	phytoptera	Alajuela	ACG	Sector San Cristobal	Finca San Gabriel	645	16-Sep-2004	Y. Mendoza	10.878	−85.393
C. christhompsoni	PT♀	06-SRNP-36703	phytoptera	Guanacaste	ACG	Sector Cacao	Sendero Arenales	1080	10-Dec-2006	M. Pereira	10.925	−85.467
C. christhompsoni	PT♀	07-SRNP-45656	phytoptera	Guanacaste	ACG	Sector Cacao	Roca Verde	760	23-Aug-2007	M. Pereira	10.889	−85.435
C. christhompsoni	PT♀	07-SRNP-45658	phytoptera	Guanacaste	ACG	Sector Cacao	Roca Verde	760	24-Aug-2007	M. Pereira	10.889	−85.435
C. christhompsoni	PT♀	07-SRNP-45660	phytoptera	Guanacaste	ACG	Sector Cacao	Roca Verde	760	23-Aug-2007	M. Pereira	10.889	−85.435
C. christhompsoni	PT♀	08-SRNP-1515	phytoptera	Alajuela	ACG	Sector San Cristobal	Sendero Perdido	620	13-Apr-2008	E. Araya	10.879	−85.386
C. christhompsoni	PT♀	09-SRNP-20128	phytoptera	Guanacaste	ACG	Sector Del Oro	Tangelo	410	31-Jan-2009	R. Moraga	11.018	−85.45
C. christhompsoni	PT♀	09-SRNP-20242	phytoptera	Guanacaste	ACG	Sector Del Oro	Tangelo	410	16-Feb-2009	Roster Moraga	11.018	−85.45
C. christhompsoni	PT♀	09-SRNP-44858	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Llanura	135	25-Jul-2009	C. Umana	10.933	−85.253
C. christhompsoni	PT♀	09-SRNP-4615	phytoptera	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	4-Sep-09	C. Cano	10.916	−85.379
C. christhompsoni	PT♀	09-SRNP-4617	phytoptera	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	4-Sep-09	C. Cano	10.916	−85.379
C. christhompsoni	PT♀	09-SRNP-5802	phytoptera	Alajuela	ACG	Sector San Cristobal	Sendero Corredor	620	7-Nov-09	E. Araya	10.879	−85.39
C. christhompsoni	PT♀	09-SRNP-71015	phytoptera	Guanacaste	ACG	Sector Pitilla	Bullas	440	18-Jun-09	C. Moraga	10.987	−85.385
C. christhompsoni	PT♀	10-SRNP-101584	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	13-Jan-2010	F. Quesada & R. Franco	10.868	−85.327
C. christhompsoni	PT♂	03-SRNP-5656	phytoptera	Alajuela	ACG	Sector San Cristobal	Quebrada Cementerio	700	25-Mar-2003	G. Sihezar	10.871	−85.387
C. christhompsoni	PT♂	06-SRNP-108009	phytoptera	Guanacaste	ACG	Sector Del Oro	Lote Serrano	585	22-Oct-2006	H. Cambronero & R. Franco	11.0002	−85.4562
C. christhompsoni	PT♂	06-SRNP-36804	phytoptera	Guanacaste	ACG	Sector Cacao	Sendero Cima	1460	01-Jan-2007	D. Garcia	10.933	−85.457
C. christhompsoni	PT♂	07-SRNP-45654	phytoptera	Guanacaste	ACG	Sector Cacao	Roca Verde	760	25-Aug-2007	M. Pereira	10.889	−85.435
C. christhompsoni	PT♂	07-SRNP-45659	phytoptera	Guanacaste	ACG	Sector Cacao	Roca Verde	760	23-Aug-2007	M. Pereira	10.889	−85.435
C. christhompsoni	PT♂	09-SRNP-107365	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Leiva, Potrero Chaves	454	19-Aug-2009	R. Franco & H. Cambronero	10.943	−85.318
C. christhompsoni	PT♂	09-SRNP-108446	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Leiva	454	18-Sep-2009	H. Cambronero & S. Rios	10.943	−85.318
C. christhompsoni	PT♂	09-SRNP-44857	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Llanura	135	22-Jul-2009	C. Umana	10.933	−85.253
C. christhompsoni	PT♂	09-SRNP-4607	phytoptera	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	4-Sep-09	C. Cano	10.916	−85.379
C. christhompsoni	PT♂	09-SRNP-4614	phytoptera	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	4-Sep-09	C. Cano	10.916	−85.379

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C. christhompsoni	PT♂	09-SRNP-5803	phytoptera	Alajuela	ACG	Sector San Cristobal	Sendero Corredor	620	01-Dec-2009	E. Araya	10.879	−85.39
C. christhompsoni	PT♂	10-SRNP-101580	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	13-Jan-2010	F. Quesada & R. Franco	10.868	−85.327
C. christhompsoni	PT♂	10-SRNP-111125	phytoptera	Guanacaste	ACG	Sector Cacao	Cima	1450	07-Dec-2010	F. Quesada & S. Rios	10.933	−85.459
C. christhompsoni	PT♂	10-SRNP-22500	phytoptera	Guanacaste	ACG	Sector Del Oro	Tangelo	410	24-Nov-10	L. Ríos	11.018	−85.45
C. christhompsoni	PT♂	10-SRNP-30784	phytoptera	Guanacaste	ACG	Sector Pitilla	Pasmompa	440	15-Mar-10	C. Moraga	11.019	−85.41
C. christhompsoni	PT♂	10-SRNP-43015	phytoptera	Alajuela	ACG	Sector Rincon Rain forest	Quebrada Escondida	420	23-Aug-10	J. Perez	10.897	−85.27
C. christhompsoni	PT♂	10-SRNP-43019	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Quebrada Escondida	420	23-Aug-10	J. Perez	10.899	−85.275
C. christhompsoni	PT♂	10-SRNP-71151	phytoptera	Guanacaste	ACG	Sector Pitilla	Manguera	475	15-Mar-10	R. Calvo	10.991	−85.395
C. christhompsoni	PT♂	10-SRNP-71152	phytoptera	Guanacaste	ACG	Sector Pitilla	Manguera	470	15-Mar-10	R. Calvo	10.996	−85.398
C. christhompsoni	PT♂	10-SRNP-71411	phytoptera	Guanacaste	ACG	Sector Pitilla	Manguera	470	12-Apr-10	D. Martinez	10.996	−85.398
C. christhompsoni	PT♂	USNM	phytoptera	Alajuela	ACG	Upala	San Gerardo	550	17–21 Jul 2006	J. B. Sullivan		
C. christhompsoni	PT♂	USNM	phytoptera	Heredia	ACC	Sarapiqui	La Selva Field Station	100	21–28 Mar 1988	Steiner, Hill, Swearingen		
C. elenaulateae	**HT♂**	**09-SRNP-101134**	**phytoptera**	**Alajuela**	**ACG**	**Sector Rincon Rain Forest**	**Rio Francia**	**410**	**25-Jan-2009**	**R. Franco & H. Cambronero**	**10.904**	**−85.287**
C. elenaulateae	PT♀	01-SRNP-723	phytoptera	Alajuela	ACG	Sector San Cristobal	Potrero Argentina	520	12-Apr-2001	G. Sihezar	10.89	−85.388
C. elenaulateae	PT♀	03-SRNP-10412	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Finca Aurita	460	01-Apr-2003	G. Sihezar	10.884	−85.257
C. elenaulateae	PT♀	03-SRNP-10413	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Finca Aurita	460	01-Apr-2003	G. Sihezar	10.884	−85.257
C. elenaulateae	PT♀	09-SRNP-2107	phytoptera	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	24-Jun-2009	E. Araya	10.916	−85.379
C. elenaulateae	PT♀	09-SRNP-2108	phytoptera	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	26-Jun-2009	E. Araya	10.916	−85.379
C. elenaulateae	PT♀	09-SRNP-2125	phytoptera	Alajuela	ACG	Sector San Cristobal	Corrales Viejos	495	10-Jul-2009	E. Araya	10.9	−85.381
C. elenaulateae	PT♀	09-SRNP-4368	phytoptera	Alajuela	ACG	Sector San Cristobal	Sendero Huerta	527	13-Sep-2009	O. Espinoza	10.93	−85.372
C. elenaulateae	PT♀	09-SRNP-71288	phytoptera	Guanacaste	ACG	Sector Pitilla	Cano	490	8-Jul-09	D. Martinez	10.995	−85.4
C. elenaulateae	PT♀	09-SRNP-71291	phytoptera	Guanacaste	ACG	Sector Pitilla	Cano	490	8-Jul-09	D. Martinez	10.995	−85.4
C. elenaulateae	PT♀	09-SRNP-72203	phytoptera	Guanacaste	ACG	Sector Pitilla	Leonel	510	27-Aug-09	D. Martinez	10.996	−85.402
C. elenaulateae	PT♀	10-SRNP-106662	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Manta Hugo	491	13-Mar-2009	F. Quesada & S. Rios	10.881	−85.268
C. elenaulateae	PT♀	10-SRNP-5076	phytoptera	Alajuela	ACG	Sector San Cristobal	Sendero Huerta	527	7-Sep-10	C. Cano	10.93	−85.372
C. elenaulateae	PT♀	11-SRNP-2211	phytoptera	Guanacaste	ACG	Sector San Cristobal	Tajo Angeles	540	6-May-11	G. Sihezar	10.864	−85.415
C. elenaulateae	PT♀	11-SRNP-69992	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Selva	410	6-Apr-11	E. Apu	10.923	−85.319
C. elenaulateae	PT♀	11-SRNP-69993	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Selva	410	6-Apr-11	E. Apu	10.923	−85.319

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C. elenaulateae	PT♂	06-SRNP-108870	phytoptera	Guanacaste	ACG	Sector Del Oro	Lote Serrano	585	19-Nov-2006	F. Quesada & R. Franco	11.0002	−85.4562
C. elenaulateae	PT♂	06-SRNP-109145	phytoptera	Guanacaste	ACG	Sector Del Oro	Lote Serrano	585	20-Nov-2006	S. Rios & R. Franco	11.0002	−85.4562
C. elenaulateae	PT♂	06-SRNP-43625	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Puente Rio Negro	340	12-Oct-2006	J. Perez	10.904	−85.303
C. elenaulateae	PT♂	07-SRNP-101356	phytoptera	Guanacaste	ACG	Sector Pitilla	La Pasmompa	400	18-Feb-2007	R. Franco & F. Quesada	11.0267	−85.4103
C. elenaulateae	PT♂	07-SRNP-110882	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Caribe (Rio Francia)	391	10-Nov-2007	F. Quesada & R. Franco	10.901	−85.27
C. elenaulateae	PT♂	08-SRNP-107762	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Manta Porton	147	28-Oct-2008	F. Quesada & R. Franco	10.96	−85.282
C. elenaulateae	PT♂	09-SRNP-100019	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Rio Negro	329	23-Jan-2009	H. Cambronero & F. Quesada	10.904	−85.303
C. elenaulateae	PT♂	09-SRNP-105123	phytoptera	Guanacaste	ACG	Sector Del Oro	Bosque Aguirre	571	19-Jun-2009	H. Cambronero & F. Quesada	11.004	−85.441
C. elenaulateae	PT♂	09-SRNP-108445	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Leiva	454	18-Sep-2009	H. Cambronero & S. Rios	10.943	−85.318
C. elenaulateae	PT♂	09-SRNP-110132	phytoptera	Guanacaste	ACG	Sector Del Oro	Sendero Manta	610	15-Nov-2009	R. Franco & F. Quesada	10.997	−85.457
C. elenaulateae	PT♂	09-SRNP-2109	phytoptera	Alajuela	ACG	Sector San Cristobal	Puente Palma	460	04-Jul-2009	E. Araya	10.916	−85.379
C. elenaulateae	PT♂	09-SRNP-71286	phytoptera	Guanacaste	ACG	Sector Pitilla	Cano	490	8-Jul-09	R. Calero	10.995	−85.4
C. elenaulateae	PT♂	09-SRNP-71287	phytoptera	Guanacaste	ACG	Sector Pitilla	Cano	490	8-Jul-09	D. Martinez	10.995	−85.4
C. elenaulateae	PT♂	09-SRNP-71289	phytoptera	Guanacaste	ACG	Sector Pitilla	Cano	490	8-Jul-09	D. Martinez	10.995	−85.4
C. elenaulateae	PT♂	09-SRNP-72217	phytoptera	Guanacaste	ACG	Sector Pitilla	Cano	490	30-Sep-2009	D. Martinez	10.995	−85.4
C. elenaulateae	PT♂	10-SRNP-106673	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Manta Hugo	491	13-Mar-2009	F. Quesada & S. Rios	10.881	−85.268
C. elenaulateae	PT♂	10-SRNP-1458	phytoptera	Alajuela	ACG	Sector San Cristobal	Quebrada Garcia	495	14-Mar-10	O. Espinoza	10.861	−85.426
C. elenaulateae	PT♂	10-SRNP-21276	phytoptera	Guanacaste	ACG	Sector Orosi	Maderos	510	14-Jun-10	L. Ríos	11.005	−85.475
C. elenaulateae	PT♂	10-SRNP-21277	phytoptera	Guanacaste	ACG	Sector Orosi	Maderos	510	14-Jun-10	L. Ríos	11.005	−85.475
C. elenaulateae	PT♂	10-SRNP-21279	phytoptera	Guanacaste	ACG	Sector Orosi	Maderos	510	14-Jun-10	L. Ríos	11.005	−85.475
C. elenaulateae	PT♂	10-SRNP-21878	phytoptera	Guanacaste	ACG	Sector del Oro	Guacimos	380	19-Aug-10	E. Cantillano	11.015	−85.475
C. elenaulateae	PT♂	10-SRNP-21880	phytoptera	Guanacaste	ACG	Sector del Oro	Guacimos	380	19-Aug-10	E. Cantillano	11.015	−85.475
C. elenaulateae	PT♂	10-SRNP-6787	phytoptera	Guanacaste	ACG	Sector San Cristobal	Tajo Angeles	540	12-Nov-10	C. Cano	10.865	−85.415
C. elenaulateae	PT♂	10-SRNP-6890	phytoptera	Guanacaste	ACG	Sector San Cristobal	Tajo Angeles	540	19-Nov-10	O. Espinoza	10.865	−85.415
C. elenaulateae	PT♂	10-SRNP-69595	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Selva	410	24-Apr-10	D. Briceño	10.923	−85.319
C. elenaulateae	PT♂	12-SRNP-105476	phytoptera	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	12-Nov-2012	R. Franco & H. Cambronero	10.989	−85.426
C. elenaulateae	PT♂	USNM	phytoptera	Cartago	ACC	Turrialba	Turrialba	630	[no date]	W. Schaus		
C. elenaulateae	PT♂	USNM	phytoptera	Cartago	ACC	Turrialba	Turrialba	630	17–21 Feb 1965	S. S. & W. D. Duckworth		

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C. gladysrojasae	**HT♂**	**10-SRNP-106674**	**phytoptera**	**Alajuela**	**ACG**	**Sector Rincon Rain Forest**	**Manta Hugo**	**491**	**13-Mar-2009**	**F. Quesada & S. Rios**	**10.881**	**−85.268**
C. gladysrojasae	PT♀	06-SRNP-109148	phytoptera	Guanacaste	ACG	Sector Del Oro	Lote Serrano	585	20-Nov-2006	S. Rios & R. Franco	11.0002	−85.4562
C. gladysrojasae	PT♀	07-SRNP-109622	phytoptera	Alajuela	ACG	Sector Del Oro	Sendero Manta	610	07-Nov-2007	F. Quesada & R. Franco	10.997	−85.457
C. gladysrojasae	PT♀	08-SRNP-102184	phytoptera	Guanacaste	ACG	Sector Del Oro	Sendero Manta	610	04-Jun-2008	R. Franco & H. Cambronero	10.997	−85.457
C. gladysrojasae	PT♂	06-SRNP-108868	phytoptera	Guanacaste	ACG	Sector Del Oro	Lote Serrano	585	19-Nov-2006	F. Quesada & R. Franco	11.0002	−85.4562
C. gladysrojasae	PT♂	09-SRNP-101325	phytoptera	Guanacaste	ACG	Sector Pitilla	Manta Miranda	539	26-Jan-2009	H. Cambronero & S. Rios	11.008	−85.421
C. paulhansoni	**HT♂**	**INB0004269423**	**phytoptera**	**Puntarenas**	**ACOSA**	**Los Charcos**	**1 km E de Banegas**	**50**	**06-Oct-2010**	**E. Phillips**	**8.672**	**−83.505**
C. paulhansoni	PT♂	INB0003059089	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jan-90	G. Fonseca	8.480171	−83.591289
C. paulhansoni	PT♂	INB0004269421	phytoptera	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	06-Oct-2010	E. Phillips	8.672	−83.505
C. paulhansoni	PT♂	INB0004269422	phytoptera	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	06-Oct-2010	E. Phillips	8.672	−83.505
C. paulhansoni	PT♂	INBIOCRI000189897	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Dec-89	G. Fonseca	8.480171	−83.591289
C. paulhansoni	PT♂	INBIOCRI000328517	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-91	G. Fonseca	8.480171	−83.591289
C. paulhansoni	PT♂	INBIOCRI000328527	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	May-91	G. Fonseca	8.480171	−83.591289
C. paulhansoni	PT♂	INBIOCRI000445684	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Nov-90	G. Fonseca	8.480171	−83.591289
C. paulhansoni	PT♂	INBIOCRI000654064	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Oct-90	G. Fonseca	8.480171	−83.591289
C. paulhansoni	PT♂	INBIOCRI000677696	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jun-90	G. Fonseca	8.480171	−83.591289
C. paulhansoni	PT♂	INBIOCRI001179084	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Esquinas	200	Jun-94	J. Quesada	8.759387	−83.283128
C. paulhansoni	PT♂	INBIOCRI001670202	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Bosque Esquinas	200	Oct-93	J. Quesada	8.759387	−83.283128
C. paulhansoni	PT♂	INBIOCRI001772438	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Bosque Esquinas	200	Mar-94	J. Quesada	8.759387	−83.283128
C. paulhansoni	PT♂	INBIOCRI002003589	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Esquinas	200	Jun-94	J. Quesada	8.759387	−83.283128
C. paulhansoni	PT♂	INBIOCRI002582942	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	19–27 Mar 1981	D. H. Janzen & W. Hallwachs	8.480171	−83.591289
C. paulhansoni	PT♂	INBIOCRI002582943	phytoptera	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	19–27 Mar 1981	D. H. Janzen & W. Hallwachs	8.480171	−83.591289
C. phytoptera	am♂	06-SRNP-109770	phytoptera	Guanacaste	ACG	Sector Del Oro	Serrano	585	20-Dec-2006	F. Quesada & R. Franco	11.0002	−85.4562
C. phytoptera	am♂	07-SRNP-106859	phytoptera	Guanacaste	ACG	Sector Cacao	Est. Gongora	570	10-Aug-2007	S. Rios & H. Cambronero	10.887	−85.4744
C. phytoptera	am♂	07-SRNP-109258	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Caribe	391	10-Oct-2007	F. Quesada & R. Franco	10.901	−85.27
C. phytoptera	am♂	07-SRNP-109928	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Caribe	391	09-Nov-2007	F. Quesada & R. Franco	10.901	−85.27
C. phytoptera	am♂	07-SRNP-110069	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Caribe	391	09-Nov-2007	F. Quesada & R. Franco	10.901	−85.27
C. phytoptera	am♂	07-SRNP-113899	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Est. Caribe	391	10-Dec-2007	H. Cambronero & S. Rios	10.901	−85.276
C. phytoptera	am♂	09-SRNP-101912	phytoptera	Guanacaste	ACG	Sector Pitilla	Manta Miranda	539	28-Jan-2009	F. Quesada & R. Franco	11.008	−85.421
C. phytoptera	am♂	09-SRNP-107085	phytoptera	Alajuela	ACG	Leiva	Potrero Chaves	454	18-Aug-2009	H. Cambronero & S Rios	10.943	−85.318

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C. phytoptera	am♂	09-SRNP-108578	phytoptera	Alajuela	ACG	Sector Rincon Rain Forest	Botarrama Manta Corral	141	19-Sep-2009	F. Quesada & R. Franco	10.959	−85.283
C. phytoptera	am♂	09-SRNP-110422	phytoptera	Guanacaste	ACG	Sector Del Oro	Serrano	585	15-Nov-2009	S. Rios & R. Franco	11	−85.456
C. phytoptera	am♂	09-SRNP-110762	phytoptera	Guanacaste	ACG	Sector Del Oro	Sendero Manta	610	17-Nov-2009	R. Franco & F. Quesada	10.997	−85.457
C. phytoptera	am♂	10-SRNP-100354	phytoptera	Alajuela	ACG	Albergue Oscar	Tuenel	708	12-Jan-2010	S. Rios	10.868	−85.327
C. phytoptera	am♂	10-SRNP-100355	phytoptera	Alajuela	ACG	Albergue Oscar	Tuenel	708	12-Jan-2010	S. Rios	10.868	−85.327
C. phytoptera	am♂	10-SRNP-101163	phytoptera	Alajuela	ACG	Albergue Oscar	Termales	694	12-Jan-2010	R. Franco & F. Quesada	10.864	−85.324
C. phytoptera	am♂	10-SRNP-101629	phytoptera	Alajuela	ACG	Albergue Oscar	Tunel	708	13-Jan-2010	F. Quesada & R. Franco	10.868	−85.327
C. phytoptera	am♂	10-SRNP-101654	phytoptera	Alajuela	ACG	Albergue Oscar	Tunel	708	13-Jan-2010	F. Quesada & R. Franco	10.868	−85.327
C. phytoptera	am♂	10-SRNP-112773	phytoptera	Guanacaste	ACG	Sector Cacao	Toma de Agua	1160	08-Oct-2010	S. Rios & F. Quesada	10.93	−85.465
C. phytoptera	am♂	10-SRNP-112774	phytoptera	Guanacaste	ACG	Sector Cacao	Toma de Agua	1160	08-Oct-2010	S. Rios & F. Quesada	10.93	−85.465
C. phytoptera	am♂	10-SRNP-112775	phytoptera	Guanacaste	ACG	Sector Cacao	Toma de Agua	1160	08-Oct-2010	S. Rios & F. Quesada	10.93	−85.465
C. phytoptera	am♂	10-SRNP-112783	phytoptera	Guanacaste	ACG	Sector Cacao	Toma de Agua	1160	08-Oct-2010	S. Rios & F. Quesada	10.93	−85.465
C. phytoptera	am♂	10-SRNP-112784	phytoptera	Guanacaste	ACG	Sector Cacao	Toma de Agua	1160	08-Oct-2010	S. Rios & F. Quesada	10.93	−85.465
C. phytoptera	am♂	12-SRNP-105632	phytoptera	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	13-Nov-2012	S. Rios & H. Cambronero	10.989	−85.426
C. phytoptera	am♂	12-SRNP-105756	phytoptera	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	14-Nov-2012	S. Rios & H. Cambronero	10.989	−85.426
C. phytoptera	am♂	USNM	phytoptera	Alajuela	ACG	Upala	San Gerardo	550	17-21 Jul 2006	J. B. Sullivan & B. Espinoza		
C. phytoptera	am♂	USNM	phytoptera	Heredia	ACC	Sarapiqui	16 km SSE La Virgen	1100	11-12 Feb 2001	INBio-OET ALAS		
C. phytoptera	am♂	USNM	phytoptera	Heredia	ACC	Sarapiqui	16 km SSE La Virgen	1100	11-12 Feb 2001	INBio-OET ALAS		
C. phytoptera	am♀	12-SRNP-104021	phytoptera	Guanacaste	ACG	Sector Santa María	Mirador Santa Maria	920	21-Jun-2012	R. Franco & H. Cambronero	10.766	−85.301
C. munifigueresae	**HT♂**	**12-SRNP-5249**	**ronaldzunigai**	**Guanacaste**	**ACG**	**Sector San Cristobal**	**Rio Blanco Abajo**	**500**	**27-Nov-12**	**Elda Araya**	**10.90037**	**−85.37254**
C. munifigueresae	PT♀	12-SRNP-2533	ronaldzunigai	Guanacaste	ACG	Sector San Cristobal	Sendero Huerta	527	16-Jun-12	C. Cano	10.9305	−85.37223
C. munifigueresae	PT♀	12-SRNP-42494	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	23-May-12	A. Cordoba	10.89678	−85.27001
C. munifigueresae	PT♀	12-SRNP-42495	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	23-May-12	A. Cordoba	10.89678	−85.27001
C. munifigueresae	PT♀	12-SRNP-42499	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	23-May-12	A. Cordoba	10.89678	−85.27001
C. munifigueresae	PT♀	12-SRNP-4878	ronaldzunigai	Guanacaste	ACG	Sector San Cristobal	Rio Blanco Abajo	500	15-Nov-12	E. Araya	10.90037	−85.37254
C. munifigueresae	PT♂	10-SRNP-42832	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Quebrada Escondida	420	10-Aug-10	P. Umana	10.89928	−85.27486
C. munifigueresae	PT♂	10-SRNP-42834	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Quebrada Escondida	420	10-Aug-10	P. Umana	10.89928	−85.27486
C. munifigueresae	PT♂	12-SRNP-41408	ronaldzunigai	Alajuela	ACG	Sector Rincon Rain Forest	Garzasol	400	7-Apr-12	J. Perez	10.89666	−85.29003
C. munifigueresae	PT♂	12-SRNP-41409	ronaldzunigai	Alajuela	ACG	Sector Rincon Rain Forest	Garzasol	400	7-Apr-12	J. Perez	10.89666	−85.29003

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C. munifigueresae	PT♂	12-SRNP-41646	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	18-Apr-12	A. Cordoba	10.89678	−85.27001
C. munifigueresae	PT♂	12-SRNP-41647	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	18-Apr-12	A. Cordoba	10.89678	−85.27001
C. munifigueresae	PT♂	12-SRNP-41651	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	18-Apr-12	A. Cordoba	10.89678	−85.27001
C. munifigueresae	PT♂	12-SRNP-5248	ronaldzunigai	Guanacaste	ACG	Sector San Cristobal	Rio Blanco Abajo	500	27-Nov-12	E. Araya	10.90037	−85.37254
C. munifigueresae	am♂	INBIOCRI000346909	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Feb-91	R. Zuñiga	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI000347096	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Feb-91	R. Zuñiga	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI000366784	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jan-91	R. Zuñiga	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI000366872	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jan-91	R. Zuñiga	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI000366895	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jan-91	R. Zuñiga	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI000366896	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jan-91	R. Zuñiga	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI000366950	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jan-91	R. Zuñiga	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI000366955	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jan-91	R. Zuñiga	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI001223266	ronaldzunigai	Heredia	ACC	Sarapiqui	Est. Biológica La Selva	150	Jan-93	INBio-OET-ALAS	10.433333	−84.016667
C. munifigueresae	am♂	INBIOCRI001223267	ronaldzunigai	Heredia	ACC	Sarapiqui	Est. Biológica La Selva	150	Jan-93	INBio-OET-ALAS	10.433333	−84.016667
C. munifigueresae	am♂	INBIOCRI001257397	ronaldzunigai	Heredia	ACC	Sarapiqui	Est. Biológica La Selva	150	Mar-96	INBio-OET-ALAS	10.433333	−84.016667
C. munifigueresae	am♂	INBIOCRI001350524	ronaldzunigai	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	100	Feb-93	R. Guzmán	9.767453	−84.608119
C. munifigueresae	am♂	INBIOCRI001393721	ronaldzunigai	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Apr-92	G. Varela	9.387728	−84.132806
C. munifigueresae	am♂	INBIOCRI002062456	ronaldzunigai	Heredia	ACC	Sarapiqui	Est. Biológica La Selva	150	May-96	INBio-OET-ALAS	10.433333	−84.016667
C. munifigueresae	amU	10-SRNP-42833	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Quebrada Escondida	420	10-Aug-10	P. Umana	10.89928	−85.27486
C. munifigueresae	amU	11-SRNP-44579	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	17-Oct-11	K. Aragon	10.89678,	−85.27001
C. munifigueresae	amU	11-SRNP-44630	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	19-Oct-11	P. Umana	10.89678	−85.27001
C. munifigueresae	amU	12-SRNP-1938	ronaldzunigai	Guanacaste	ACG	Sector San Cristobal	Bosque Transición	540	11-May-12	E. Araya	10.86472	−85.41531
C. munifigueresae	amU	12-SRNP-43357	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	4-Jul-12	P. Umana	10.89678	−85.27001
C. munifigueresae	amU	12-SRNP-4880	ronaldzunigai	Guanacaste	ACG	Sector San Cristobal	Rio Blanco Abajo	500	15-Nov-12	E. Araya	10.90037	−85.37254
C. munifigueresae	am♀	INBIOCRI001750548	ronaldzunigai	Guanacaste	ACG	Sector El Hacha	Est. Los Almendros	300	14–22 Aug 1993	E. López	11.033856	−85.524793
C. ronaldzunigai	**HT♂**	**11-SRNP-20864**	**ronaldzunigai**	**Guanacaste**	**ACG**	**Sector El Hacha**	**Est. Los Almendros**	**290**	**11-May-11**	**E. Cantillano**	**11.03226**	**−85.52776**
C. ronaldzunigai	PT♀	11-SRNP-20866	ronaldzunigai	Guanacaste	ACG	Sector El Hacha	Est. Los Almendros	290	11-May-11	E. Cantillano	11.03226	−85.52776
C. ronaldzunigai	PT♀	INBIOCRI000306853	ronaldzunigai	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Jul-90	I curso Microlepidoptera	10.83641	−85.615491
C. ronaldzunigai	PT♀	INBIOCRI001747283	ronaldzunigai	Guanacaste	ACG	Sector El Hacha	Agua Buena	300	7–12 Feb 1994	E. Lopez	11.033657	−85.576953
C. ronaldzunigai	PT♂	INBIOCRI000179415	ronaldzunigai	Guanacaste	ACG	Sector Orosi	Est. Maritza	600	Jul-90	I curso Microlepidoptera	10.962542	−85.495244

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C. ronaldzunigai	PT♂	INBIOCRI000181413	ronaldzunigai	Guanacaste	ACG	Sector Orosi	Est. Maritza	600	Jul-90	I curso Microlepidoptera	10.962542	−85.495244
C. ronaldzunigai	PT♂	INBIOCRI000182365	ronaldzunigai	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Jul-90	I curso Microlepidoptera	10.83641	−85.615491
C. ronaldzunigai	PT♂	INBIOCRI000306854	ronaldzunigai	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Jul-90	I curso Microlepidoptera	10.83641	−85.615491
C. ronaldzunigai	PT♂	INBIOCRI000306855	ronaldzunigai	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Jul-90	I curso Microlepidoptera	10.83641	−85.615491
C. ronaldzunigai	PT♂	INBIOCRI000484649	ronaldzunigai	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	700	Apr-91	C. Moraga	10.992609	−85.429477
C. ronaldzunigai	PT♂	INBIOCRI000599071	ronaldzunigai	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	1–15 Jan 1982	D. H. Janzen & W. Hallwachs	10.83641	−85.615491
C. ronaldzunigai	PT♂	INBIOCRI000667898	ronaldzunigai	Guanacaste	ACG	Sector Orosi	Est. Maritza	600	Aug-90	II curso Parataxonomos	10.962542	−85.495244
C. ronaldzunigai	PT♂	INBIOCRI001784310	ronaldzunigai	Guanacaste	ACG	Sector El Hacha	Est. Los Almendros	300	5–10 Apr 1994	E. Lopez	11.033856	−85.524793
C. ronaldzunigai	PT♂	INBIOCRI001793444	ronaldzunigai	Guanacaste	ACG	Sector Rincon Rain Forest	Est. Las Pailas	800	10–18 Apr 1994	K. Taylor	10.776784	−85.351913
C. ronaldzunigai	PT♂	INBIOCRI001877211	ronaldzunigai	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	700	May-94	P. Ríos	10.992609	−85.429477
C. ronaldzunigai	PT♂	INBIOCRI002529173	ronaldzunigai	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	1–15 Jan 1982	D. H. Janzen & W. Hallwachs	10.83641	−85.615491
C. ronaldzunigai	PT♂	INBIOCRI002529174	ronaldzunigai	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	26–28 Jun 1980	D. H. Janzen & W. Hallwachs	10.83641	−85.615491
C. ronaldzunigai	PT♂	INBIOCRI00703225	ronaldzunigai	Limon	ACLAC	Sector Cerro Cocori	Fca E. Rojas	150	26 June/7 Jul 1992	E. Rojas	10.594274	−83.716512
C. gracewoodae	**HT♂**	**06-SRNP-109407**	**tryphon**	**Guanacaste**	**ACG**	**Sector San Cristobal**	**Est. San Gerardo**	**575**	**21-Nov-06**	**F. Quesada & H. Cambronero**	**10.88009**	**−85.38887**
C. gracewoodae	PT♀	09-SRNP-101251	tryphon	Guanacaste	ACG	Sector Pitilla	Manta Miranda	539	26-Jan-09	R. Franco & S. Rios	11.00778	−85.42085
C. gracewoodae	PT♀	09-SRNP-105095	tryphon	Guanacaste	ACG	Sector del Oro	Bosque Aguirre	620	19-Jun-09	F. Quesada & S. Rios	11.0006	−85.438
C. gracewoodae	PT♀	10-SRNP-101205	tryphon	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	13-Jan-10	F. Quesada	10.86835	−85.32711
C. gracewoodae	PT♀	10-SRNP-101585	tryphon	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Tunel	708	13-Jan-10	F. Quesada	10.86835	−85.32711
C. gracewoodae	PT♀	11-SRNP-102104	tryphon	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	2-Apr-11	R. Franco & F. Quesada	10.98931	−85.42581
C. gracewoodae	PT♂	06-SRNP-109447	tryphon	Guanacaste	ACG	Sector San Cristobal	Est. San Gerardo	575	22-Nov-06	R. Franco & S. Rios	10.88009	−85.38887
C. gracewoodae	PT♂	07-SRNP-101235	tryphon	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	17-Feb-07	S. Rios & F. Quesada	10.98931	−85.42581
C. gracewoodae	PT♂	08-SRNP-107279	tryphon	Guanacaste	ACG	Sector Rincon Rain Forest	Manta Jabalina	288	30-Sep-08	S. Rios & H. Cambronero	10.97325	−85.31542
C. gracewoodae	PT♂	09-SRNP-106871	tryphon	Guanacaste	ACG	Sector Rincon Rain Forest	Potrero Chaves	433	18-Aug-09	R. Franco & S. Rios	10.93868	−85.32167
C. gracewoodae	PT♂	09-SRNP-106873	tryphon	Guanacaste	ACG	Sector Rincon Rain Forest	Potrero Chaves	433	18-Aug-09	R. Franco & S. Rios	10.93868	−85.32167
C. gracewoodae	PT♂	09-SRNP-106874	tryphon	Guanacaste	ACG	Sector Rincon Rain Forest	Potrero Chaves	433	18-Aug-09	R. Franco & S. Rios	10.93868	−85.32167
C. gracewoodae	PT♂	10-SRNP-100981	tryphon	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Termales	694	12-Jan-10	F. Quesada	10.8639	−85.32429

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C. gracewoodae	PT♂	10-SRNP-101068	tryphon	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Casa	694	12-Jan-10	F. Quesada	10.8639	−85.32429
C. gracewoodae	PT♂	10-SRNP-101749	tryphon	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Casa	725	13-Jan-10	H. Cambronero	10.8639	−85.32429
C. gracewoodae	PT♂	10-SRNP-101875	tryphon	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Casa	725	13-Jan-10	H. Cambronero	10.86627	−85.32605
C. gracewoodae	PT♂	10-SRNP-103176	tryphon	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Casa	725	13-Jan-10	H. Cambronero	10.86627	−85.32605
C. gracewoodae	PT♂	10-SRNP-104627	tryphon	Alajuela	ACG	Sector Rincon Rain Forest	Albergue Oscar, Casa	725	16-Jan-10	S. Rios & F. Quesada	10.86627	−85.32605
C. gracewoodae	PT♂	11-SRNP-102527	tryphon	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	4-Apr-11	R. Franco & F. Quesada	10.98931	−85.42581
C. gracewoodae	PT♂	12-SRNP-102777	tryphon	Guanacaste	ACG	Sector Santa María	Mirador Santa Maria	920	25-May-12	S. Rios & R. Franco	10.76631	−85.30099
C. gracewoodae	PT♂	12-SRNP-103022	tryphon	Guanacaste	ACG	Sector Santa María	Mirador Santa Maria	920	26-May-12	S. Rios & R. Franco	10.76631	−85.30099
C. gracewoodae	PT♂	12-SRNP-103061	tryphon	Guanacaste	ACG	Sector Santa María	Mirador Santa Maria	920	26-May-12	S. Rios & R. Franco	10.76631	−85.30099
C. isidrochaconi	**HT♂**	**11-SRNP-101196**	**tryphon**	**Guanacaste**	**ACG**	**Sector Santa María**	**Manta Claro**	**1610**	**2-Mar-11**	**S. Rios & R. Franco**	**10.80345**	**−85.32621**
C. isidrochaconi	PT♀	INBIOCRI000151483	tryphon	Guanacaste	ACG	Sector Cacao	Est. Cacao	1400	5-Jun-88	D. H. Janzen & W. Hallwachs	10.933732	−85.461289
C. isidrochaconi	PT♀	INBIOCRI000263379	tryphon	Guanacaste	ACAT	P. N. Volcán Tenorio	Río San Lorenzo	1050	Apr-91	C. Alvarado	10.610459	−84.994966
C. isidrochaconi	PT♂	07-SRNP-35039	tryphon	Guanacaste	ACG	Sector Cacao	Sendero Cima	1460	6-Jan-07	D. Garcia		
C. isidrochaconi	PT♂	11-SRNP-100689	tryphon	Guanacaste	ACG	Sector Santa María	Manta Claro	1610	2-Feb-11	S. Rios & R. Franco	10.80345	−85.32621
C. isidrochaconi	PT♂	11-SRNP-100690	tryphon	Guanacaste	ACG	Sector Santa María	Manta Claro	1610	2-Feb-11	S. Rios & R. Franco	10.80345	−85.32621
C. isidrochaconi	PT♂	11-SRNP-100758	tryphon	Guanacaste	ACG	Sector Santa María	Manta Claro	1610	3-Feb-11	H. Cambronero & F. Quesada	10.80345	−85.32621
C. isidrochaconi	PT♂	INB0003041700	tryphon	Cartago	ACLAP	P. N. Tapanti	Mirador 300N 100S	1350	Oct-99	R. Delgado	9.73635	−83.780628
C. isidrochaconi	PT♂	INB0003041702	tryphon	Cartago	ACLAP	P. N. Tapanti	Mirador 300N 100S	1350	Oct-99	R. Delgado	9.73635	−83.780628
C. isidrochaconi	PT♂	INB0003041703	tryphon	Cartago	ACLAP	P. N. Tapanti	Mirador 300N 100S	1350	Oct-99	R. Delgado	9.73635	−83.780628
C. isidrochaconi	PT♂	INB0003041705	tryphon	Cartago	ACLAP	P. N. Tapanti	Mirador 300N 100S	1350	Oct-99	R. Delgado	9.73635	−83.780628
C. isidrochaconi	PT♂	INB0003041706	tryphon	Cartago	ACLAP	P. N. Tapanti	Mirador 300N 100S	1350	Oct-99	R. Delgado	9.73635	−83.780628
C. isidrochaconi	PT♂	INB0003079938	tryphon	Cartago	ACLAP	P. N. Tapanti	Represa Puente Río Porras	1660	Jun-00	R. Delgado	9.695214	−83.781156
C. isidrochaconi	PT♂	INBIOCRI002139279	tryphon	Puntarenas	ACLAP	Pittier	Est. Pittier	1670	Jan-95	F. Alvarado	9.025664	−82.962695
C. isidrochaconi	PT♂	INBIOCRI00623026	tryphon	Guanacaste	ACG	Sector Cacao	Est. Cacao	1300	Jun-91	C. Chavez	10.930083	−85.470423
C. juanmatai	**HT♂**	**INB0004269414**	**tryphon**	**Puntarenas**	**ACOSA**	**Los Charcos**	**1 km E de Banegas**	**50**	**6-Oct-10**	**E. Phillips**	**8.672**	**−83.505**
C. juanmatai	PT♂	INB0004269412	tryphon	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	6-Oct-10	E. Phillips	8.672	−83.505
C. juanmatai	PT♂	INB0004269413	tryphon	Puntarenas	ACOSA	Los Charcos	1 km E de Banegas	50	6-Oct-10	E. Phillips	8.672	−83.505
C. powelli	**HT♂**	**10-SRNP-114461**	**tryphon**	**Guanacaste**	**ACG**	**Sector Pailas**	**Palmeras**	**1368**	**6-Oct-10**	**S. Rios & R. Franco**	**10.81067**	**−85.347**
C. powelli	PT♀	04-SRNP-33601	tryphon	Guanacaste	ACG	Sector Pitilla	Sendero Orosilito	900	21-Jun-04	C. Moraga	10.98332	−85.43623
C. powelli	PT♀	04-SRNP-33602	tryphon	Guanacaste	ACG	Sector Pitilla	Sendero Orosilito	900	21-Jun-04	C. Moraga	10.98332	−85.43623

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C. powelli	PT♀	04-SRNP-34673	tryphon	Guanacaste	ACG	Sector Pitilla	Sendero Cuestona	640	22-Aug-04	P. Rios	10.99455	−85.414609
C. powelli	PT♀	05-SRNP-860	tryphon	Guanacaste	ACG	Sector San Cristobal	Sendero Corredor	620	24-Feb-05	C. Cano	10.87868	−85.38963
C. powelli	PT♀	05-SRNP-862	tryphon	Guanacaste	ACG	Sector San Cristobal	Sendero Corredor	620	24-Feb-05	C. Cano	10.87868	−85.38963
C. powelli	PT♀	06-SRNP-34769	tryphon	Guanacaste	ACG	Sector Pitilla	Sendero Evangelista	660	12-Oct-06	P. Rios	10.9868	−85.42083
C. powelli	PT♀	06-SRNP-9883	tryphon	Guanacaste	ACG	Sector San Cristobal	Sendero Carmona	670	12-Dec-06	G. Sihezar	10.87621	−85.38632
C. powelli	PT♀	09-SRNP-106801	tryphon	Guanacaste	ACG	Sector Cacao	Est. Cacao	1150	23-Jul-09	R. Franco & S. Rios	10.92691	−85.46822
C. powelli	PT♀	09-SRNP-3185	tryphon	Alajuela	ACG	Sector San Cristobal	Finca San Gabriel	645	29-Jun-09	C. Cano	10.87766	−85.39343
C. powelli	PT♀	09-SRNP-4562	tryphon	Guanacaste	ACG	Sector San Cristobal	Puente Palma	460	31-Aug-09	E. Araya	10.9163	−85.37869
C. powelli	PT♀	09-SRNP-5290	tryphon	Guanacaste	ACG	Sector San Cristobal	Potrero Argentina	520	11-Oct-09	E. Araya	10.89021	−85.38803
C. powelli	PT♀	10-SRNP-110350	tryphon	Guanacaste	ACG	Sector Cacao	Derrumbe	1310	10-Jul-10	S. Rios & H. Cambronero	10.9311	−85.46194
C. powelli	PT♀	10-SRNP-115542	tryphon	Guanacaste	ACG	Sector Santa María	Est. Santa Maria	832	5-Nov-10	F. Quesada & S. Rios	10.76461	−85.30321
C. powelli	PT♀	10-SRNP-1729	tryphon	Guanacaste	ACG	Sector San Cristobal	Bosque Transición	540	26-Mar-10	G. Sihezar	10.86472	−85.41531
C. powelli	PT♀	10-SRNP-43010	tryphon	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Venado	420	23-Aug-10	J. Perez	10.89678	−85.27001
C. powelli	PT♀	11-SRNP-2599	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♀	11-SRNP-2602	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♀	11-SRNP-2605	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♀	11-SRNP-2607	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♀	12-SRNP-103021	tryphon	Guanacaste	ACG	Sector Santa María	Mirador Santa Maria	920	26-May-12	S. Rios & R. Franco	10.76631	−85.30099
C. powelli	PT♀	12-SRNP-104328	tryphon	Guanacaste	ACG	Sector Santa María	Mirador Santa Maria	920	19-Jul-12	R. Franco & H. Cambronero	10.76631	−85.30099
C. powelli	PT♂	03-SRNP-4036	tryphon	Guanacaste	ACG	Sector Cacao	Est. Cacao	1220	5-May-03	D. Garcia	10.92918	−85.46426
C. powelli	PT♂	04-SRNP-56631	tryphon	Guanacaste	ACG	Sector Pitilla	Sendero Mismo	680	5-Dec-04	P. Rios	10.98758	−85.41967
C. powelli	PT♂	05-SRNP-861	tryphon	Guanacaste	ACG	Sector San Cristobal	Sendero Corredor	620	24-Feb-05	C. Cano	10.87868	−85.38963
C. powelli	PT♂	06-SRNP-107213	tryphon	Guanacaste	ACG	Sector Pailas	Canopy Tours	700	21-Sep-06	H. Cambronero & F. Quesada	10.81262	−85.40248
C. powelli	PT♂	06-SRNP-107828	tryphon	Guanacaste	ACG	Sector del Oro	Serrano	585	23-Sep-06	H. Cambronero & F. Quesada	11.00023	−85.45621
C. powelli	PT♂	06-SRNP-8057	tryphon	Guanacaste	ACG	Sector San Cristobal	Sendero Corredor	620	26-Sep-06	E. Araya	10.87868	−85.38963
C. powelli	PT♂	06-SRNP-9354	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada San Francisco	690	16-Nov-06	O. Espinoza	10.87247,	−85.37933
C. powelli	PT♂	08-SRNP-108687	tryphon	Guanacaste	ACG	Sector Santa Rosa	Mirador Playa Naranjo	255	26-Dec-08	H. Cambronero & F. Quesada	10.80581	−85.6431
C. powelli	PT♂	08-SRNP-108994	tryphon	Guanacaste	ACG	Sector Santa Rosa	Mirador Patos	251	26-Dec-08	R. Franco & S. Rios	10.82097	−85.63323
C. powelli	PT♂	09-SRNP-106872	tryphon	Guanacaste	ACG	Sector Rincon Rain Forest	Potrero Chaves	433	18-Aug-09	R. Franco & S. Rios	10.93868	−85.32167
C. powelli	PT♂	09-SRNP-4609	tryphon	Guanacaste	ACG	Sector San Cristobal	Puente Palma	460	4-Sep-09	C. Cano	10.9163	−85.37869
C. powelli	PT♂	09-SRNP-5494	tryphon	Guanacaste	ACG	Sector San Cristobal	Bosque Transición	540	19-Oct-09	O. Espinoza	10.86472	−85.41531

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C. powelli	PT♂	10-SRNP-108066	tryphon	Guanacaste	ACG	Sector Cacao	Derrumbe	1310	12-May-10	F. Quesada & S. Rios	10.9311	−85.46194
C. powelli	PT♂	10-SRNP-108324	tryphon	Guanacaste	ACG	Sector Cacao	Derrumbe	1310	13-May-10	F. Quesada & S. Rios	10.9311	−85.46194
C. powelli	PT♂	10-SRNP-112772	tryphon	Guanacaste	ACG	Sector Cacao	Toma de Agua	1160	10-Aug-10	S. Rios & F. Quesada	10.92956	−85.46512
C. powelli	PT♂	10-SRNP-112785	tryphon	Guanacaste	ACG	Sector Cacao	Toma de Agua	1160	10-Aug-10	S. Rios & F. Quesada	10.92956	−85.46512
C. powelli	PT♂	10-SRNP-1774	tryphon	Guanacaste	ACG	Sector San Cristobal	Bosque Transición	540	30-Mar-10	C. Cano	10.86472	−85.41531
C. powelli	PT♂	10-SRNP-6513	tryphon	Guanacaste	ACG	Sector Brasilia	Piedrona	340	10-Nov-10	D. Briceño	11.01618	−85.35902
C. powelli	PT♂	11-SRNP-101560	tryphon	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	1-Apr-11	S. Rios & H. Cambronero	10.98931	−85.42581
C. powelli	PT♂	11-SRNP-101814	tryphon	Guanacaste	ACG	Sector Pitilla	Est. Pitilla	675	1-Apr-11	S. Rios & H. Cambronero	10.98931	−85.42581
C. powelli	PT♂	11-SRNP-102351	tryphon	Guanacaste	ACG	Sector Pitilla	Sendero Memo	774	3-Apr-11	H. Cambronero & F. Quesada	10.98518	−85.42811
C. powelli	PT♂	11-SRNP-102711	tryphon	Guanacaste	ACG	Sector Pitilla	Sendero Memo	774	4-Apr-11	R. Franco & S. Rios	10.98518	−85.42811
C. powelli	PT♂	11-SRNP-104965	tryphon	Guanacaste	ACG	Sector Orosi	Manta Mecate	587	1-Oct	H. Cambronero & S. Rios	10.95415	−85.49155
C. powelli	PT♂	11-SRNP-2597	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♂	11-SRNP-2598	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♂	11-SRNP-2600	tryphon	Guanacaste	ACG	Sector Rincon Rain Forest	Sendero Anonas	405	5-Dec	P. Umana	10.90528	−85.27882
C. powelli	PT♂	11-SRNP-2603	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♂	11-SRNP-2608	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♂	11-SRNP-2611	tryphon	Guanacaste	ACG	Sector San Cristobal	Quebrada García	495	3-Jul	O. Espinoza	10.86069	−85.42558
C. powelli	PT♂	INB0004162402	tryphon	Limon	ACLAC	Veragua Rain Forest	Restaurant	400	24-Aug-08	B. Hernandez & J. Mata	9.92573	−83.191405
C. powelli	PT♂	INB0004165058	tryphon	Limon	ACLAC	Veragua Rain Forest	Restaurant	400	1-Oct-08	B. Hernandez & J. Mata	9.92573	−83.191405
C. powelli	PT♂	INB0004187995	tryphon	Alajuela	ACAT	San Ramón	Est. Villa Blanca	1115	29-Oct-08	R. Rojas	10.201361	−84.485101
C. abelulatei	**HT♂**	**INB0003901894**	**vividella**	**Guanacaste**	**ACG**	**Sector San Cristobal**	**Tajo Angeles**	**540**	**28-May-10**	**C. Cano**	**10.865**	**−85.415**
C. abelulatei	PT♀	INB0003903651	vividella	Guanacaste	ACG	Sector San Cristobal	Tajo Angeles	540	9-Oct-10	. Cano	10.865	−85.415
C. abelulatei	PT♂	INB0003903652	vividella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	15-Jun-91	G. Fonseca	8.48017	−83.59129
C. abelulatei	PT♂	INB0003903653	vividella	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	15-Sep-89	R. Zuñiga	9.774233	−84.608124
C. abelulatei	PT♂	INBIOCRI000646491	vividella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	50	15-Jun-91	G. Fonseca	8.48017	−83.59129
C. abelulatei	PT♂	INBIOCRI001054393	vividella	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	15-Sep-89	R. Zuñiga		
C. abelulatei	PT♂	INBIOCRI001660469	vividella	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	15-Sep-93	R. Guzmán	9.774233	−84.608124
C. abelulatei	PT♂	INBIOCRI001660469	vividella	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	15-Sep-93	R. Guzmán		
C. abelulatei	PT♂	INBIOCRI001668916	vividella	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	1-Aug-93	J. C. Saborío	9.774233	−84.608124
C. abelulatei	PT♂	INBIOCRI001668916	vividella	Puntarenas	ACOPAC	P. N. Carara	Est. Quebrada Bonita	50	15-Aug-93	J. C. Saborío		
C. angelsolisi	**HT♂**	**08-SRNP-108399**	**vividella**	**Guanacaste**	**ACG**	**Sector Mundo Nuevo**	**Pozo # 3**	**634**	**27-Nov-2008**	**R. Franco & S. Rios**	**10.768**	**−85.372**
C. angelsolisi	PT♀	INB0003343408	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	26–28-Nov-1979	D. H. Janzen	10.83641	−85.615491

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C. angelsolisi	PT♀	INB0003903651	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Jan-84	D. H. Janzen & W. Hallwachs	10.856315	−85.611915
C. angelsolisi	PT♂	07-SRNP-112603	vividella	Guanacaste	ACG	Sector Santa Rosa	Sendero los Patos	251	09-Dec-2007	F. Quesada & R. Franco	10.821	−85.633
C. angelsolisi	PT♂	08-SRNP-109009	vividella	Guanacaste	ACG	Sector Santa Rosa	Mirador Patos	251	26-Dec-2008	R. Franco & S. Rios	10.821	−85.633
C. angelsolisi	PT♂	08-SRNP-109076	vividella	Guanacaste	ACG	Sector Santa Rosa	Luces	300	27-Dec-2008	R. Franco & S. Rios	10.854	−85.609
C. angelsolisi	PT♂	08-SRNP-109077	vividella	Guanacaste	ACG	Sector Santa Rosa	Luces	300	27-Dec-2008	R. Franco & S. Rios	10.854	−85.609
C. angelsolisi	PT♂	08-SRNP-109078	vividella	Guanacaste	ACG	Sector Santa Rosa	Luces	300	27-Dec-2008	R. Franco & S. Rios	10.854	−85.609
C. angelsolisi	PT♂	11-SRNP-103260	vividella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	30-May-2011	R. Franco & S. Rios	10.854	−85.609
C. angelsolisi	PT♂	11-SRNP-103458	vividella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	31-May-2011	H. Cambronero & S. Rios	10.854	−85.609
C. angelsolisi	PT♂	11-SRNP-103459	vividella	Guanacaste	ACG	Sector Santa Rosa	Luces	575	31-May-2011	H. Cambronero & S. Rios	10.854	−85.609
C. angelsolisi	PT♂	13-SRNP-102912	vividella	Guanacaste	ACG	Sector Pailas	PDL#1	728	01-Nov-2013	S. Rios & H. Cambronero	10.757	−85.343
C. angelsolisi	PT♂	14-SRNP-101685	vividella	Guanacaste	ACG	Sector Santa Rosa	Luces	300	27-May-2014	H. Cambronero & S. Rios	10.854	−85.609
C. angelsolisi	PT♂	INB0003343409	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	26–28-Nov-1979	D. H. Janzen	10.83641	−85.615491
C. angelsolisi	PT♂	INB0003343410	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	26–28-Nov-1979	D. H. Janzen	10.83641	−85.615491
C. angelsolisi	PT♂	INB0003343411	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	26–28-Nov-1979	D. H. Janzen	10.83641	−85.615491
C. angelsolisi	PT♂	INB0003343412	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	26–28-Nov-1979	D. H. Janzen	10.83641	−85.615491
C. angelsolisi	PT♂	INB0003343488	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	23–25-Nov-1979	D. H. Janzen	10.83641	−85.615491
C. angelsolisi	PT♂	INB0003543405	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	10–20-Mar-1982	D. H. Janzen & W. Hallwachs	10.83641	−85.615491
C. angelsolisi	PT♂	INB0003543406	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Dec-83	D. H. Janzen & W. Hallwachs	10.85631	−85.61191
C. angelsolisi	PT♂	INB0003901785	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Mar-82	D. H. Janzen & W. Hallwachs	10.85631	−85.61191
C. angelsolisi	PT♂	INB0003901894	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Dec-88	D. H. Janzen & W. Hallwachs	10.85631	−85.61191
C. angelsolisi	PT♂	INB0003903652	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Jan-84	D. H. Janzen & W. Hallwachs	10.856315	−85.611915
C. angelsolisi	PT♂	INB0003903653	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	Jan-84	D. H. Janzen & W. Hallwachs	10.856315	−85.611915
C. angelsolisi	PT♂	INBIOCRI000614878	vividella	Guanacaste	ACG	Sector Santa Rosa	Finca Jenny	200	15-Aug-93	E. Araya & R. Espinoza	10.8655	−85.57354
C. angelsolisi	am♂	USNM	vividella	Guanacaste	ACG	Sector Santa Rosa	Est. Santa Rosa	300	24–26 Jun 2008	J. B. Sullivan	10.856315	−85.611915
C. carolinagodoyae	**HT♂**	**INBIOCRI000625666**	**vividella**	**Puntarenas**	**ACOPAC**	**Quepos**	**P. N. Manuel Antonio**	**80**	**Feb-91**	**R. Zuñiga**	**9.387728**	**−84.132806**
C. carolinagodoyae	PT♀	INBIOCRI000428629	vividella	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	140	Oct-90	G. Varela & R. Zuñiga	9.393161	−84.126895
C. carolinagodoyae	PT♀	INBIOCRI001311758	vividella	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	May-91	G. Varela	9.387728	−84.132806
C. carolinagodoyae	PT♀	INBIOCRI001340657	vividella	Limon	ACTo	Tortuguero	P. N. Tortuguero	50			10.584815	−83.529205
C. carolinagodoyae	PT♂	INBIOCRI000593323	vividella	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Apr-91	R. Zuñiga	9.387728	−84.132806

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C. carolinagodoyae	PT♂	INBIOCRI001312018	vividella	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	May-91	G. Varela	9.387728	−84.132806
C. carolinagodoyae	PT♂	INBIOCRI001410579	vividella	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jul-91	G. Varela	9.387728	−84.132806
C. carolinagodoyae	PT♂	INBIOCRI001410584	vividella	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jul-91	G. Varela	9.387728	−84.132806
C. carolinagodoyae	PT♂	INBIOCRI001410730	vividella	Puntarenas	ACOPAC	Quepos	P. N. Manuel Antonio	80	Jul-91	G. Varela	9.387728	−84.132806
C. iangauldi	**HT♂**	**INBIOCRI000696328**	**vividella**	**Limon**	**ACTo**	**Sector Cerro Cocori**	**Fca E. Rojas**	**150**	**Jul-92**	**E. Rojas**	**10.594274**	**−83.716512**
C. iangauldi	PT♀	INB0003347664	vividella	Limon	ACTo	Pococi	Fca Bosque lluvioso INBio	300	26-Sep	M. Moraga	10.19434	−83.86086
C. iangauldi	PT♀	INB0003375039	vividella	Cartago	ACLAC	Turrialba	P. N. Barbilla, Cerro Tigre	1124	Sep-01	L. Chavarría	9.938026	−83.414594
C. iangauldi	PT♀	INBIOCRI000171217	vividella	San José	ACC	P .N. Braulio Carrillo	Est. Carrillo	700	Jul-90	I curso Microlepidoptera	10.148893	−83.951906
C. iangauldi	PT♂	INB0003347701	vividella	Limon	ACTo	Pococi	Fca Bosque lluvioso INBio	300	26-Sep	M. Moraga	10.19434	−83.86086
C. iangauldi	PT♂	INBIOCRI000180785	vividella	Heredia	ACC	P .N. Braulio Carrillo	Est. Magsasay	200	Oct-90	M. Zumbado	10.401255	−84.049314
C. iangauldi	PT♂	INBIOCRI000333594	vividella	Limon	ACTo	Sector Cerro Cocori	Fca E. Rojas	150	Jan-92	E. Rojas	10.594274	−83.716512
C. iangauldi	PT♂	INBIOCRI000588749	vividella	Limon	ACTo	Sector Cerro Cocori	Fca E. Rojas	150	Aug-91	E. Rojas	10.594274	−83.716512
C. iangauldi	PT♂	INBIOCRI000598734	vividella	Limon	ACTo	Sector Cerro Cocori	Fca E. Rojas	150	Sep-91	E. Rojas	10.594274	−83.716512
C. iangauldi	PT♂	INBIOCRI000618571	vividella	Limon	ACTo	Sector Cerro Cocori	Fca E. Rojas	150	Oct-91	E. Rojas	10.594274	−83.716512
C. iangauldi	PT♂	INBIOCRI000753890	vividella	Limon	ACTo	Sector Cerro Cocori	Fca E. Rojas	150	12-31 Aug 1992	E. Rojas	10.594274	−83.716512
C. iangauldi	PT♂	INBIOCRI000983070	vividella	Limon	ACTo	Sector Cerro Cocori	Fca E. Rojas	150	10-30 Sept 1992	E. Rojas	10.594274	−83.716512
C. iangauldi	PT♂	INBIOCRI001403178	vividella	Limon	ACTo	Sector Cerro Cocori	Fca E. Rojas	150	Jan-93	E. Rojas	10.594274	−83.716512
C. lindapitkinae	**HT♂**	**INB0003545629**	**vividella**	**Puntarenas**	**ACOSA**	**P. N. Piedras Blancas**	**Est. El Bonito**	**100**	**Oct-02**	**M. Moraga**	**8.680656**	**−83.227328**
C. lindapitkinae	PT♀	INBIOCRI001691568	vividella	Puntarenas	ACOSA	P. N. Corcovado	Est. Esquinas	200	Feb-93	J. Quesada	8.759387	−83.283128
C. lindapitkinae	PT♀	INBIOCRI001827059	vividella	Puntarenas	ACOSA	P. N. Corcovado	Est. Esquinas	200	Dec-93	J. Quesada	8.759387	−83.283128
C. lindapitkinae	PT♂	INBIOCRI000483309	vividella	Puntarenas	ACOSA	Sierpe	Rancho Quemado	200	Dec-91	F. Quesada	8.679096	−83.566714
C. lindapitkinae	PT♂	INBIOCRI000579794	vividella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Apr-91	G. Fonseca	8.480171	−83.591289
C. lindapitkinae	PT♂	INBIOCRI000676536	vividella	Puntarenas	ACOSA	P. N. Corcovado	Est. Sirena	100	Jun-91	G. Fonseca	8.480171	−83.591289
C. lindapitkinae	PT♂	INBIOCRI001665489	vividella	Puntarenas	ACOSA	P. N. Corcovado	Est. Esquinas	200	Oct-93	M. Segura	8.759387	−83.283128
C. lindapitkinae	PT♂	INBIOCRI001905437	vividella	Puntarenas	ACOSA	P. N. Corcovado	Bosque Esquinas	200	May-94	J. Quesada	8.768853	−83.256761
C. lindapitkinae	PT♂	INBIOCRI001956644	vividella	Puntarenas	ACOSA	P. N. Corcovado	Est. Esquinas	200	Nov-93	M. Segura	8.759387	−83.283128
C. lindapitkinae	PT♂	INBIOCRI001999736	vividella	Puntarenas	ACOSA	P. N. Corcovado	Bosque Esquinas	200	May-94	M. Segura	8.768853	−83.256761
C. vividella	am♂	08-SRNP-4858	vividella	Guanacaste	ACG	Los Angeles	Quebrada Garcia	495	06-Sep-2008	E. Araya	10.861	−85.426
C. vividella	am♂	09-SRNP-21359	vividella	Guanacaste	ACG	Sector Del Oro	Monte Cristo	525	30-Jun-2009	E. Cantillano	11.014	−85.425
C. vividella	am♂	09-SRNP-4312	vividella	Alajuela	ACG	Sector San Cristobal	Quebrada Garcia	495	05-Sep-2009	O. Espinoza	10.861	−85.426
C. vividella	am♂	09-SRNP-69457	vividella	Alajuela	ACG	Sector Rincon Rain Forest	Flecha	491	18-Jul-2009	N. Castillo	10.947	−85.315
C. vividella	am♂	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	17-21 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♂	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	22-28 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801

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C. vividella	am♂	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	1–6 Mar 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♂	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	1–6 Mar 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♂	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	13–17 Mar 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♂	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	13–17 Mar 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♀	01-SRNP-11082	vividella	Guanacaste	ACG	Sector El Hacha	Sendero Tigre	280	27-Sep-2001	L. Rios	11.032	−85.526
C. vividella	am♀	08-SRNP-4859	vividella	Guanacaste	ACG	Los Angeles	Quebrada Garcia	495	07-Sep-2008	E. Araya	10.861	−85.426
C. vividella	am♀	09-SRNP-2897	vividella	Alajuela	ACG	Sector San Cristobal	Corrales Viejos	495	18-Jul-2009	E. Araya	10.9	−85.381
C. vividella	am♀	09-SRNP-3713	vividella	Alajuela	ACG	Sector San Cristobal	Sendero Huerta	527	05-Aug-2009	G. Sihezar	10.93	−85.372
C. vividella	am♀	09-SRNP-4311	vividella	Alajuela	ACG	Sector San Cristobal	Quebrada Garcia	495	06-Sep-2009	Osvaldo Espinoza	10.861	−85.426
C. vividella	am♀	11-SRNP-104802	vividella	Guanacaste	ACG	Sector Maritza	Manta Mecate	587	30-Sep-2011	H. Cambronero & S. Rios	10.954	−85.492
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	17–21 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	17–21 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	17–21 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	22–28 Feb 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	1–6 Mar 1965	S. S. & W. D. Duckworth	9.9067	−83.6801
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	2–5 Nov 1967	E. Tood	9.9067	−83.6801
C. vividella	am♀	USNM	vividella	Cartago	ACC	Turrialba	Turrialba	630	2–5 Nov 1967	E. Tood	9.9067	−83.6801