

Apionidae from North and Central America. Part 6.  
Description of new species of *Apionion* Kissinger,  
*Coelocephalapion* Wagner and *Trichapion* Wagner (Coleoptera)

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**Abstract.** Two new species of *Trichapion* Wagner, *T. baranowskii* and *T. santaritae*, are described from Madera Canyon, near Tucson, Arizona. Six new species of *Coelocephalapion* Wagner are described: *C. dilox* (Mexico), *C. goldilox* (Costa Rica, Panama), *C. johnsoni* (Panama) with host *Vatairea erythrocarpa* Ducke (Fabaceae), *C. nirostrum* (Mexico), *C. tellum* (Texas, Mexico), and *C. turnbowi* (Mexico). *Apionion opetion* is described from Mexico. A closely similar species, *Apionion bettyae* (Kissinger), new combination, with probable host plant *Lonchocarpus* sp. (Fabaceae), is transferred from *Trichapion*.

### Introduction

Even though about 340 species of apionids are described from North and Central America, Whitehead (1977) believed that less than 10% of the Central American apionid fauna was known. During the past 30 years I have determined some 50,000 apionids from Central America. I know that the number of apparently new species is large, but an estimate of 2,000-3,000 new apionids awaiting description from the area is, hopefully, a somewhat inflated upper limit.

The new species are referred to species groups defined in Kissinger (1968). This reference placed all New World members of the subtribe Apionina in *Apion* Herbst and various subgenera and species groups, some subsequently elevated to genera in Kissinger (1992, 1998) following the lead of Alonso-Zarazaga (1991). Consequently, the interpolation of new species into a key from Kissinger (1968) may require the contrast of species from two genera in a couplet.

Codons for collections are from Arnett *et al.*, 1993, with the addition of "RHTC" for Dr. R.H. Turnbow, Ft Rucker, Alabama. Procedures follow those in Kissinger (1968, 1990).

### Genus *Trichapion* Wagner

#### *Trichapion baranowskii* Kissinger new species (Figures 27-34)

**Holotype.** Male 1.767mm long; 0.823mm wide. Dark piceous. Vestiture white, fine, sparse, uniform

on dorsum; slightly coarser laterally. Rostrum 0.579mm long; 1.32 as long as prothorax; surface polished throughout, sparse scales 0.030-0.040mm long in basal 0.67, deep, fine punctures (0.010-0.020mm diameter) occur in rows to near apex; dorsal submedial sulcus indicated on frons by 2 or 3 rows of punctures bearing scales, continuing onto rostrum as single row of punctures and scales; dorsal sublateral sulcus indistinctly impressed on metarostrum, bearing distinct scales in basal 0.67 of rostrum; ventral sublateral sulcus shallowly impressed in basal half, with distinct scales in basal 0.7; in profile slightly curved; pronotum in profile tapers irregularly to tip, in dorsal view sides nearly parallel in apical 0.5; antenna inserted at basal 0.28 of rostrum at distance in front of eye 1.12 width of frons; dorsal margin of scrobe evenly descending. Head with frons 0.146mm wide; 1.57 as wide as dorsal tip of rostrum; with moderately deep median sulcus; dorsal margin of head distinctly declivitous above posterior margin of eye; subcephalic ridge high, with high basal margin; with distinct transverse cusp on ventral surface behind the basal margin, cusp visible in profile. Prothorax 0.439mm long, at base 1.25 as wide as long; basal margin moderately expanded laterally, pronotum sides approximately parallel in basal 0.5, punctures 0.020-0.040mm in diameter, moderately deep, bearing fine scales 0.042-0.058mm long, scales tend to taper to acute point; interspaces irregular, narrow, alutaceous; on ventral flanks scales tend to be coarser and more roundly truncate. Elytra intervals about 2X striae, with 2 rows of scales, in basal half scales similar to those on pronotum, apically scales shorter, broader and more rounded,

may be interspersed among fine, acute ones; intervals nearly flat, finely alutaceous; striae moderately coarse, deep, scales similar to those on adjacent intervals; intervals 7 and 9 each with 1 long sensory seta, interval 3 with 1-2 short sensory setae in apical 0.3. Tibia 1 inner anterior aspect with flattened glabrous area extending about 0.58 length of tibia, area polished, smooth, somewhat iridescent. Tibiae 2 and 3 mucronate.

**Paratypes.** Length 1.790-2.170mm, width 0.860-1.080mm. Rostrum of male 0.560-0.600mm long; 1.14 to 1.27 as long as prothorax; male antenna inserted at basal 0.28-0.29 of rostrum at distance in front of eye 0.94-1.06 width of frons. Rostrum of female 0.580-0.730mm long; 1.21-1.43 as long as prothorax; rostrum abruptly narrowed in region of antennal insertion, in profile dorsal margin at this location is slightly but distinctly declivitous (an abrupt slope of about 0.009mm); in dorsal view with sides parallel at tip, punctures as described for male extend to near apex, basal 0.3 with sparse scales finer and shorter than those basal of antennal insertion, apical 0.67 with very short, extremely fine setae, nearly glabrous; female antenna inserted at basal 0.20-0.25 of rostrum at distance in front of eye 0.83-1.05 width of frons. Head with frons 0.140-0.170mm wide; 1.55-2.98 as wide as dorsal tip of rostrum. Prothorax 0.430-0.530mm long; at base 1.12-1.27 as wide as long. Elytra at humeri 1.34-1.44 as wide as prothorax at base; 2.47-2.90 as long as prothorax; 1.24-1.45 as long as wide. Male characters: Tibia 1 inner anterior aspect with flattened glabrous area extending about 0.6-0.7 length of tibia. Tibiae 2 and 3 mucronate; mucro 2 0.057mm long, with ventral rounded prominence; mucro 3 0.025mm long, subangulate ventrally. Median lobe of aedeagus in profile slightly produced on ventral margin at apex; in dorsal view width at base of basal apodemes 0.050mm, sides nearly parallel from base to near middle, slightly diverging to orifice (width 0.070mm), gradually narrowed to blunt apex (width 0.033mm). Base of endophallus with mass (about 0.085mm long) of fine, spikelike structures, individual spikes may be up to 0.057mm long but exact length, number and arrangement not determined; near orifice with 3-5 teeth 0.014-0.028mm long. Tegmen parameroid lobes broad, long, membranous, lack macrosetae, fenestrae separated; free ring of basal piece articulated with short projection from basal plate; basal plate flat medially.

**Material examined.** Holotype. Arizona: Cochise Co, Mile High Preserve, Ramsay Canyon,

12 km S Sierra Vista, 1700 m, 11-18 Jun 1986, BV Brown, Malaise, Oak/Juniper riparian forest (CASC). Paratypes (21 total). 6, Arizona: Santa Rita Mts, Madera Canyon, near Bog Springs campground, Aug 22 1988, sweeping in mixed oak forest, leg R Baranowski (MZLU, DGKC); 6, Arizona: Santa Rita Mts, Madera Canyon, Bog Springs Campground, 5000 ft; Aug 24 1988, evening sweeping in oak forest, leg R Baranowski (MZLU, DGKC); 2, Arizona: Santa Cruz Co, Madera Canyon, May 17 1990, DG Kissinger (DGKC); 6, Arizona: Pima Co, Madera Canyon, Bog Springs campground, 15 Aug 1991, DG Kissinger (DGKC); 1, Arizona: Pima Co, Madera Canyon, Proctor Road, 25 July 1989, R Turnbow (RHTC).

**Etymology.** Named in honor of R. Baranowski, one of the first collectors of this species.

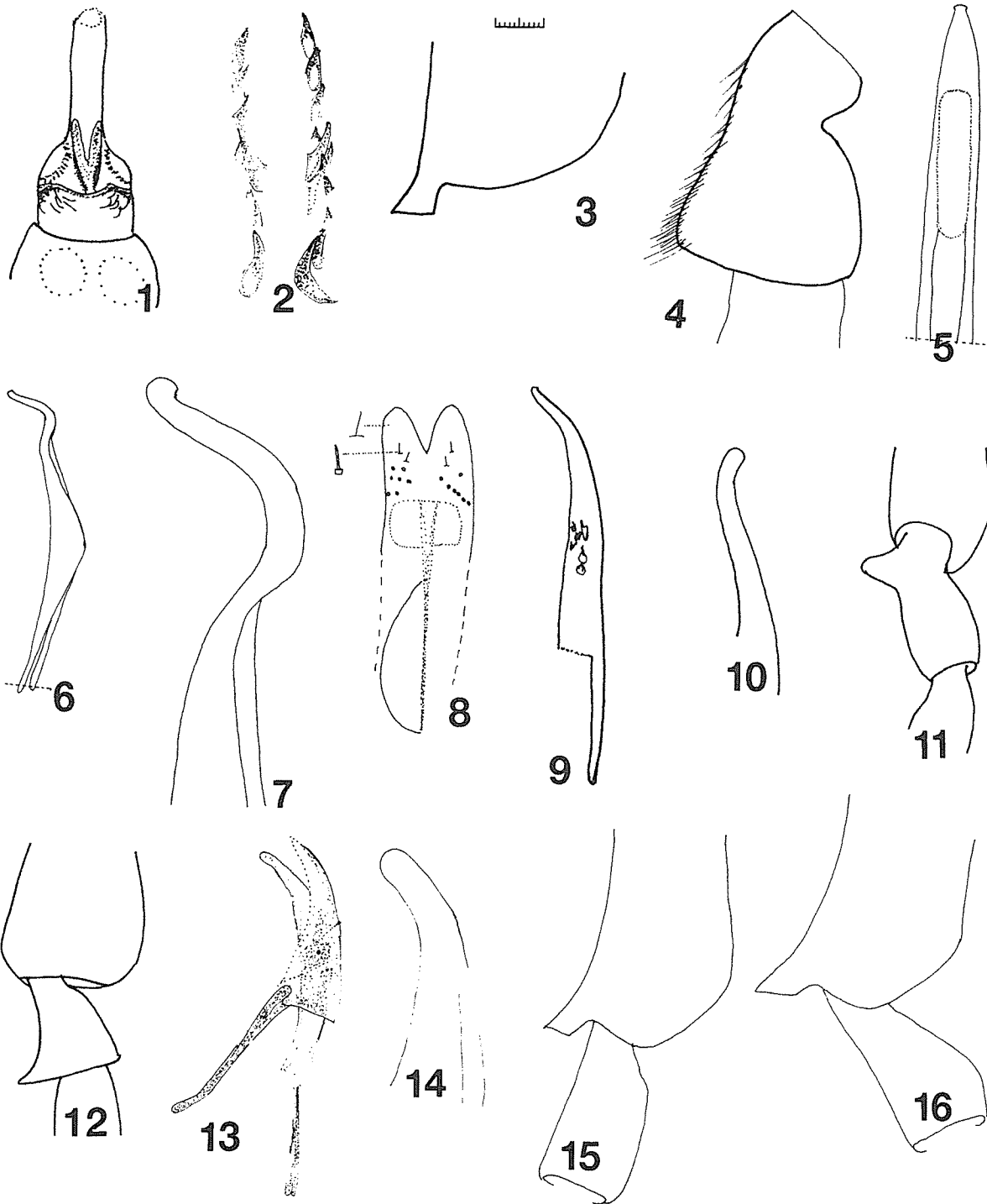
This species belongs to the *aurichalceum* species group; *T. aurichalceum* (Wagner) is the type species of *Trichapion*.

The species can be placed in the "Key to males of the species of the *Apion* subgenus *Trichapion* occurring in North and Central America" in Kissinger (1968) as follows:

36. Rostrum in profile tapered in apical 0.5 ..... 36A.  
Rostrum in profile nearly cylindrical in apical 0.3;  
tibial mucrones project at angle with longitudinal  
axis of tibia; DC - FL .....  
..... *Trichapion novellum* (Fall)
- 36A. Tibial mucrones 2 and 3 project in line with tibia;  
subcephalic ridge low; elytral interval 3 with 1  
row of scales; CO, NE, GA .....  
..... *Trichapion nebraskense* (Fall)
- Tibial mucrones 2 and 3 project at angle with  
longitudinal axis of tibia; subcephalic ridge high,  
area with distinct posterior margin; elytral in-  
terval 3 with 2 rows of scales; AZ .....  
..... *Trichapion baranowskii* Kissinger

***Trichapion santaritae* Kissinger**  
**new species**  
(Figures 35-44)

**Holotype.** Male 1.900mm long; 0.759mm wide. Piceous, antenna except club, tip of tibiae and tarsomeres 1 and 2 testaceous; vestiture sparse, fine, white, nearly uniform on dorsum, somewhat more apparent on pro, meso, and metathorax and metepisternum, much more prominent and longer under eye. Rostrum 0.457mm long; 1.09 as long as prothorax; surface finely alutaceous, with sparse,



Figures 1-16. *Coelocephalapion tellum* Kissinger. 1) head, ventral view. 2) armature of endophallus. *Coelocephalapion johnsoni* Kissinger. 3) apical region of tibia 2 of male, lateral view. 4) tarsus 3 tarsomere 1 of male, lateral view. 5) median lobe of aedeagus (anterior part deformed by pressure of cover slip), dorsal view. 6) median lobe of aedeagus, lateral view; dashed line corresponds to that on fig. 5. 7) detail of apical region of median lobe of aedeagus, lateral view. 8) paramere of tegmen of male genitalia, dorsal view. *Coelocephalapion dilox* Kissinger. 9) median lobe of aedeagus, lateral view. *Coelocephalapion turnbowi* Kissinger. 10) apical region of median lobe of aedeagus, lateral view. 11) tarsus 2 tarsomere 1 of male, lateral view. 12) tarsus 3 tarsomere 1 of male, lateral view. *Coelocephalapion nirostrum* Kissinger. 13) median lobe of aedeagus and tegmen, lateral view. 14) detail of apical region of median lobe of aedeagus, lateral view. 15) tarsus 2 tarsomere 1 of male, lateral view. 16) tarsus 3 tarsomere 1 of male, lateral view. Scale = 0.027mm. for Fig. 2, 10, 14, 15, 16; 0.054mm for Fig. 3, 4, 7, 11, 12; 0.110mm for Fig. 8, 9, 13; 0.185mm for Fig. 1; 0.200mm for Fig. 5, 6.

minute punctures with distinct scales up to 0.036mm long in basal 1/2, apical 1/3 polished, glabrous, impunctate; in dorsal view sides slightly expanded at antennal insertion, nearly evenly, slightly converging to apical 1/3, in apical 1/3 sides nearly parallel; in profile slightly curved, sides nearly parallel in apical 1/3, depressed at tip; antenna inserted at basal 0.34 of rostrum at distance in front of eye 1.70 width of frons; dorsal margin of scrobe nearly evenly descending to base of rostrum, then merged with ventral surface of head. Head with frons 0.091mm wide, 1.00 as wide as dorsal tip of rostrum, with 1 sublateral, somewhat confused row of punctures bearing scale 0.036-0.055mm long, separated by moderately wide median area with more or less distinct but shallow sulcus; in profile dorsal margin of frons moderately convex; eye distinctly longer than wide, subcephalic ridge low, not reaching middle of eye (hard to see because of vestiture). Prothorax 0.420mm long, at base 1.09 as wide as long; basal margin distinctly produced laterally, sides beyond basal margin rounded slightly to widest point near middle, rounded to constricted apex; in profile pronotum slightly convex; pronotal punctures shallow, 0.010-0.030mm in diameter, with fine acuminate scales 0.040-0.060mm long; interspaces flat, moderately wide, finely, sparsely alutaceous. Elytra at humeri 1.40 as wide as pronotum base; 2.99 as long as prothorax; 1.65 as long as wide; intervals slightly convex, at middle more than 2X as wide as striae, with 1 row of scales (somewhat confused) similar to pronotal scales; striae moderately deep, moderately fine, with scales similar to those on adjacent intervals; intervals 7 and 9 with 1 long sensory seta. Tarsus 1 with tarsomere 1 broadly oval, depressed into flat disk; tibia 1 slightly enlarged to nearly cylindrical apical one-half, profile of outer margin broadly convex; femur 2 grotesquely enlarged in vertical dimension, compressed, near base ventral margin angularly expanded to about 1.4 width of femur 1; tibia 2 in profile somewhat convex on outer margin, with mucro 0.080mm long; tarsi 2 and 3 with tarsomere 1 elongate, about 1.2 as long as tarsomeres 2 and 3 combined.

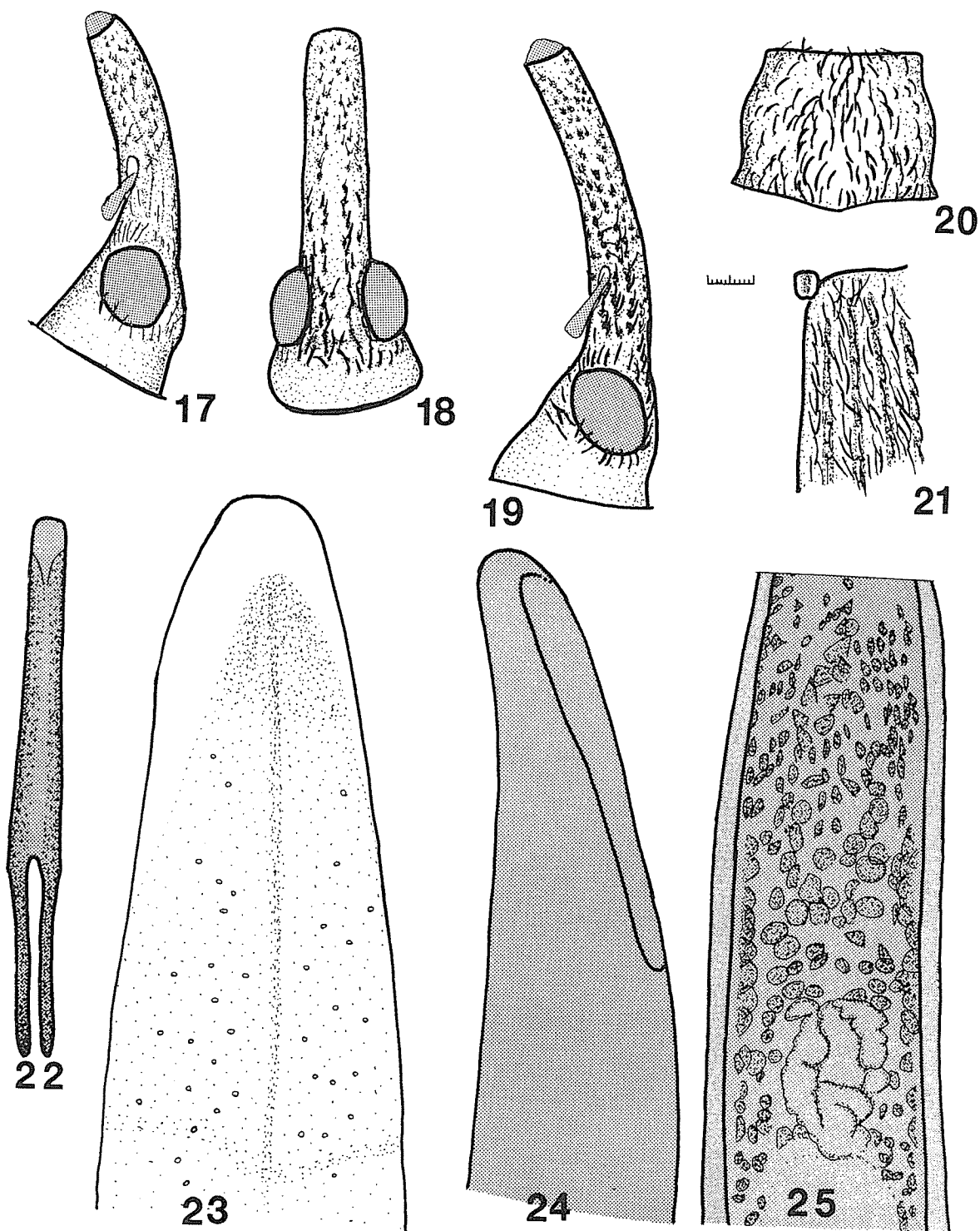
**Paratypes.** Female piceous throughout. Length 1.900-2.180mm; width 0.760-0.980mm. Rostrum of male 0.457-0.510mm long; 1.08 to 1.18 as long as prothorax; antennae inserted at basal 0.29-0.34 of rostrum at distance in front of eye 1.56-1.70 width of frons. Rostrum of female 0.420-0.640mm long; 1.00 to 1.47 as long as prothorax; nearly glabrous (with several minute scales basad of antennal insertion),

surface minutely alutaceous, with minute sparse punctures, apical region smoother; in profile distinctly curved, sides nearly parallel in apical 2/3; in dorsal view slightly expanded at antenna insertion; antenna inserted at basal 0.22-0.35 of rostrum at distance in front of eye 1.17-1.34 width of frons. Head with frons 0.090-0.130mm wide, 0.63-1.08 as wide as dorsal tip of rostrum; eye of female nearly round. Prothorax 0.420-0.46mm long; at base 1.08-1.18 as wide as long. Elytra at humeri 1.35-1.50 as wide as prothorax at base; 2.86-3.17 as long as prothorax; 1.54-1.65 (male) and 1.37-1.52 (female) as long as wide. Median lobe of aedeagus moderately slender, somewhat depressed; in profile apex simple, turned down, about 0.160mm in width, sides gradually converging from orifice to near apex; in dorsal view apex narrowed to moderately fine tip; endophallus lacks sclerotized elements. Tegminal plate comparatively large (looks like it is too large for the median lobe), narrowly oval; parameroid lobes membranous, moderately long, lacking macrochaetae, small sensillae present; fenestrae joined medially; no distinct basal lateral projection to articulation with free ring of basal piece; basal plate flat.

**Material examined.** Holotype. Arizona: Pima Co, Madera Canyon, 30 Sep 1989, DG Kissinger; measured 00313 DGKissinger (CASC). Paratypes (64 total). 2, same data as holotype (DGKC); 1, Arizona: Pima Co, Madera Canyon, turn off to Bog Springs, 15 Aug 1991, DG Kissinger (CDAE); 53, Arizona: Santa Cruz Co, Madera Canyon, 17 May 1990, DG Kissinger (DGKC, CDAE); 6, Arizona: Cochise Co, Mile High Preserve, Ramsay Canyon, 12 km S Sierra Vista, 1700 m, 6-13 July 1986 or 13-23 Aug 1986 or 15-22 Oct 1986 or 9 July 1987, BV Brown, Malaise, Oak/Juniper riparian forest (CDAE); 1, Arizona: Cochise Co, Huachuca Mts, Miller Canyon, 9-10-Sep-1968 (TAMU); 1, Mexico: Veracruz: 7.3 mi E Naranjos, 20 Sep 1976; WE Clark (TAMU).

**Etymology.** Named for the Santa Rita Mountains, the type locality.

This species is in the *spinitarse* species group. The male is like no other apionid with parts of the legs testaceous, tarsus 1 tarsomere 1 enlarged into a flattened ovate disk; tibia 2 mucronate; femur 2 grotesquely enlarged; and tarsi 2 and 3 with tarsomere 1 elongate. The female is distinct with its nearly glabrous, relatively short, strongly curved rostrum. Both sexes tend to have the pronotum roundly widened to the widest point at the middle.



Figures 17-25. *Coelocephalapion goldilox* Kissinger. 17) head of male, lateral view. 18) head of male, dorsal view. 19) head of female, lateral view. 20) pronotum, dorsal view. 21) scutellum and base of right elytron, dorsal view. 22) median lobe of aedeagus, dorsal view. 23) apical region of median lobe of aedeagus, dorsal view. 24) apical region of median lobe of aedeagus, lateral view. 25) basal region of median lobe of aedeagus and tegmen, dorsal view, orifice to top of page. Scale = 0.018mm for Fig. 23, 24, 25; 0.073mm for Fig. 22; 0.100mm for Fig. 17, 18, 19, 20, 21.

The "Key to males of the species of the *Apion* subgenus *Trichapion* occurring in North and Central America" (Kissinger, 1968) should be modified as follows:

7. Tarsus 1 tarsomere 1 produced into rounded flat lobe or disc. .... 7A  
Tarsus 1 not so modified ..... 8
- 7A. Tarsi same color as femur; tarsus 1 tarsomere 1 with inner margin strongly rounded from base to apex, forming broad, rounded lobe projecting distally beyond apex of tarsomere; in dorsal view inner part of tarsomere much broader than outer part; femora 1 and 2 similar in width; Mexico (Veracruz) .....  
..... *Trichapion mirificum* (Kissinger)  
Tarsomeres 1 and 2 testaceous compared with piceous femur; tarsus 1 tarsomere 1 produced into flat, oval disk; femur 2 much more robust than femur 1; AZ, Mexico (Veracruz) .....  
..... *Trichapion santaritae* Kissinger

***Trichapion digenerum* (Kissinger)**

This species has tarsomere 1 of tarsus 3 produced into a spine that may be addressed to the next tarsomere, a fact overlooked in Kissinger(1968).

***Trichapion novellum* (Fall)**

**New locality:** Florida: St. Lucie Co., Ft. Pierce, 25-April-1989, J. Malukiewicz, *Vigna* sp. (FSCA).

**Genus *Coelocephalapion* Wagner**

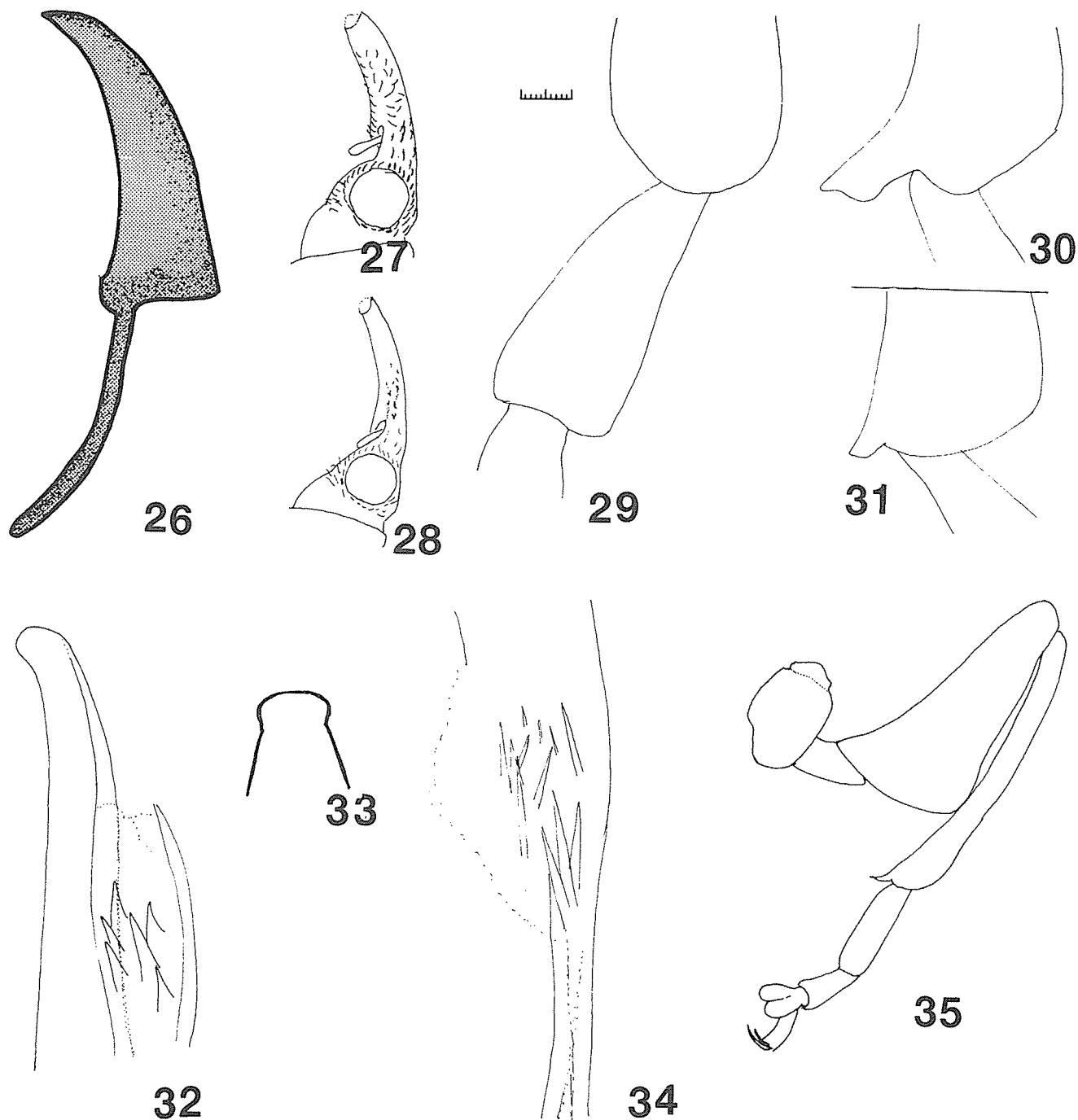
***Coelocephalapion goldilox* Kissinger  
new species  
(Figures 17-26)**

**Holotype.** Male 1.786mm long; 0.841mm wide. Piceous with slight bronze luster; coxae 1 and 2 and legs (including trochanter) testaceous; antenna dark testaceous. Vestiture golden, fine, moderately sparse, uniform on pronotum and elytra; sparser, finer and shorter on head, thorax and sterna. Rostrum of male 0.548mm long, 1.50 as long as prothorax; nearly cylindrical, slightly expanded at insertion of antennae; basal 3/4 with surface slightly alutaceous, with fine, moderately dense punctures bearing scales 0.018-0.040mm long; apical 1/4 with surface polished, with minute punctures and scales; in profile slightly curved; male antenna inserted at basal 0.37 of rostrum at

distance in front of eye 1.83 width of frons; dorsal margin of scrobe evenly descending toward ventral surface of head. Head with frons 0.110mm wide; 1.01 as wide as dorsal tip of rostrum; subcephalic ridge low, extending to near middle of eye. Prothorax 0.366mm long, at base 1.15 as wide as long; pronotum basal margin moderately expanded laterally, sides slightly expanded toward middle, constricted at apex; punctures 0.018-0.028mm in diameter, shallow, bearing scales 0.036-0.055mm long by 0.006-0.009mm wide, interspaces slightly alutaceous; laterally and ventrally scales shorter and finer. Elytra at humeri 1.52 as wide as pronotum base; 3.43 as long as prothorax; 1.49 as long as wide; intervals at middle of elytra about 3X width of striae, bearing 2-3 rows of scales 0.036-0.074mm long by 0.009-0.014mm wide, surface finely alutaceous, slightly convex; striae moderately coarse, deep, with scales similar to those on adjacent intervals; interval 9 with 1 long sensory seta near apex. Legs lack special characters.

**Paratypes.** Length 1.560-1.940mm; width 0.790-0.990mm. Rostrum of male 0.460-0.550mm long; 1.39 to 1.50 as long as prothorax; male antenna inserted at basal 0.34-0.37 of rostrum at distance in front of eye 1.56-1.83 width of frons. Rostrum of female 0.640-0.720mm long; 1.78 to 1.81 as long as prothorax; similar to male; female antenna inserted at basal 0.30-0.31 of rostrum at distance in front of eye 1.69-1.93 width of frons; dorsal margin of scrobe as in male. Head with frons 0.100-0.130mm wide; 0.88-1.05 as wide as dorsal tip of rostrum. Prothorax 0.310-0.400mm long; at base 1.15-1.33 as wide as long. Elytra at humeri 1.36 to 1.52 as wide as prothorax at base; 2.56 to 3.54 as long as prothorax; 1.16 to 1.49 as long as wide. Median lobe of aedeagus in profile with tip thin, not produced dorsally or ventrally; in dorsal view largely parallel-sided, apex broadly rounded; endophallus with numerous small irregular granules about 0.006-0.009mm in size. Tegmen parameroid lobes combined into short membranous structure, structure prolonged in front of fenestrae (fenestrae not distinct in this preparation), with several minute macrochaetae about 0.005mm long; free ring of basal piece fused with tegmental plate; basal plate flat medially.

**Material examined.** Holotype. Panama: Chiriqui Prov, 2 km W Cerro Punta 1720 m, 1-7 VI 1977, H & A Howden (HAHC). Paratypes, (137 total). 4, same data as holotype (HAHC, DGKC); 1, same data but date 19-23 V 1977 (HAHC); 1, Panama: Chiriqui Prov, Cerro Punta, 2000-2200m, 23-V-1977, H & A Howden (HAHC); 2, Panama:



Figures 26-35. *Coelocephalapion goldilox* Kissinger. 26) tegmen of male genitalia, lateral view. *Trichapion baranowskii* Kissinger. 27) head of male, lateral view. 28) head of female, lateral view. 29) tarsus 1 tarsomere 1 of male, lateral view. 30) apical region of tibia 3 of male, lateral view. 31) apical region of median lobe of aedeagus, lateral view. 32) apical region of median lobe of aedeagus, dorsal view, orifice to top of page. *Trichapion santaritae* Kissinger. 33) apical region of median lobe of aedeagus, dorsal view. 34) right side of basal region apical region of median lobe of aedeagus near attachment of basal apodeme, dorsal view. 35) left leg 2 of male detached from body, lateral view. Scale = 0.018mm for Fig. 26; 0.027mm for Fig. 29, 30, 31, 32, 33, 34; 0.110mm for Fig. 35; 0.184mm for Fig. 27, 28.

total). 4, same data as holotype (HAHC, DGKC); 1, same data but date 19-23 V 1977 (HAHC); 1, Panama: Chiriqui Prov, Cerro Punta, 2000-2200m, 23-V-1977, H & A Howden (HAHC); 2, Panama: Chiriqui Prov, Cerro Punta, 6200', 8-VII-1974, CW & L O'Brien & Marshall (CWOB, DGKC); 3, Panama: Chiriqui Prov, Cerro Punta, 6000', X-1953, NLH Kraus (AMNH, DGKC); 2, Panama: Chiriqui Prov, Cerro Punta, 10-V-1962, H Rucker (AMNH, DGKC); 55, Panama: Chiriqui Prov, 8 mi NE El Volcan 5900', 8-VII-1974, CW & L O'Brien & Marshall (CWOB, DGKC); 1, Panama: Chiriqui Prov, 7 mi W El Volcan, 4800', 8-VII-1974, CW & L O'Brien & Marshall (CWOB); 2, Panama: Chiriqui Prov, 6 mi W El Volcan, 5200', 8-VII-1974, CW & LO'Brien & Marshall (CWOB, DGKC); 2, Panama: Chiriqui Prov, Boqueta, 4000', 25-VI-1974, CW & LO'Brien & Marshall (CWOB, DGKC); 2, Panama: Chiriqui Prov, Boqueta, X-1953, NLH Kraus (AMNH, DGKC); 4, Panama: Chiriqui Prov, Bambito, 1000m, 24-XII-1974, H Wolda (CWOB, DGKC); 1, Panama: Chiriqui Prov, Qda Laguna near Rio San Felix, 725m, 19-I-1981, litter on sand, pocket S bank, W Suter, FMND 81:108 (CWOB); 3, PANAMA: Chiriqui Prov, Cerro Colorado, near Generator 1225-1240, W Suter, 27-I-1981, (CWOB, DGKC); 4, Panama: Chiriqui Prov, Pro Cerro Mogla, Qda Tufino, 1125m, 22-I-1981, sweep at entry, W Suter, FMHD #81-100 (CWOB, DGKC); 1, Costa Rica: Prov Puntarenas, Pension Monteverde, 1350m, 11-VIII-1976, HAHespenheide (CHAH); 3, Costa Rica: Prov Puntarenas, Pension Monteverde, 1500m, 17-23-Aug-1987, H&A Howden (HAHC, DGKC); 18, Costa Rica: Prov Puntarenas, Pension Monteverde, 1500m, 26-Feb-1991, K Maclachlan Hamiton (CMNC, DGKC); 2, Costa Rica: San Jose: 8.3 mi N San Isidro del General, 30-June-1972, RR & ME Murray (TAMU); 5, Costa Rica: SJ 13 mi N San Isidro del General, 6500', 23-VI-1974, CW & L O'Brien & Marshall (CWOB, DGKC); 2, Costa Rica: SJ 14 mi N San Isidro del General, 7300', 10-VII-1974, CW & L O'Brien & Marshall (CWOB, DGKC); 4, Costa Rica: SJ 16 mi N San Isidro del General, 7800', 10-VII-1974, CW & L O'Brien & Marshall (CWOB, DGKC); 1, Costa Rica: SJ 29 mi N San Isidro del General, 1100', 23-VI-1974, CW & L O'Brien & Marshall (CWOB); 4, Costa Rica: Car 6 mi W Paraiso, 4800', 22-VI-1974, CW & L O'Brien & Marshall (CWOB, DGKC); 3, Costa Rica: Car 8 mi N Empalme, 6400', 22-VI-1974, CW & L O'Brien & Marshall (CWOB, DGKC); 5, Costa Rica: 18 km N Cofradia, 5-VIII-1977, CW & L O'Brien & Marshall (CWOB, DGKC); 2, Honduras: 14 mi NE Nueva

Ocotepeque, 6900', 25-VII-1974, CW & LO'Brien & Marshall (CWOB, DGKC).

**Etymology.** The name alludes to the golden color of the vestiture; it is a coined name neuter in gender.

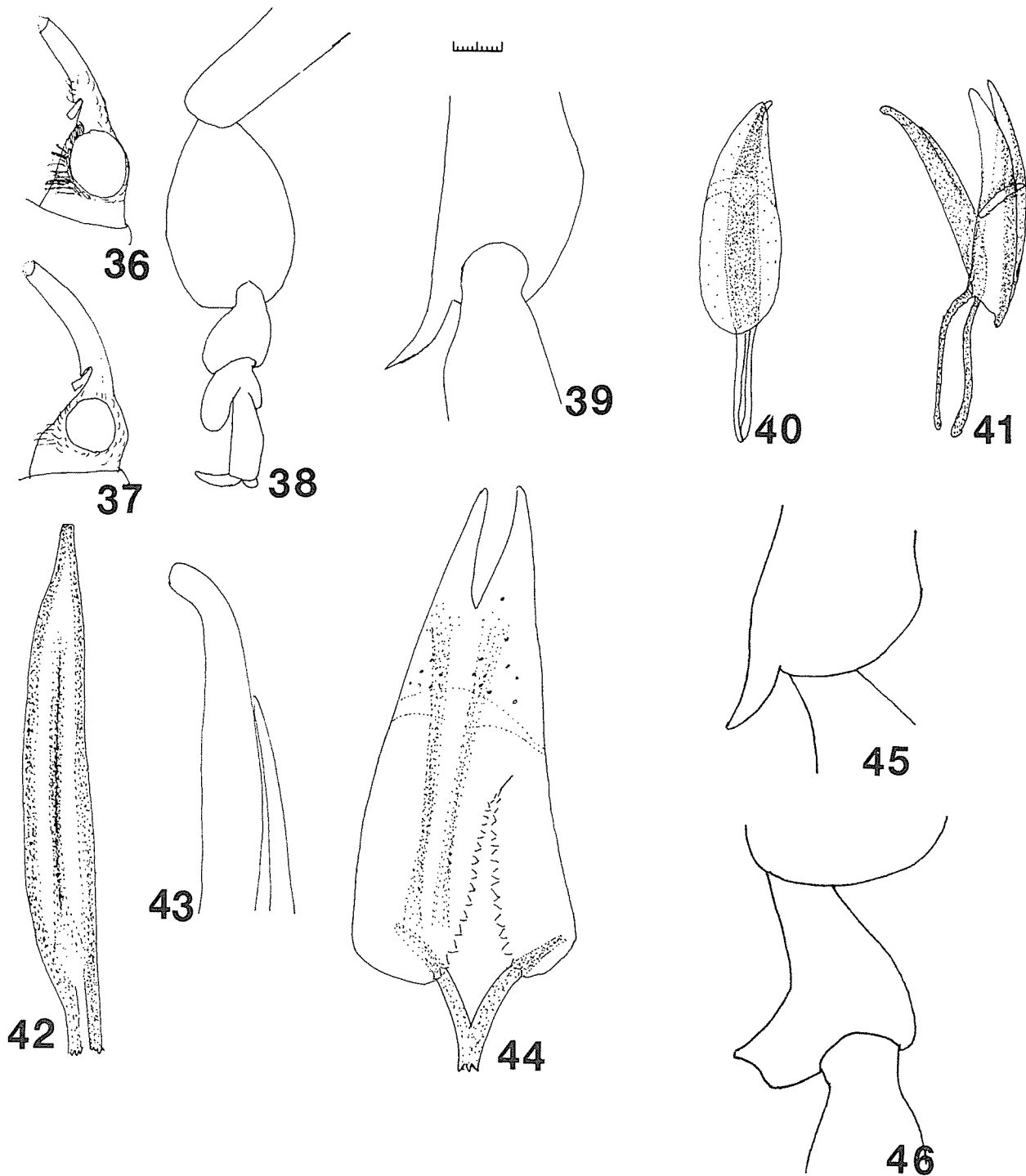
The species belongs to the *decoloratum* species group of *Coelocephalapion* but is not close to any described species. In Kissinger (1968), "Key to males of species of *Coelocephalapion* occurring in North and Central America", the species traces to couplet 73, which can be changed as follows:

73. Head behind eye and dorsal apical region of femur with distinctly coarser scales than stoutest seta on antenna ..... 74  
 Head behind eye and femur with scales not coarser than stoutest seta on antenna ..... 73A
- 73A. Legs banded with a darker color (piceous) and coxae 1 and 2 same color as prothorax; pronotum punctures deep, minute scales barely project beyond rim of puncture; endophallus with 4 rows of teethlike structures; MA, ND, FL, TX, Mexico (Veracruz, Chiapas) .....  
 ..... *Coelocephalapion emaciipes* (Fall)
- Legs and coxae 1 and 2 testaceous; pronotal punctures shallow, golden scales project well beyond rim of puncture; endophallus lacks distinct sclerotized structures; Costa Rica, Panama ....  
 ..... *Coelocephalapion goldilox* Kissinger

***Coelocephalapion dilox* Kissinger  
 new species  
 (Figure 9)**

**Holotype.** Male 1.528mm long; 0.713mm wide. Piceous with slight bronze luster; antenna, coxae 1 and 2 and legs (including trochanter) testaceous; rostrum testaceous beyond insertion of antenna. On dorsum vestiture golden, fine, moderately sparse, uniform on pronotum and elytra; finer, whiter on head, side of thorax and elytra. Rostrum 0.366mm long; 1.25 as long as prothorax; largely polished except slightly alutaceous behind insertion of antenna, in basal 2/3 with sparse, fine, white scales 0.027-0.036mm long, apical region glabrous; nearly cylindrical, slightly expanded at insertion of antenna; in profile slightly curved; antenna inserted at basal 0.40 of rostrum at distance in front of eye 1.82 width of frons; dorsal margin of scrobe nearly evenly descending toward subcephalic ridge. Head with frons 0.080mm wide; 0.73 as wide as dorsal tip of rostrum; eye about 30% longer than high, dorsal margin of head slightly, broadly declivitous above posterior margin of eye;





Figures 36 - 44. *Trichapion santaritae* Kissinger. 36) head of male, lateral view. 37) head of female, lateral view. 38) tarsus 1 tarsomere 1 of male, dorsal view. 39) apex of tibia 2 of male, lateral view. 40) median lobe of aedeagus and tegmen, lateral view. 41) median lobe of aedeagus, dorsal view. 42) median lobe of aedeagus, dorsal view. 43) apical region of median lobe of aedeagus, lateral view. 44) paramere of tegmen, dorsal view, tear in basal region of paramere. *Apionion opetion* Kissinger. 45) apex of tibia 2 of male, lateral view. 46) tarsus 3 tarsomere 1 of male, lateral view. Scale = 0.027mm for Fig. 39,43; 0.054mm for Fig. 38, 42, 44, 45, 46; 0.110mm for Fig. 40, 41; 0.184mm for Fig. 36, 37.

pronotum basal margin slightly expanded laterally, sides nearly parallel at base, rounded to constricted apex; punctures 0.009-0.018mm in diameter, shallow, bearing scales 0.027-0.045mm long, 0.006-0.009mm wide, interspaces slightly alutaceous; laterally and ventrally scales whiter, in part slightly coarser. Elytra intervals at middle of elytra about 3X width of striae, bearing 2 rows of scales 0.036-0.054mm long, surface nearly smooth, nearly flat; striae moderately coarse, deep, with scales similar to those on adjacent region of interval, interval 9 with 1 long sensory setae near apex. Legs lack special characters.

**Paratypes.** Length 1.480-1.780mm; width 0.710-0.940mm. Rostrum of male 0.370-0.440mm long; 0.77 to 1.25 as long as prothorax. Rostrum of female unicolorous, piceous, 0.470-0.550mm long; 1.53 to 1.68 as long as prothorax; largely polished and glabrous; female antenna inserted at basal 0.29-0.33 of rostrum at distance in front of eye 1.51-1.66 width of frons. Head with frons 0.080-0.109mm wide; 0.73 to 1.00 as wide as dorsal tip of rostrum; with sexual dimorphism in shape of eye: female eye nearly round, dorsal margin of head nearly flat above posterior margin of eye; male eye described above. Prothorax 0.290-0.510mm long; at base 1.27 to 1.40 as wide as long. Elytra at humeri 1.31 to 1.46 as wide as prothorax at base; 3.41 to 3.48 as long as prothorax; apparent sexual dimorphism in width: male 1.34 to 1.44 as long as wide; female 1.25 to 1.31 as long as wide. Median lobe of aedeagus in profile extends beyond orifice about 0.150mm width at base about 0.100mm deep, length excluding basal struts about 0.625mm, struts about 0.265mm long; in dorsal view sides parallel from base to orifice, about 0.054mm wide, narrowed to apex about 0.018mm wide; structure appears laterally compressed; endophallus with 2 rows of 2 groups of 3 teeth each, one group 0.014-0.046mm long, the other 0.024-0.030mm long; exact spatial arrangement not determined. Tegmen parameroid lobes lack macrochaetae; free ring of basal piece fused with tegminal plate; basal plate flat medially.

**Material examined.** Holotype. Mexico: Veracruz: 7.5 mi S Yecuatla, 4000', 20 June 1983; R Anderson; measured 00524 DGKissinger (CMNC). Paratypes (11 total). 1, same data as holotype (CMNC); 3, Mexico: Veracruz: 3 mi NE Huatusco, 23 July 1984, JB Woolley, ex grass (TAMU, DGKC); 1, same data but Carroll, Schaffner, Friedlander (TAMU); 3, Mexico: Veracruz: 11 mi S Misantla, 24 July 1984, JB Woolley, ex cloud forest (TAMU, DGKC); 1, same data but 21 March 1975, Clark &

Schaffner (TAMU); 1, Mexico: Puebla: 3.7 mi S Zacapoaxtla, 2 July 1985, 85/085 Coll Woolley & Zolnerowich (TAMU); 1, Mexico: Hidalgo: rte 105 7.7 km S Tlanchinol, 20 July 1988, R Turnbow (RHTC).

**Etymology.** A coined name based on *goldilox* by truncation, neuter in gender.

The species belongs to the *decoloratum* species group. It is remarkably similar to *C. goldilox* Kissinger but the male has the apical region of the rostrum testaceous, the endophallus contains toothlike sclerotized elements and the rostrum of the female is relatively shorter being less than 1.65 as long as the prothorax. In the case of *C. goldilox* Kissinger the rostrum of the male is unicolorous, the endophallus lacks sclerotized elements and the rostrum of the female is more than 1.9 as long as the prothorax. The species also is similar to *C. pacificum* (Sharp); see key for separation.

In Kissinger (1968), "Key to males of species of *Coelocephalapion* occurring in North and Central America", the species traces to couplet 29, which can be changed as follows:

29. Elytra light reddish yellow, with fine yellowish vestiture; antenna inserted at distance in front of eye less than 1.1 width of frons; in profile median lobe slightly curved, apex slightly bulbous, in dorsal view sides diverge slightly from base to near orifice; FL, Mexico (Yucatan) .....  
 ..... *Coelocephalapion lividum* (Smith)  
 Elytra piceous; antenna inserted at distance in front of eye not less than 1.3 width of frons .....  
 ..... 29A
- 29A. Vestiture on dorsal surface white; head flat above posterior margin of eye; Guatemala .....  
 ..... *Coelocephalapion pacificum* (Sharp)  
 Vestiture on dorsal surface golden; head declivitous above posterior margin of eye; Mexico (Veracruz, Puebla, Hidalgo) .....  
 ..... *Coelocephalapion dilox* Kissinger

*Coelocephalapion turnbowi* Kissinger  
 new species  
 (Figures 10-12)

**Holotype.** Male 2.242mm long; 1.106mm wide. Dark castaneous; elytra lighter castaneous with somewhat darker suture; femora and tibiae light castaneous. Vestiture white, fine, sparse, uniform. Rostrum 0.768mm long; 1.35 as long as prothorax; surface slightly alutaceous to near tip; dorsal and ventral sublateral sulci well developed, dorsal

submedial sulcus vaguely indicated; scales 0.035-0.046mm long by 0.030-0.070mm wide, scales occurring to near tip; rostrum not expanded laterally at insertion of antenna; in profile more strongly curved on dorsal margin than ventral margin, in apical 1/4 strongly narrowed to tip; in dorsal view sides largely parallel, slightly narrowed in apical 1/2; male antenna inserted at basal 0.30 of rostrum at distance in front of eye 2.28 width of frons; dorsal margin of scrobe slightly produced into rounded lobe near front margin of eye, subcephalic ridge moderately high, extend beyond base of eye. Head with frons 0.100mm wide; 0.68 as wide as dorsal tip of rostrum; frons slightly concave transversely in apical half, with two of closely approximate rows of distinct, shallow punctures becoming finer and shallower toward base of head; in profile head broadly rounded above eye. Prothorax 0.570mm long, at base 1.35 as wide as long; pronotum with indistinct basal lateral expansion, sides strongly converge from base to broad apical constriction, actual apical margin flared out laterally; punctures moderately deep, 0.018-0.036mm in diameter, bearing fine, acuminate scales 0.036-0.059mm long; surface finely alutaceous, basal fovea deep, linear; vestiture on sides very slightly coarser. Elytra at humeri 1.26 as wide as pronotum base; 2.27 as long as prothorax; 1.17 as long as wide; interval 3 about 2X stria, intervals at middle gradually increasing in width from interval 1 (sutural) to 6, flat, with 1-2 rows of fine, shallow punctures bearing scales similar to those on pronotum; interval 9 with 1 long sensory setae near apex; striae coarse, on disc deep, tendency for medial margin of stria to be higher so that interval tends to be sloped but flat, scales similar to those on intervals, on apex join 1, 2+9, 3+4, 5+6, 7+8. Metepisternum in posterior half with 1 row of scales similar to those on elytra. Tarsus 2 with tarsomere 1 armed with blunt lobe; tarsus 3 tarsomere 1 armed with straight acute spine.

**Paratypes.** Length 2.110-2.430mm; width 1.060-1.330mm. Rostrum of male, 0.750-0.790mm long; 1.31 to 1.39 as long as prothorax; antenna inserted at basal 0.26 to 0.30 of rostrum at distance in front of eye 2.03 to 2.33 width of frons. Rostrum of female 0.930-1.040mm long; 1.50 to 1.75 as long as prothorax; surface slightly alutaceous to near tip; basal lateral sulcus deeply impressed, in basal 1/2 several sulci vaguely indicated by slightly impressed rows of punctures, apical 1/2 finely, sparsely punctured to near tip; metarostrum slightly expanded at insertion of antenna, rostrum strongly

narrowed in front of antennal insertion; in profile strongly curved; largely cylindrical beyond basal 1/3, female antenna inserted at basal 0.20 to 0.23 of rostrum at distance in front of eye 1.92 to 2.42 width of frons; dorsal margin of scrobe and subcephalic ridge as in male. Head with frons 0.090-0.110mm wide; 0.47 to 0.71 as wide as dorsal tip of rostrum. Prothorax 0.560-0.660mm long, at base 1.28 to 1.53 as wide as long. Elytra at humeri 1.26 to 1.40 as wide as prothorax at base; 2.11 to 2.72 as long as prothorax; 1.07 to 1.31 as long as wide. Male characters: tarsus 2 with tarsomere 1 on inner basal margin with blunt lobe about 0.036mm long; tarsus 3 tarsomere 1 on inner apical margin with straight acute spine about 0.049mm long.

**Material examined.** Holotype. Mexico: Veracruz: Est[acion] Biol[ogia] de Los Tuxtlas, 18 35' N 9505' W, 27 April 1991, HA Hespenheide (UNAM). Paratypes (18 total). 13, same data but dates between 27-30 April (CHAH, DGKC); 1, Mexico: Veracruz: 33 km NE Catemaco, Los Tuxtlas Biol Station [Estacion Biologia de Los Tuxtlas], 160m, 1 August 1983, S & J Peck, trop for litter (CMNC); 1, Mexico: Oaxaca: 14.3 mi SW Valle Nacional 3700', 25 June 1983, R Anderson, cloud forest (CMNC); 2, Mexico: Oaxaca: 6 mi S Valle Nacional 2000', 18-20 May 1971, H Howden (HAHC); 1, Mexico: Chiapas: El Sumidero, 28 Sept 1986, R Turnbow (RHTC).

**Etymology.** Named in honor of Dr. Robert H. Turnbow.

This species belongs to the miscellaneous species of *Coelocephalapion* not currently assigned to a species group. It is possible that it can be associated with *Coelocephalapion junio* (Sharp) which also has stria 1 isolated on the elytral apex and has similar male secondary sexual modification of tarsi 2 and 3. Two other species, *Coelocephalapion davidis* (Sharp) and *Coelocephalapion pedestre* (Sharp), have a similar isolated apical elytral stria 1 and a similar male secondary sexual modification of tarsus 3 (tarsomere 1 with apical inner angle spined) but tarsus 2 is not modified in the male.

In Kissinger (1968), "Key to males of species of *Coelocephalapion* occurring in North and Central America", the species traces to couplet 11, which can be changed as follows:

11. Pronotum subconical in shape, with indistinct (broad) basal flange; elytra blue or castaneous; tarsomere 1 of tarsus 2 with process originated from inner basal region ..... 11A

Pronotum subcylindrical in form, with distinct basal flange; elytra black; tarsi 2 and 3 each with spinous process originating from inner apical part of tarsomere 1; AZ, Mexico (Tabasco), El Salvador, Costa Rica .....

..... *Coelocephalapion pallitarse* (Sharp)

- 11A. Elytra bluish in color; femora reddish yellow with apex and base black; Guatemala, Panama .....

..... *Coelocephalapion juno* (Sharp)

Elytra reddish (castaneous); femora light castaneous, not banded with black; Mexico (Veracruz, Oaxaca, Chiapas) .....

..... *Coelocephalapion turnbowi* Kissinger

### *Coelocephalapion nirostrum* Kissinger

new species

(Figures 13-16)

**Holotype.** Male 1.672mm long; 0.883mm wide. Piceous; vestiture sparse, fine, white, nearly uniform. Rostrum 0.512mm long; 1.27 as long as prothorax; surface largely polished, punctures in basal 2/3 bearing fine, apparent scales, arranged in a series of deep sulci and carinae including dorsal submedial carina, dorsal sublateral sulcus, dorsal sublateral carina, ventral sublateral sulcus and ventral sublateral carina; near tip nearly glabrous with individual punctures about 0.018-0.020mm in diameter, not arranged in sulci; in dorsal view not expanded at antennal insertion, more or less evenly, slightly converging to near apical 1/3, in apical 1/3 sides are nearly parallel; in profile slightly curved, nearly parallel in apical 1/3, depressed at tip; male antenna inserted at basal 0.24 of rostrum at distance in front of eye 1.50 width of frons; dorsal margin of scrobe oblique, nearly evenly merging with ventral surface of head. Head with frons 0.082mm wide; 0.82 as wide as dorsal tip of rostrum; with 1 sublateral row of punctures separated by narrow, smooth interval; in profile dorsal margin of head slightly declivitous above posterior margin of eye; subcephalic ridge moderately high, extending past middle of eye. Prothorax 0.402mm long, at base 1.30 as wide as long; basal margin slightly produced laterally, sides nearly parallel to middle, rounded to moderately constricted apex; in profile pronotum slightly convex; pronotal punctures moderately deep, 0.020-0.040mm in diameter, with fine acuminate scales 0.040-0.060mm long; interspaces finely, sparsely alutaceous. Elytra at humeri 1.44 as wide as pronotum base; 2.93 as long as prothorax; 1.33 as long as wide; intervals slightly convex, at middle

more than twice as wide as striae, with 2 rows of scales similar to pronotal scales; striae moderately deep, moderately fine, with scales similar to those on adjacent intervals (may be slightly shorter); intervals 7 and 9 with 1 long sensory seta. Tibiae 2 and 3 each with mucro similar to illustration in Kissinger (1968, fig. 117l, m).

**Paratypes.** Length 1.410-1.900mm; width 0.780-1.080mm. Rostrum of male 0.490-0.550mm long; 1.20 to 1.42 as long as prothorax. Rostrum of female 0.460-0.720mm long; 1.30 to 1.57 as long as prothorax; similar in shape, sculpture and vestiture to male but the more apparent vestiture is restricted to basal 1/3; female antenna inserted at basal 0.32 to 0.46 of rostrum at distance in front eye 1.28 to 1.76 width of frons. Head with frons 0.080-0.090mm wide, 0.92 to 2.01 as wide as dorsal tip of rostrum. Prothorax 0.320-0.460mm long, at base 1.26 to 1.38 as wide as long. Elytra at humeri 1.34 to 1.50 as wide as prothorax at base; 2.80 to 3.36 as long as prothorax; 1.17 to 1.37 as long as wide. Male characters: tibiae 2 and 3 each with mucro about 0.030-0.034mm long, similar to illustration in Kissinger (1968, fig. 17l, m). Median lobe of aedeagus much like *C. carinirostrum* (Fall) except in dorsal view sides are nearly parallel from base to near orifice, and is shortened beyond orifice; in profile tip not curved upward; endophallus lacks distinct sclerotized elements. Tegmen lacks parameroid lobes and macrosetae, with narrow apical region membranous; fenestrae broadly joined medially; tegmen prolonged distad of fenestrae as a sclerotized area; free ring of basal piece fused with terminal plate; basal plate flat.

**Material examined.** Holotype: Mexico: Oaxaca: 1 mi SE Rio Hondo, 22 July 1974; Clark, Murray, Ashe, Schaffner (USNM). Paratypes (137 total). 56, same data as holotype (TAMU, DGKC); 10, Mexico: Oaxaca: 14 mi W Niltepec, 7 July 1971, Clark, Murray, Ashe, Schaffner (TAMU, DGKC); 3, Mexico: Oaxaca: 10.5 mi W Tehuantepec, 22 July 1974; Clark, Murray, Ashe, Schaffner (TAMU); 1, Mexico: Oaxaca: 29 mi NW Tehuantepec, 11 Aug 1971; CW & LJ O'Brien (CWOB); 6, Mexico: Oaxaca: 2.7 mi NW El Cameron, 24-25 July 1973; Mastro & Schaffner (TAMU, DGKC); 1, Mexico: Oaxaca: 32.8 mi NW Jalapa del Marques, 13 July 1971; Clark, Murray, Hart, Schaffner (TAMU); 25, Mexico: Oaxaca: 27 km SW Teopiaco, 18 Sep 1981; Clark & Coe (TAMU, DGK); 1, Mexico: Oaxaca: 2 mi E Juchitan, 100', 3 Jun 1974; CW & L O'Brien & Marshall (CWOB); 6, Mexico: Oaxaca: 14 mi NE Juchitan, 100', 1 Aug 1974; CW & L O'Brien &

Marshall (CWOB, DGKC); 1, Mexico: Oaxaca: 17.4 km W Pinotepa Nacional, 183m, 9-Jul-1987, R Anderson, Acacia scrub 87-12 (CMNC); 9, Mexico: Oaxaca: 47 km E Pochutla, 25m, 13-Jul-1987, R Anderson, 87-17, Acacia-thorn scrub (CMNC, DGKC); 1, Mexico: Chiapas: 14 km NW Comitán, 5500', 15 Aug 1967; HR Burke & J Hafernik (TAMU); 3, Mexico: Chiapas: 13 mi W Tuxtla Gutierrez, 3300', 1 Aug 1974; O'Brien & Marshall (CWOB, DGKC); 3, Guatemala: 6 mi NE El Progreso, 1200', 27 July 1974; CW & L O'Brien & Marshall; on *Mimosa platycarpa* (CWOB, DGKC); 3, Guatemala: 15 mi NW Zacapa, 1000', 25 July 1974; CW & L O'Brien & Marshall (CWOB, DGKC); 1, Guatemala: Zacapa: 9 km W Tocolután, 300m, 3-Jun-1991, R Anderson, acacia thorn-scrub 91-48 (CMNC); 7, Guatemala: Zacapa: 2.6 km SW Rio Hondo, 300m, 2-Jun-1991, R Anderson, thorn scrub 91-46 (CMNC, DGKC).

**Etymology.** A coined name derived from *carinirostrum*, neuter in gender.

This species belongs to the miscellaneous species of *Coelocephalopion* not currently assigned to a species group; it is close to *C. carinirostrum* (Fall) but tarsomere 1 of tarsus 3 of the male is not produced into a spine and in profile the apex of the median lobe of the aedeagus is not produced dorsally.

In Kissinger (1968), "Key to males of species of *Coelocephalopion* occurring in North and Central America", the species traces to couplet 7, which can be changed as follows:

7. Tarsus 3 with tarsomere 1 with inner apical margin produced into a spinelike process; elytra piceous; femur nearly unicolorous, black or yellowish. .... 8  
Tarsus 3 unmodified ..... 7A
- 7A. Elytra bluish in color; femur in part red and black; size greater than 3.0mm; frons narrower than dorsal tip of rostrum; Mexico (Veracruz) to Panama ..... *Apionion latipes* (Sharp)  
Elytra and femur piceous; size less than 2.0mm; frons wider than dorsal tip of rostrum; Mexico (Oaxaca, Chiapas), Guatemala .....  
..... *Coelocephalopion nirostrum* Kissinger

***Coelocephalopion johnsoni* Kissinger**

**new species**

(Figures 3-8)

**Holotype.** Male length 2.014mm long; width 0.804mm wide. Oblong in shape; slightly depressed.

Dark castaneous; femur and tibia except at "knee" light reddish yellow, basal segment of antenna slightly lighter than rostrum. Vestiture fine, white, sparse, uniform, somewhat more apparent surrounding eye. Rostrum 0.402mm long; 0.73 as long as prothorax; alutaceous, finely punctured and clothed with scales (about 0.032-0.042mm long, 0.006-0.009mm wide, coarser scales near base) to near tip, in profile slightly curved, slightly narrowed from antennal insertion to apex; in dorsal view sides parallel at base, tapered to apex; antenna inserted at basal 0.30 of rostrum at distance in front of eye 0.87 width of frons; dorsal margin of scrobe evenly descending. Head with frons 0.137mm wide, 1.07 as wide as dorsal tip of rostrum, flat, several irregular rows of punctures; in profile dorsal margin of head declivitous above posterior margin of eye; subcephalic ridge high, extends past middle of eye, open toward base of head. Prothorax 0.548mm long, at base 1.03 as wide as long; pronotum lacks basal lateral expansions, sides slightly diverge to widest point near middle, rounded to slightly constricted apex; punctures 0.018-0.027mm in diameter, moderately deep, dense, bearing scales 0.027-0.036mm long, do not project much beyond rim of puncture, interspaces generally 0.5 diameter of punctures, finely alutaceous; basal fovea short, narrow, moderately deep. Elytra at humeri 1.61 as wide as pronotum base; 2.36 as long as prothorax; 1.61 as long as wide; intervals 2-3X striae, flat, with 1 or 2 rows of scales similar to those on pronotum but blunter on apex; interval 9 with 1 long sensory seta near apex; striae coarse, deep, scales much finer and shorter than those on intervals; on apex join 1+9, 2, 3+4, 5+6, 7+8. Tibia 2 with small mucro dentate on ventral surface; tarsus 3 with tarsomere 1 with inner apical margin produced into small lobe.

**Paratypes.** Length 1.710-2.200mm; width 0.800-1.020mm. Rostrum of male 0.350-0.420mm long; 0.72-0.86 as long as prothorax; male antenna inserted at basal 0.28-0.33 of rostrum at distance in front of eye 0.73-0.96 width of frons. Rostrum of female 0.490-0.580mm long; 1.00-1.08 as long as prothorax; very finely alutaceous, with fine punctures extending to apex, behind antennal insertion with distinct scales shorter and finer (around 0.027mm long) than those surrounding eye, punctures to near tip with minute scales appearing as "stubble"; in profile slightly curved, very slightly tapered from antennal insertion to apex; in dorsal view not expanded at antennal insertion, sides parallel in apical third; female antenna inserted at basal 0.24-0.30 of rostrum at distance in front of eye

0.93-1.12 width of frons; dorsal margin of scrobe evenly descending. Head with frons 0.109-0.155mm wide; 0.73-1.12 as wide as dorsal tip of rostrum. Prothorax 0.400-0.550mm long; at base 1.10-1.27 as wide as long. Elytra at humeri 1.21-1.40 as wide as prothorax at base; 2.44-2.83 as long as prothorax; 1.36-1.54 as long as wide. Median lobe of aedeagus in lateral view slightly curved, beyond orifice area slightly curved upward and strongly curved downward, apex produced slightly on dorsal aspect; in dorsal view sides converge slightly from base to orifice area, rounding to moderately wide, broadly rounded apex; posterior apophyses lost in dissection; endophallus without distinct sclerotized elements, with area densely filled with microtrichae and small granule-like structures. Tegmen parameroid lobes membranous, short, clothed with microtrichae, with pair of macrochaetae about 0.012mm long (about as long as microtrichae but with distinct socket); sclerotization not clearly indicated in dissection, fenestrae seem to be separated medially; free ring of basal piece fused with basal plate; basal plate with high, thin, median crest-like structure. (Specimen dissected was teneral.)

**Material examined.** Holotype. Panama: Canal Area: Barro Colorado Nat Mon, Gigante Peninsula, 4-Jun-1992, Fog #8, Coll John E Tobin (HPSC in USNM). Paratypes (84 total). 2, same data as holotype (HPSC, DGKC); 42, Panama: Canal Area: Barro Colorado Nat Mon, Gigante Peninsula, 18-Jun-1992, J Tobin (HPSC, DGKC); 3, Panama: Canal Area, Barro Colorado Island, 1-Mar-1983, R Foster, reared from fruit *Vatairea erythrocarpa* (HPSC, DGKC); 1, Panama: Canal Area: Barro Colorado Is, UV trap 3 (26m high), 7-May-1980, H Wolda (CWOB); 36, Panama: Canal Area: Barro Colorado Is, Corner Armour & Conrad Trails; Apr-1980, CD Johnson; reared seeds no 2312-80, reared seeds *Vatairea? erythrocarpa* (NAUF, DGKC).

**Etymology.** Named in honor of Dr. C. D. Johnson.

This species belongs to the *bryanti* species group, the members of which are characteristically rhomboid in form, with male tibia 2 not mucronate, and with the basal plate of the paramere flat. In contrast, *C. johnsoni* is oblong and somewhat depressed in form, male tibia 2 is mucronate, and the basal plate of the paramere has a high median crista.

There seems to be some confusion regarding the name of the apparent host plant of this species. There are two collections reared from seeds/fruit of

*Vatairea erythrocarpa* Ducke from Barro Colorado Island. Regarding the determination of this plant species from Barro Colorado Island, Croat (1978) states "The determination is doubtful, because the species has been known only from Brazil"; "Sterile collections by Folsom and Croat are presumably leaves of this species, which represents a new genus for the island's flora."; "The leaves and twigs of this species are indistinguishable from *Pterocarpus officinallis*, making sterile determination impossible." Presumably the seeds/fruit from which the collections were reared made the host plant identification more certain.

In Kissinger (1968), "Key to males of species of *Coelocephalopion* occurring in North and Central America", the species traces to couplet 3, which can be changed as follows:

- |     |  |    |
|-----|--|----|
| 3.  | Tibia 3 mucronate .....  | 4  |
|     | Tibia 3 unmodified .....   | 3A |
| 3A. | Elytra dark blue; length of insect 4.8-5.5mm.; tarsi unmodified; Belize to Panama .....                          |    |
|     | ..... <i>Apionion samson</i> (Sharp)   |    |
|     | Elytra dark castaneous; length of insect 1.7-2.1mm.; tarsus 3 tarsomere 1 produced into small lobe; Panama ..... |    |
|     | ..... <i>Coelocephalopion johnsoni</i> Kissinger   |    |

***Coelocephalopion tellum* Kissinger  
new species  
(Figures 1,2)**

**Holotype.** Male 1.805mm long; 0.713mm wide. Dark piceous; vestiture white, fine, sparse, somewhat coarser near base of elytral disk and around eye. Rostrum 0.548mm long, 1.22 as long as prothorax; in profile slightly curved, sides nearly parallel in apical 0.5; in dorsal view not expanded at antennal insertion, sides parallel in apical 0.5; polished distad of antennal insertion, with moderately deep punctures 0.009-0.018mm in diameter occurring to near tip, distad of antennal insertion with sparse scales 0.018-0.027mm long, 0.005-0.010mm wide, apical 0.5 with minute scales; antenna inserted at basal 0.23 of rostrum at distance in front of eye 1.28 width of frons, dorsal margin of scrobe evenly descending. Head with frons 0.100mm wide; 0.95 as wide as dorsal tip of rostrum; finely, sparsely, irregularly punctured, finely alutaceous; eye surrounded by 1 row of scales 0.035-0.046mm long, 0.009-0.012mm wide; in profile dorsal margin of head slightly declivitous above posterior margin of eye, subcephalic ridge

high; ventral surface of head in region of posterior margin of eye produced laterally as in figure. Prothorax 0.448mm long, at base 1.18 as wide as long; pronotum with indistinct basal lateral expansion, sides nearly parallel in basal 0.33, rounded to non-constricted apex, punctures shallow, sparse, 0.009-0.018mm in diameter, interspaces broad, finely alutaceous, scales 0.027-0.046mm long, about 0.007-0.009mm wide (generally finer than scales around eye), becoming slightly coarser on sides of prothorax; basal fovea indistinct, broad. Elytra at humeri 1.62 as wide as pronotum base; 2.71 as long as prothorax; 1.71 as long as wide; at middle intervals about 3X striae, flat, with 1 sometimes irregular row of scales, in basal 0.2 intervals 1-5 with sparse scales similar in coarseness to those surrounding eye, rest of dorsum of elytra with scales that may be finer and shorter than those on pronotum (posterior 0.67 of elytral dorsum may appear nearly glabrous); interval 9 with 1 long sensory seta near apex; striae coarse, deep, on dorsum of elytra scales generally less apparent than those on intervals, on apex join 1+9, 2, 3+4, 5+6, 7+8. Legs lack special characters.

**Paratypes.** Length 1.900-2.050mm; width 0.930-1.060mm. Rostrum of male 0.620-0.640mm long; 1.30-1.33 as long as prothorax. Rostrum of female 0.690-0.770mm long; 1.46-1.62 as long as prothorax; similar to male except scales minute distad of antennal insertion; female antenna inserted at basal 0.21-0.22 at distance in front of eye 1.42-1.49 width of frons. Head with frons 0.100-0.110mm wide, 0.78-0.99 as wide as dorsal tip of rostrum. Prothorax 0.470-0.480mm long; at base 1.12-1.23 as wide as long. Elytra at humeri 1.34-1.41 as wide as prothorax at base; 2.72-3.04 as long as prothorax; 1.36-1.44 as long as wide. Median lobe of aedeagus depressed, in dorsal view width at base 0.090mm, at orifice 0.099mm, narrowed from orifice to broadly rounded apex, at apex 0.045mm wide; in lateral view apex not produced; endophallus with 2 pairs of rows of sclerites, outer row with 9, inner with 1-3 sclerites; maximum length of sclerite in either row about 0.037mm. Tegmen similar to *Coelocephalapion frontellum* (Fall).

**Material examined.** Holotype. Mexico: Nuevo Leon: 7.5 mi S Monterey, 21-Mar-1974, JC Schaffner, larvae ex blooms *Acacia farnesiana* (USNM). Paratypes (51 total). 21, same data as holotype (TAMU, DGKC); 1, same locality, 17-Mar-1975, Clark & Schaffner (TAMU); 7, Mexico: Puebla: 11.8 mi NW Izucar de Matamoros, 13-July-1974, Clark, Murray, Ashe, Schaffner (TAMU,

DGKC); 9, Mexico: Puebla: 16 mi NW Acatlan, 14-July-1974, Clark, Murray, Ashe, Schaffner (TAMU, DGKC); 3, Mexico: Oaxaca: 10 mi N Miltepec, 15-16-July-1971, Clark, Murray, Hart, Schaffner (TAMU, DKC); 1, Mexico: Oaxaca: 5.5 mi NE Huajuapán de Leon, 14-July-1974, Clark, Murray, Ashe, Schaffner (TAMU); 1, Mexico: Veracruz: 1 mi W Papantla, 28-Jun-1971, Clark, Murray, Hart, Schaffner (TAMU); 2, Mexico: Veracruz: Hidalgo: 4 km NE Jacal, 2750' 4-Jun-1987, R Turnbow (Turnbow, DGKC); 1, Mexico: Tamaulipas: N of Victoria, Rio Corona, 17-Apr-1984, JA Jackman (TAMU); 3, Mexico: Morelos: km 115 9 mi S Cuautla, 1-July-1969, HA Hesperheide (CHAH, DGKC); 1, Texas: Uvalde Co, Concan, Neal's Lodge area, 8-9 Apr 1995, EG Riley (TAMU); 1, Texas: Hidalgo Co, Bentson, R Grande St Pk, 23-24 Mar 1978, EG Riley (TAMU).

**Etymology.** A coined name based on truncation of *frontellum*, neuter in gender.

This species belongs to the *frontellum* species group. The species is very similar to *Coelocephalapion frontellum* (Fall) differing especially by the collar like process on the ventral side of the head; *C. frontellum* (Fall) has the ventral lateral surface of the head evenly rounded. *Coelocephalapion tellum* Kissinger can be placed in the "Key to males of species of *Coelocephalapion* occurring in North and Central America" in Kissinger (1968) as follows:

65. Apex of prothorax not constricted in dorsal view; vestiture slightly coarser at base of elytra than at middle; paramere flat at base; endophallus with sclerites over 0.020mm long..... 65A  
 Apex of prothorax constricted in dorsal view; elytral vestiture nearly uniform in coarseness; antenna insert at basal 0.19 of rostrum; paramere with very high basal median crista; endophallus with 2 rows of teeth up to 0.012mm long; Panama ..... *Coelocephalapion aegrotum* (Sharp)
- 65A. Ventral surface of head near posterior margin of eye constricted and produced into a ridge projecting out from posterior region of subcephalic ridge; endophallus sclerites as long as 0.037mm; TX, Mexico (Nuevo Leon, Tamaulipas, Puebla, Morelos, Veracruz, Oaxaca) .....  
 ..... *Coelocephalapion tellum* Kissinger  
 Ventral surface of head not constricted and produced; endophallus sclerites do not exceed 0.022mm; AZ, TX, Mexico (Chihuahua).....  
 ..... *Coelocephalapion frontellum* (Fall)

**Genus *Apionion* Kissinger**

***Apionion bettyae* (Kissinger)  
new combination**

*Apion bettyae* Kissinger, 1968: 67 is transferred to *Apionion* Kissinger from *Trichapion*. The species has been reared from *Lonchocarpus* sp. (Fabaceae) (Whitehead, *in litt.*).

***Apionion opetion* Kissinger  
new species  
(Figures 45, 46)**

**Holotype.** Male, 4.066mm long; 1.810mm wide. Piceous, elytra lighter reddish piceous. Vestiture white to yellowish off-white, coarse, noticeable but sparse; white, coarser, more apparent laterally. Rostrum 0.850mm long; 0.73 as long as prothorax; stout, surface alutaceous, distinctly punctate, bearing scales 0.063-0.081mm long by 0.008-0.012mm wide, apical 0.1 surface smoother, punctures finer, relatively glabrous; in profile nearly straight, sides of basal 2/3 nearly parallel, in apical 1/4 distinctly, abruptly narrowed, especially from dorsal margin; in dorsal view widened slightly from base to insertion of antenna, gradually, evenly narrowed to rather broad apex; antenna inserted at basal 0.28 of rostrum at distance in front of eye 1.31 width of frons; dorsal margin of scrobe evenly descending, broadly, slightly rounded near eye, evenly merging with subcephalic ridge below eye. Head with frons 0.182mm wide, 0.64 as wide as dorsal tip of rostrum; with irregular central row of several deep punctures 0.027-0.032mm wide that may be coalesced to form the suggestion of a sulcus, with lateral row of several deep punctures 0.030-0.045mm wide, excluding the punctures immediately adjacent to eye, there may be 2 or 3 somewhat irregular rows of these punctures; in profile dorsal margin of head broadly declivitous above posterior margin of eye; subcephalic ridge high, extend beyond posterior margin of eye, forms deep excavation which can receive the first 3-4 antennomeres. Prothorax 1.170mm long, at base 1.02 as wide as long; with slight basal lateral expansion, sides somewhat expanded toward middle, middle about equal to width at base, broadly rounded to constricted apex; punctures 0.036-0.072mm in diameter, deep, bearing scales similar to those on base of rostrum; interspaces narrow, cariniform, alutaceous; basal fovea irregular, broad. Elytra at humeri 1.38 as

wide as pronotum base; 2.27 as long as prothorax; 1.47 as long as wide; intervals at middle of elytra nearly 2X striae, surface concave, finely alutaceous, punctures distinct but shallow, with scales similar to those on pronotum; interval 7 and 9 with 1 long sensory seta, may be doubled on interval 9; striae coarse, deep, with scales similar to those on adjacent interval, on apex join 1+2+9,3+4,5+6,7+8. Tibia 2 mucronate, mucro projects in line with long axis of tibia, about 0.090mm long; tarsus 3 tarsomere 1 with inner angle produced into broad process about 0.090mm long.

**Paratypes.** Length 3.515-4.370mm; width 1.572-2.011mm. Rostrum of male 0.768-0.877mm long; 0.71-0.80 as long as prothorax; male antenna inserted at basal 0.24-0.40 of rostrum at distance in front of eye 1.05-2.01 width of frons. Rostrum of female 0.932-1.280mm long, 0.98-1.05 as long as prothorax; relatively more slender than male, in basal 1/4 finely alutaceous, smoother apically, in basal 3/4 coarsely punctured, near tip punctures much smaller; in basal 1/4 with scales similar to male, toward apex scales shorter and finer, around tip scales minute but present; in profile slightly curved especially on dorsal surface, sides slightly converging from base to apical 0.2, more strongly narrowed near apex, especially from dorsal surface; in dorsal view broadly, slightly widened to insertion of antenna, apical third nearly parallel sided; female antenna inserted at basal 0.21 of rostrum at distance in front of eye 1.20-1.47 width of frons. Head with frons 0.160-0.201mm wide; 0.64-0.85 as wide as dorsal tip of rostrum. Prothorax 0.951-1.216mm long, at base 1.02-1.17 as wide as long. Elytra at humeri 1.01-1.46 as wide as pronotum base; 2.22-2.50 as long as prothorax; 1.35-1.48 as long as wide. Median lobe of aedeagus and tegmen very similar to description for *Apionion bettyae* (Kissinger) in Kissinger (1968).

**Material examined.** Holotype. Mexico: Chiapas: Pq. Nac. Sumidero, 1000m, 25-May-1990, H & A Howden, DGKissinger measured 00464 (HAHC). Paratypes (14 total). 12, same data as holotype, some "on flowers" (HAHC, DGKC); 1, Mexico: Chiapas: Pq. Nac. Sumidero, Coyota Mirador, 1700m, 21-Jun-1969, H Howden, (HAHC); 1, Mexico: Chiapas: Jct Hwys 190-195, 6-Jun-1969, HF Howden (HAHC).

**Etymology.** Based on Greek word (neuter, diminutive) for awl, in reference to the slender median lobe of the aedeagus.

Species groups have not been defined for *Apionion*. The two species, *Apionion bettyae*



(Kissinger) and *A. opetion* Kissinger, are very similar in structure; they are not especially close to any other apionid. In both species the articulation between the free ring of the basal piece and the tegminal plate is not well developed. In addition to characters summarized in the key, *A. opetion* tends to have the vestiture of the pronotum and elytra slightly shorter (about 0.070mm) and somewhat straighter than *A. bettyae* where the scales are about 0.100mm long and somewhat curved or curly; the situation is clouded because *A. bettyae* is known to me by a single paratype. *Apionion opetion* Kissinger is distinguished by the large, broad process on tarsomere 1 of tarsus 3 of the male; it can be placed in the modification of the "Key to males of species of *Coelocephalapion* occurring in North and Central America" of Kissinger (1968) given by Kissinger (1998) as follows:

3. Tibia 3 mucronate ..... 4  
 Tibia 3 not mucronate ..... 3A
- 3A. Elytra dark blue; femur bicolored, black and light red; length 4.8-5.5mm.; Belize to Panama .....  
 ..... *Apionion sampson* (Sharp)  
 Femur not bicolored; length less than 4.5mm .....  
 ..... 3B
- 3B. Pronotum dark reddish, punctures separated by distance about 1/2 width; subcephalic ridge low; frons distinctly wider than dorsal tip of rostrum; basal plate of tegmen with high basal crista; Mexico (Nayarit, Chiapas), Honduras, El Salvador ..... *Apionion humongum* Kissinger  
 Pronotum piceous, interval between punctures cariniform; subcephalic ridge high; frons narrower than dorsal tip of rostrum; basal plate of tegmen flat ..... 3C
- 3C. Tarsus 3 tarsomere 1 unmodified in male; elytra and pronotum similar color; sides of pronotum in front of basal flange converge slightly, middle distinctly narrower than base; frons sulcus deep-

er, wider, better defined; Mexico (Puebla) .....  
 ..... *Apionion bettyae* (Kissinger)  
 Tarsus 3 tarsomere 1 with broad projection on inner apical angle; elytra usually redder than pronotum; sides of pronotum in front of basal flange expand slightly so width at middle about the same as at base; frons sulcus poorly defined if present; Mexico (Chiapas) .....  
 ..... *Apionion opetion* Kissinger

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