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Corrections and additions to the Hydnocerina (Coleoptera: Cleridae: Clerinae: Hydnocerini) of Mexico

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Corrections and additions to the Hydnocerina (Coleoptera: Cleridae: Clerinae: Hydnocerini) of Mexico

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Abstract. Corrections, additions and remarks are made with respect to the recent checklist of the Cleridae (Coleoptera) of Mexico (Araujo-Castillo et al. 2024). Current valid names, synonymies, clarifications of taxonomic problems, and omitted taxa are reviewed. This work is intended to serve as a supplement to the "Hydnocerinae" section of the checklist.

Key words. *Isohydnocera*, *Phyllobaenus*, *Madoniella, Wolcottia*, Hydnocerinae, checklist.

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Introduction

The taxonomy of the species within the genera *Phyllobaenus* Dejean and *Isohydnocera* Newman is plagued with historical errors. Many species have been misassigned to the wrong genera on the basis of gestalt, ignoring the published diagnostic characters of their respective genera. More elongate species of *Phyllobaenus* with narrow elytra are frequently confused with *Isohydnocera*, despite their otherwise obvious difference in tarsal claw morphology. Yet some species possess simple tarsal claws (as in *Isohydnocera*) while also possessing more "classically coleopterous" elytral forms (e.g., *I. albocincta* (Horn, 1871)*, I. cryptocerina* (Gorham, 1883)*, P. corticinus* (Gorham, 1883)) which coincide more with the broad concept of *Phyllobaenus*, defined by its dentate tarsal claws and not by elytral form (Leavengood et al. 2012).

With much study, it has become obvious that many species need to be reassigned to their "correct" genera, whereas other groups of species await eventual placement in yet undescribed genera in order to reconcile the composition of the aforementioned genera. As part of this task, these genera will need to be redefined, a task that is only barely underway with the erection of *Tarsobaenus* Leavengood, Pinkerton and Rifkind (Leavengood et al. 2022) as the first new genus to blossom from the polyphyletic taxonomic waste bin of *Phyllobaenus*.

A recent contribution to our knowledge of checkered beetles accomplished the great task of assembling literature to form a checklist of the Cleridae of Mexico (Araujo-Castillo et al. 2024). However, the historic web of synonymy, confusing generic assignments, unclear generic limits, and complete lack of comprehensive reviews or revisions within the Hydnocerina has resulted in several errors in Araujo-Castillo et al.'s (2024) work. The purpose herein is to correct such errors, contribute additional comments, and include omitted species in order to facilitate further contributions to our knowledge of the Mexican fauna of the subtribe Hydnocerina.

Materials and Methods

Corrections were made using the available literature on the subject, along with the author's notes and specimen image collection.

The following collection codens refer to the associated depositories:

GEKI Ginter Ekis, personal collection
MNHN Muséum National d'Histoire Naturelle, Paris, France
WOPC Weston Opitz, personal collection

Results and Discussion

Corrections

In the following section, the taxon presented in bold is that of Araujo-Castillo et al. (2024). The following remarks address the issues pertaining to each species as they were presented in Araujo-Castillo et al. (2024).

***Isohydnocera lateralis* (Gorham, 1871).** *Phyllobaenus lateralis* (Gorham, 1883) has never been associated with the genus *Isohydnocera*, nor should it, given its gross morphology. Araujo-Castillo et al. (2024) erroneously misrepresent the species as *Isohydnocera*, incorrectly cite the authority from a publication that does not exist ("Gorham 1871"), and present the distribution without mention of the type locality in Panama or distribution of *P. chapini* (Wolcott, 1927) (a junior synonym) in Texas. Because no authority on this group was consulted and no image of the specimen was presented, identification of the published Veracruz record is questionable.

***Isohydnocera subvittata* (Gorham, 1840).** *Phyllobaenus subvittatus* (Gorham, 1883) has never been associated with the genus *Isohydnocera*, nor should it, given its gross morphology. Araujo-Castillo et al. (2024) erroneously misrepresent the species as *Isohydnocera*, incorrectly cite the authority from a publication that does not exist ("Gorham 1840"), and present the distribution without knowledge of the type series localities (Leavengood and Garner 2014). Because no authority on this group was consulted and no image of the specimen was presented, identification of the published Chiapas record is questionable.

***Phyllobaenus erythrocephalus* (Gorham, 1871).** *Madoniella erythrocephala* (Gorham, 1882) was described in *Phyllobaenus*, many species of which at the time of Blackwelder's (1957) checklist actually belong in *Madoniella* Pic. Araujo-Castillo et al. (2024) erroneously misrepresent the species as *Phyllobaenus* and incorrectly cite the authority from the wrong publication ("Gorham 1871").

***Phyllobaenus furcatus* (Gorham, 1886).** This species is a junior synonym of *P. discoideus* (LeConte, 1851) (Horn 1894; Corporaal 1950; Döbler 1982; Leavengood and Garner 2014). Araujo-Castillo et al. (2024) erroneously overlooked its synonymy.

***Phyllobaenus inusitatotibialis* Leavengood and Rifkind, 2020.** Leavengood and Rifkind (2020) did not report this species from Mexico, as was erroneously presented in Araujo-Castillo et al. (2024).

***Phyllobaenus lateralis* (Gorham, 1883).** The information presented in Araujo-Castillo et al. (2024) should be combined with their entry for "*Isohydnocera lateralis*" (the same species).

***Phyllobaenus omogerus* (Hornet [sic], 1894).** *Phyllobaenus omoger* (Horn, 1894) is presented with the species and the authority misspelled in Araujo-Castillo et al. (2024).

***Phyllobaenus punctatus* (Gorham, 1882).** *Hydnocera punctata* Spinola, 1844 is a junior synonym of *Phyllobaenus unifasciatus* (Say, 1825). However, Araujo-Castillo et al. (2024) is actually referring to *Madoniella punctata* (Gorham, 1882), which was originally described in *Epiphloeus* Spinola and subsequently reassigned to *Phyllobaenus* and *Phlogistosternus* Wolcott (Opitz 2011).

***Phyllobaenus villosus* (Schenkling, 1908).** This species is a junior synonym of *P. longus* (LeConte, 1884) (Leavengood and Garner 2014). Araujo-Castillo et al. (2024) erroneously overlooked its synonymy.

Omissions

Isohydnocera mima Wolcott, 1928 (Papp 1960: 80).
Phyllobaenus cyanipennis (Gorham, 1883) (Schenkling 1906: 304).
Phyllobaenus marginatus (Gorham, 1883) (Schenkling 1908: 701).
Phyllobaenus turnbowi Leavengood, 2020 (Leavengood 2020: 4).

Araujo-Castillo et al. (2024) did not include these species in their checklist. They are known to occur in Mexico. Regarding *Phyllobaenus marginatus* (Gorham, 1877), it is unclear whether Gorham's nominal type or the

variation *atriceps* (Pic, 1933) was being recorded from Mexico in Schenkling (1908). Because they were placed under Hydnocerinae (now Hydnocerini; Bartlett 2021) instead of Epiphloeinae (now Korynetinae; Gimmel et al. 2019), *Madoniella erythrocephala* (Gorham, 1882) and *M. punctata* (Gorham, 1882) should be added to the species of *Madoniella* Pic in Araujo-Castillo et al. (2024).

Unverified Distributions

Many Mexican distributions presented in Araujo-Castillo et al. (2024) were based on the personal specimen database of Jacques Rifkind (treated as "Rifkind 2022a"). Data presented in the material examined includes specimens from the GEKI (Ginter Ekis personal collection), a collection coden not used by Weston Opitz (the very same person by a different name) since before 1997. The WOPC had been completely donated to museums by 2020. So, some identifications that were made at least 27 years ago, before any of Leavengood and co-authors' nomenclatural work on the group, are being submitted as valid, authority-identified, vetted records. This is not practical with the resources available today.

Experts on the group were not consulted, voucher information was not provided, nor were there images to verify the identity of these putative new distributional records. The nature of the issues presented above in the Corrections section are illustrative of a distinct lack of experience with the literature and the taxonomic group in question. As such, any distributional records not previously cited in the literature (excluding "Rifkind 2022a") should all be considered of highly questionable veracity. For example, *Isohydnocera albocincta* (Horn, 1871) should not yet be considered confirmed as occurring in Mexico (Araujo-Castillo et al. 2024). There are simply too many similar species (both described and undescribed) and too much intraspecific variation for one to make authoritative identifications without a revisionary knowledge of the group, even with authority-identified material on hand. Too many taxonomists, including clerid taxonomists specifically, have made too many incorrect identifications to be making such identifications in the absence of such revisionary knowledge and thorough experience with the type material.

Additional Notes

***Phyllobaenus cinctus* (Spinola, 1844).** This species belongs to a group a very similar species throughout Central and South America that cannot be confidently identified without revision (most likely through exhaustive dissection work). This is perhaps the most confounding species group in *Phyllobaenus*, including such species as *P. albofasciatus* (Lucas, 1857), *P. femoralis* (Chevrolat, 1876) and *P. ischion* (Chevrolat, 1876), two of which are represented only by long lost types. Historic distributions of the species, excepting the type locality, should be considered unverified.

***Phyllobaenus grandjeani* (Pic, 1945).** There are no specimens by this name in the MNHN. Loan records were consulted (A. Mantilleri, pers. comm.) and there is no evidence that this specimen was ever borrowed. There is indeed a space where a specimen by this name "once was" in the MNHN. I have never encountered any specimens identified as this species from any collection. While not a unique case for species south of the United States, the only references citing this species have been checklists which have added no additional data (Corporaal 1950: 59; Blackwelder 1957: 1416; Papp 1960: 79; Barr 1975: 12). I suspect this was borrowed (unbeknownst that it was a type) by Opitz or Barr perhaps decades ago. I likewise suspect that this type specimen may have been accidentally sorted among another species—obviously without recognizing Pic's often illegible handwritten name-bearing labels—and that the label had since been somehow separated from the specimen, if it hadn't prior to this misplacement. Of course, as with *Madoniella* species (see Omissions section), some species are subsequently re-assigned to their correct and very unrelated genus. However, it is not believed that this species may belong to a different genus and subsequently re-assigned accordingly because, in his description, Pic compares this species to *P. trichrous* (Gorham, 1883) (spelled "*trichroa*" in the original text). Based on its description, this is likely very similar to such species as *P. wickhami* (Wolcott, 1908) and *P. trichrous*. Lastly, and most suspicious, is that Barr (2001, unpublished) did not include this species as had all catalogers before him, nor did Barr have the type (or any specimen) with this name photographed in his slide collection.

***Phyllobaenus quadrilineatus* (Chevrolat, 1874).** There are no specimens by this name in the MNHN. This is however a name label "*quadrilineata* 1874 Chevr." and a vacant pin hole (of the hard-bottom specimen box) indicating that there once was a specimen by this name. My suspicions are as above (in *P. grandjeani* comments), except for the comparison to *P. trichrous* and *P. wickhami*.

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