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Characterization of the genus *Hernandarioides* F.O. Pickard-Cambridge, 1905 (Opiliones, Gonyleptidae, Ampycinae)

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Frederick Octavius Pickard-Cambridge (1905) described the monotypic genus *Hernandarioides* based on the species *Hernandarioides plana* F.O. Pickard-Cambridge, 1905, from Bugaba, Panama. The etymology of the generic name was inspired by the pre-existing *Hernandaria* Sørensen, 1884, because of the obliteration of the scutal grooves (which in this case is a convergence between the two unrelated groups Ampycinae and Hernandariinae). The species description was based only on the female holotype. Modern taxonomic descriptions of laniatorean harvestmen are most commonly based upon male holotypes because females lack many diagnostic characters. The holotype, deposited in the Natural History Museum, London, is brittle and does not bring much meaningful information about the species. *Hernandarioides* was not originally included in any subfamily of Gonyleptidae, and was included by Roewer (1913: 464) in the Hernandariinae. Goodnight & Goodnight (1942: 18) described in Prostyginae the monotypic genus *Kaluga* along with the species *Kaluga elongata* Goodnight & Goodnight, 1942, from Casita Alta, a locality very close to Bugaba, providing uninformative illustrative material. A little later, Goodnight & Goodnight (1947: 15) synonymized *Kaluga* with *Hernandarioides* and *Kaluga elongata* with *Hernandarioides plana*. Kury (2003: 105) proposed the unjustified emendation *Hernandarioides planus*. Finally Kury & Alonso-Zarazaga (2011: 53) transferred the genus to the Ampycinae and explained that the grammatical gender of *Hernandarioides* is feminine, reestablishing the original inflection *Hernandarioides plana*.

Now, based on fresh material collected near the type locality in Panama, *Hernandarioides plana* is redescribed with a modern and more extensive array of characters. Since *Kaluga elongata* was also based solely on a female, this is the first characterization of the male of this species.

Terminology of color follows Kury & Orrico (2006), scutal shapes follow Kury et al. (2007). Abbreviations of the repositories cited are: AMNH (American Museum of Natural History, New York), BMNH (The Natural History Museum, formerly British Museum (Natural History), London), MIUP (Museo de Invertebrados G.B. Fairchild de la Universidad de Panama). Abbreviations used: CL = carapace length, CW = carapace width, AL = abdominal scutum length, AW = abdominal scutum width, Tr = trochanter, Fe = femur, Pa = patella, Ti = tibia, Mt = metatarsus, Ta = tarsus. Measurements are in millimeters.

Genus *Hernandarioides* F.O. Pickard-Cambridge, 1905

Hernandarioides F.O. Pickard-Cambridge 1905: 573; Goodnight & Goodnight 1947: 15; Kury 2003: 105; Kury & Alonso-Zarazaga 2011: 53 [type species: *Hernandarioides plana* F.O. Pickard-Cambridge, 1905, by original designation].

Kaluga Goodnight & Goodnight 1942: 18 [junior subjective synonym of *Hernandarioides* F.O. Pickard-Cambridge, 1905 by Goodnight & Goodnight (1947: 15); type species: *Kaluga elongata* Goodnight & Goodnight, 1942, by original designation].

Diagnosis. Dorsal scutum unarmed; free tergite II with prominent medial spiniform apophysis; leg IV coarsely granular, but without further conspicuous armature; metatarsus IV incrassate. Male genitalia: ventral plate elongate, with V-shaped apical cleft, armed laterally with two pairs of asymmetrical latero-proximal macrosetae and one or two pairs of latero-distal macrosetae; follis cubic, as wide as truncus; stylus sinuous, without marginal serrations.



FIGURES 1–5. *Hernandarioides plana* F.O. Pickard-Cambridge, 1905. ♂ (MIUP AK 004), from Jurutungo. 1. Habitus, dorsal view; 2. Body, lateral view; 3. Free tergites and sternites, posterior view; 4. Left leg IV, dorso-retrolateral view; 5. Habitus, frontal view. Scale bars = 1 mm.

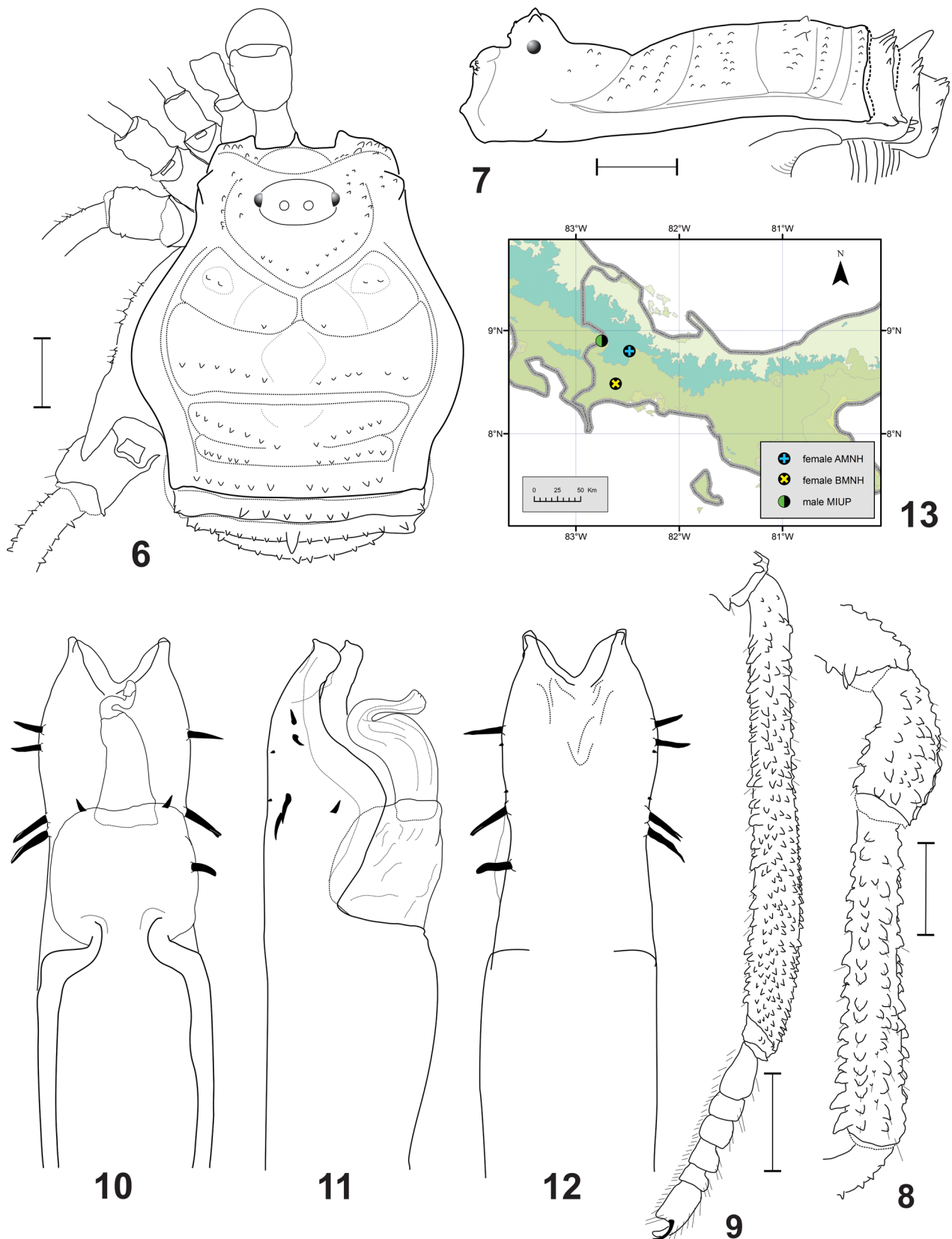
***Hernandarioides plana* F.O. Pickard-Cambridge, 1905**

Hernandarioides plana F.O. Pickard-Cambridge 1905: 574, pl. 54 figs. 1–1a; Kury & Alonso-Zarazaga 2011: 53.

Hernandarioides planus [unjustified emendation]: Kury 2003: 105.

Kaluga elongata Goodnight & Goodnight 1942: 18, fig. 33 [junior subjective synonym of *Hernandarioides plana* F.O. Pickard-Cambridge 1905 by Goodnight & Goodnight (1947: 15)].

Type data. *Hernandarioides plana*: ♀ holotype (BMNH, examined), from Panama, Bugaba. *Kaluga elongata*: ♀ holotype (AMNH, not examined), Panama, Chiriqui. Casita Alta.



FIGURES 8–13. *Hernandarioides plana* F.O. Pickard-Cambridge, 1905. ♂ (MIUP AK 004), from Jurutungo. 6. Habitus, dorsal view; 7. Habitus, lateral view; 8. Left Mt-Ta IV, prolateral view; 9. Left Pa-Ti IV, prolateral view. Penis, distal part: 10. Dorsal view; 11. Lateral view; 12. Ventral view; 13. Western Panama, showing the three localities of the specimens of *H. plana* cited in the literature. Scale bars = 1 mm.

Other material examined. 1 ♂ (MIUP AK 004) from Panama, Prov. Chiriquí: Jurutungo, Parque Internacional La Amistad (PILA), Distrito Renacimiento, 1800–2110 m, 13–16 March 2006, R.Miranda leg. See map in Fig. 13.

Description, male (MIUP AK 004). Measurements. CL = 2.1, CW = 3.0, AL = 3.0, AW = 4.7. Appendages: Fe I = 1.8, Ti I = 1.6, Fe II = 3.1, Ti II = 2.0, Fe III = 2.9, Ti III = 2.1, Fe IV = 4.4, Ti IV = 2.4. **Dorsum.** Dorsal scutum gamma-shaped, widest at area II (Figs. 1, 6). Mesotergum divided into 4 ill-defined areas, areas 3–4 partially fused to each other (Fig. 6). Areas with transverse rows of small setiferous tubercles (Figs. 6, 7). Free tergites I–III each with a row of acuminate setiferous tubercles, free tergite II with central spine much larger than the others (Figs. 6, 7). **Venter.** Free sternites, stigmatic area and coxae II–IV irregularly covered with minute granules. Coxa I with 1 row of robust setiferous tubercles plus some scantily placed. Stigmatic area attenuate Y-shaped, stigmata small. Coxae I–III oriented transversely, coxa IV oblique. **Pedipalpus.** Articles only moderately elongate. Trochanter with 1 ventral setiferous tubercle; femur with a ventral row of 3 small setiferous tubercles; patella unarmed. Tibia-Tarsus flattened ventrally, each with 2 rows of spines: ventro-mesal and ventro-ectal. **Legs.** Femora I–II straight, III–IV arched (Fig. 1). Podomeres I–IV without significant armature. Metatarsus I with calcaneus thickened. Femora III and IV (latter larger) arched, each with 2 rows of pointed tubercles, ventro-ectal and ventro-mesal. Tibia III with 2 ventral rows of setiferous tubercles. Coxa IV with dorso-lateral uniramous spiniform apophysis, pointed backwards. Trochanter IV short, with short retroapical spiniform apophysis. Tibia IV slightly incrassate at distal half, with 6 longitudinal rows of setiferous tubercles (Fig. 8). Metatarsus IV incrassate, densely covered with setiferous tubercles, loosely arranged into rows (Fig. 9). Tarsal counts: 6(3)-6(3)/8(3)-8(3)/6-6/6-6. **Color (in alcohol):** (see also Figs. 1–5). Body, coxae I–IV and Tr IV Strong Orange (50). Mesotergal areas lighter – Brilliant Orange (49). Body with some black mottling, strongest on free tergites I–III. Legs I–III Dark Greenish Yellow (103). Leg IV Deep Reddish Brown (41). **Genitalia:** (Figs. 10–12). Ventral plate elongate, roughly subrectangular, but with proximal constriction and narrowing distally. Ventral plate also apical cleft creating two lobes and strongly projected dorsally in basal half. Distribution of macrosetae asymmetrical in number and/or insertion. Latero-proximal = two pairs, with apex slightly spatulate; Latero-distal = one or two pairs, short, straight, latero-subdistal; Dorso-lateral = one pair, near the insertion of glans in the follis; Ventral = two pairs, minute, positioned as a rectangle on ventral surface of VP. Follis roughly cubic, well-developed. Glans elongate, with stylus sinuous, inserted at its ventro-apical region. **Sexual dimorphism:** armature and proportions of body and tergites similar in both sexes. Spiniform processes of coxa to tibia IV more strongly developed in male. Femur IV slightly incrassate distally in male. Metatarsus IV clavate only in male. **Remark:** The male MIUP AK 004 is here assigned to *H. plana* because all subtle details in granulation and shape of posterior margin of dorsal scutum and free tergites match exactly the female holotype.

Most genera of Ampycinae are poorly known, but *Hernandarioides* does not seem to be especially closely related to any other genus. *Hernandarioides* differs from the complex *Ampycus* Simon/ *Hexabunus* Roewer/ *Pirunipygus* Roewer, because those genera have diamond-shaped ventral plate, canoe-shaped erect stylus and four pairs of latero-distal macrosetae. *Hutamaia* Soares & Soares differs from *Hernandarioides* in having free tergite III armed instead of II, stout hooked dorsal apophysis on Tr II, strong retrolateral armature on Tr IV, pyriform ventral plate, oblique in relation to truncus, with the macrosetae displaced distally, very thin follis and stylus erect and much elongate. *Glysterus* Roewer, possesses free tergite III in males with stout armature (which may be bi- or trifurcate), trochanter IV with inner armature, metatarsus IV sinuous and armed. Penis (undescribed) is significantly different in pattern of macrosetae and shape of stylus and ventral plate. *Hernandarioides* looks similar to *Nesopachylus* Chamberlin, (only one species from Panama), both with unarmed scutum, prominent medial apophysis on free tergite II, leg IV roughly granular, but without further conspicuous armature, and metatarsus IV incrassate. *Nesopachylus* differs by having long dorsal and latero-proximal macrosetae, a pyriform ventral plate and a canoe-shaped stylus, much elongate and not nearly as sinuous as in *Hernandarioides*, with marginal serrations, and also follis much narrower than truncus).

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