

PAPÉIS AVULSOS  
DO  
DEPARTAMENTO DE ZOOLOGIA  
SECRETARIA DA AGRICULTURA — SÃO PAULO - BRASIL

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ON A NEW GENUS OF HYPOLITHINAE (COL.,  
ELATERIDAE)

CLEIDE COSTA

In this paper *Neorhaphes*, a new genus of Elateridae, is erected, to contain *Arhaphes americanus* Champion, from Mexico, and a new species, *N. brasiliensis*, from Brasil. The new genus is close to *Arhaphes* Candèze, originally established for one species from Ceylon. Both are distinguished from the bulk of Hypolithinae genera by complete absence of prosternal suture. This character was considered by Candèze (1890:99) unique among the Elateridae. *Arhaphes*, as understood until now, included about 25 species, distributed in the New and Old World tropics.

This study was initiated when the type of *N. brasiliensis* was received, and placed into *Arhaphes*, based on the literature. Consideration of the extremely broad distribution of this genus indicated the need for a review of its species.

Thanks to Dr. J. Balfour-Browne and Dr. C.M.F. von Hayek, I had the opportunity to study materials of the following species: *Arhaphes americanus* Champion, 1895 (Mexico and Central America); *A. biguttatus* Candèze, 1893 (Malaya); *A. cyaneus* Schwarz, 1902 (Malaya); *A. diptychus* Candèze, 1860 (Ceylon); *A. granulatus* Candèze, 1896 (Camerum); *A. minusculus* Candèze, 1878 (Nilgiri); *A. nigriceps* Candèze, 1880 (Malaya) and *A. opacus* Candèze, 1878 (Pahang).

A comparative study showed the convenience of separating the Neotropical forms into a new genus.

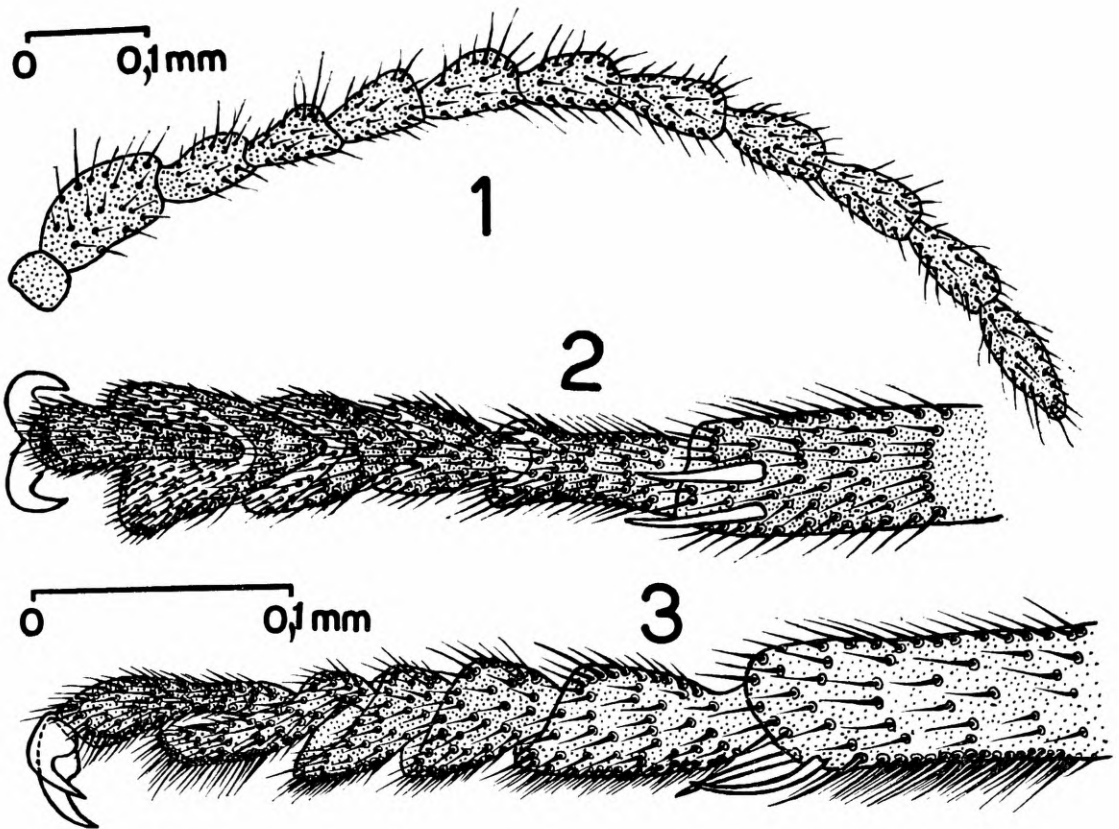
***Neorhaphes*, gen. n.**

Head relatively small, front more or less flat, with the anterior margin not projected; nasal plate transverse, emarginate anteriorly and posteriorly; labrum transverse (fig. 7); labial palpi (fig. 6) and maxillary palpi (fig. 5) with the last segment elongate; mandibles (fig. 4) pointed, with a small tooth on the inner side near

the tip; antennae (fig. 1) with eleven joints, scarcely dentate after the third segment; antennal scape longer than the other segments, stout and curved; segment II oval; the last joint conical.

Pronotum (fig. 18) convex, as long as wide, laterally rounded, with the posterior angles small and divergent and with a median groove from the apex to the base. Scutellum pentagonal. Prosternum wide, convex, without prosternal suture, and with the margin well developed.

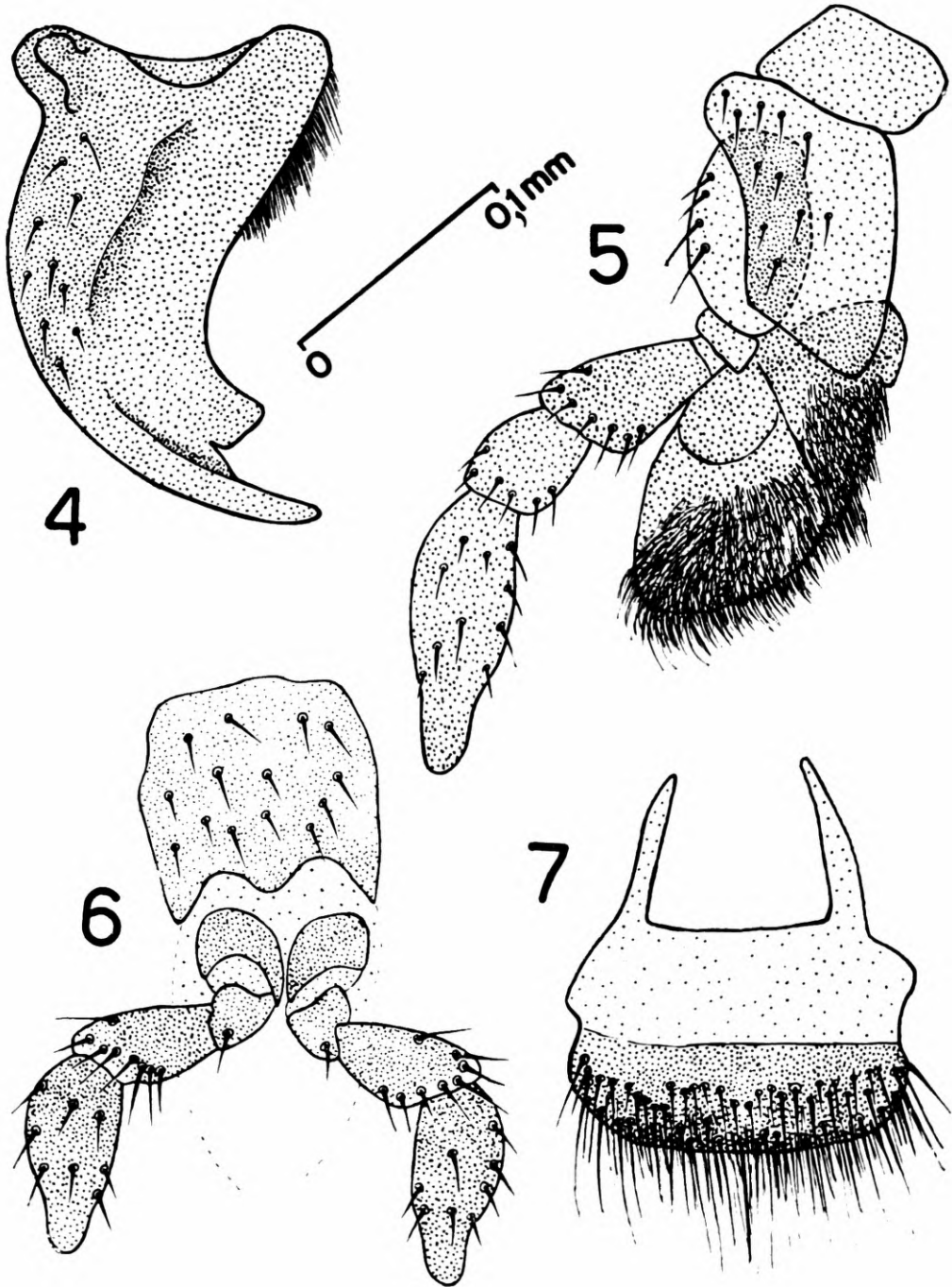
Elytra more than twice as long as the prothorax, a little wider at the base, sub-parallel, rounded as the apex, with punctures, but without trace of striae. Legs relatively short; posterior coxal plates narrowed behind; tarsi (fig. 2,3) with the third and the fourth segments distinctly lamellate below.



*Neoarhaphes brasiliensis*, sp.n., ♂: Fig. 1, antennae; fig. 2, anterior tarsi (dorsal view); fig. 3, anterior tarsi (lateral view).

Type of the genus, *Neoarhaphes brasiliensis*, sp. n. The new genus is closely related to *Arhaphes* Candèze. But, in *Neoarhaphes*, the pronotum (fig. 18) is as wide as long, with the posterior angles short and the base marginate; in *Arhaphes* the pronotum (fig. 17) is elongate, with the posterior angles well developed, carinate, and the base is rounded (in *A. minusculus* Candèze, the base of the pronotum is scarcely emarginate). *Neoarhaphes* is also distin-

guished by the absence of striae on the elytra and by the shape of the male genitalia. In the male genitalia in *A. nigriceps* (fig. 8), *A. diptychus* (fig. 9) and *A. minusculus* (fig. 16), the external margins of the lateral lobes gradually converge apically and are interrupted only by a small lateral tooth on the junction of the apical 1/3 and basal 2/3 of the margin; the apical part of the median lobe is rounded.



*Neorhaphes brasiliensis*, sp.n., ♂: Fig. 4, mandible; fig. 5, maxillary palpi; fig. 6, labial palpi, fig. 7, labrum.

In *Neorhaphes americanus* (fig. 10) and *N. brasiliensis*, sp. n. (fig. 13), the external margins of the lateral lobes do not converge gradually, but their apical 1/3 is abruptly narrowed, while the apical part of the median lobe is more pointed at the tip.

The known species of *Neorhaphes* can be separated as follows:

— General color yellowish, with dark vittae on the pronotum and on the elytra; head with a short, smooth, longitudinal carina on the vertex, posterior angles of the pronotum with a single short carina; pronotum with a median groove from the base to the apex ..... *americanus* (Champion).

— General color dark. without spots, head without carina on the vertex; posterior angles of the pronotum without carina; median groove of the pronotum also from the base to the apex, but much deeper in the posterior half ..... *brasiliensis*, sp. n.

***Neorhaphes americanus*** (Champion, 1895), n. comb.

(figs. 10, 12, 14).

*Arhaphes americanus* Champion, 1895: 413, pl. 17, figs. 22, 22a e 22b.

I have seen two cotypes ( $\delta$  and  $\text{♀}$ ) from Las Mercedes, Guatemala. The last abdominal segment in the  $\delta$  of this species (fig. 12 ventral view, fig. 14 dorsal view) is more pubescent than its equivalent in *N. brasiliensis*, sp. n. (see fig. 11 for dorsal view, fig. 15 for ventral view).

***Neorhaphes brasiliensis***, sp. n.

(figs. 1-7, 11, 13, 15, 18)

Moderately elongate, convex, dark brownish, with the head slightly darker than prothorax and elytra. Antennae lighter, with the first three segments yellowish. Legs yellowish. Head strongly punctured, more or less flat. Mandibles (fig. 4) pointed with a little teeth near the tip, the last segment of the labial (fig. 6) and maxillary palpi (fig. 5) conical-elongate; clypeus and labrum (fig. 7) transverse.

Prothorax (fig. 18) convex, as long as wide, rounded at the sides; anterior angles short and divergent; the posterior ones also short and divergent, without carinae. Surface of the pronotum with punctures smaller and more widely separate than those of the head, with a median groove more deeply impressed on the posterior half. Prosternum densely and finely punctured.

Elytra more than twice as long as the prothorax, subparallel, rounded at the apex, densely punctured, without striae.

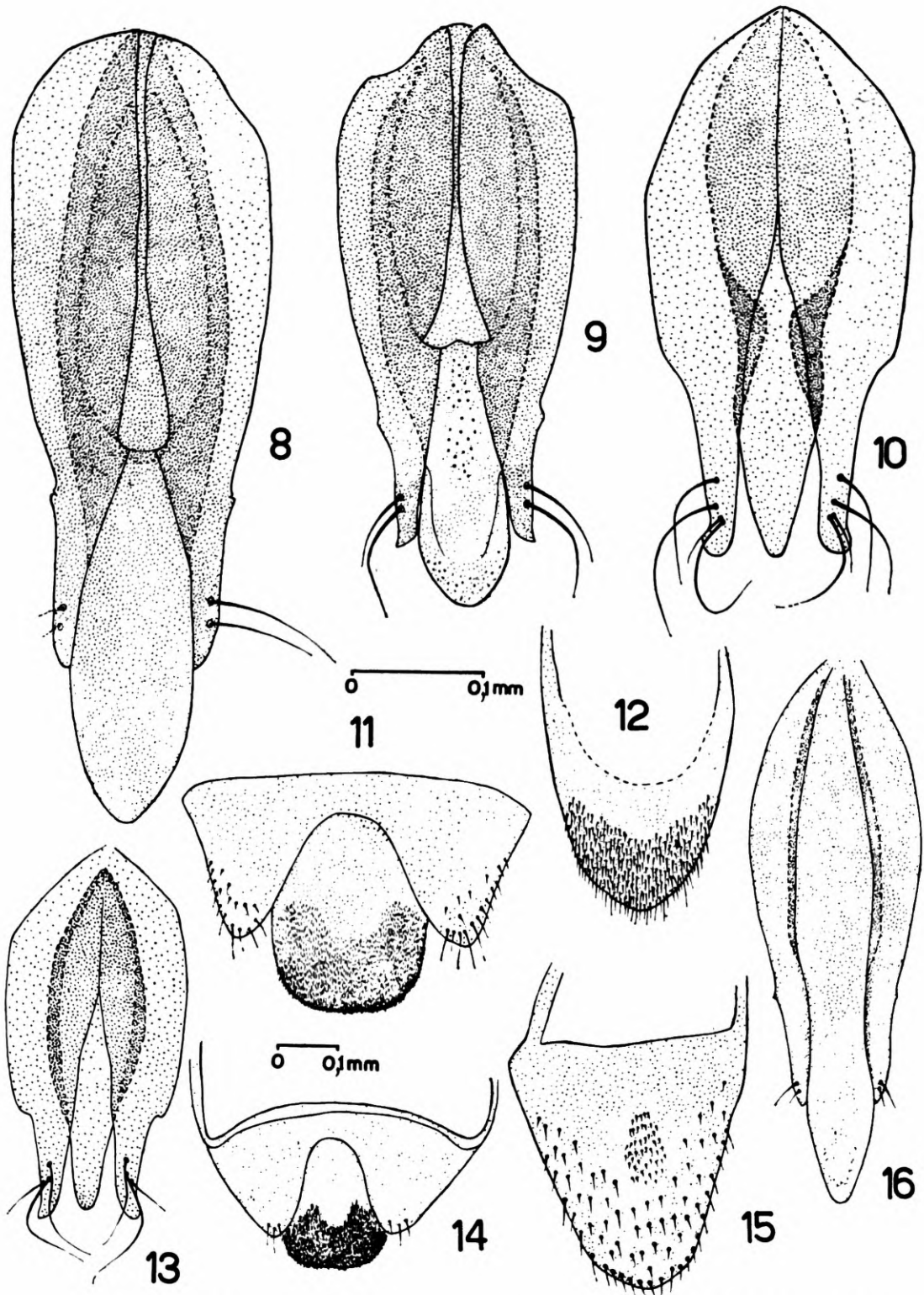


Fig. 8: *Arhaphes nigriceps* Cand., 1880, ♂ genitalia; fig. 9: *Arhaphes diptychus* Cand., 1860, ♂ genitalia; fig. 10: *Neoarhaphes americanus* Champion, 1895, n.comb., ♂ genitalia; fig. 11: *Neoarhaphes brasiliensis*, sp.n., last abdominal segment of the ♂ (dorsal view); fig. 12: *Neoarhaphes americanus*, last abdominal segment of the ♂ (ventral); fig. 13: *Neoarhaphes brasiliensis*, sp.n., ♂ genitalia; fig. 14: *Neoarhaphes americanus* Champion, 1895, n.comb., last abdominal segment of the ♂ (dorsal); fig. 15: *Neoarhaphes brasiliensis*, sp.n., last abdominal segment of the ♂ (ventral); fig. 16: *Arhaphes minusculus* Cand., 1878, genitalia ♂.

Legs relatively short; segments III and IV distinctly lamellate below (figs. 2 and 3).

Abdomen densely and finely punctured.

DIMENSIONS (MM)

	♂	♀
Total length	2,50 — 2,56	2,40 — 2,62
Length of pronotum	0,62 — 0,68	0,59 — 0,62
Length of elytron	1,56	1,50 — 1,68
Humeral width	0,81 — 0,75	0,68 — 0,75
Width of pronotum	0,68	0,68

SPECIMENS SEEN

Brasil, Minas Gerais, Buritis (Ribeirão Confins) 5 ♂, 6 ♀ and 1 of undetermined sex. Expedition of the Departamento de Zoologia, 29.X.1964 and 31.X.1964.

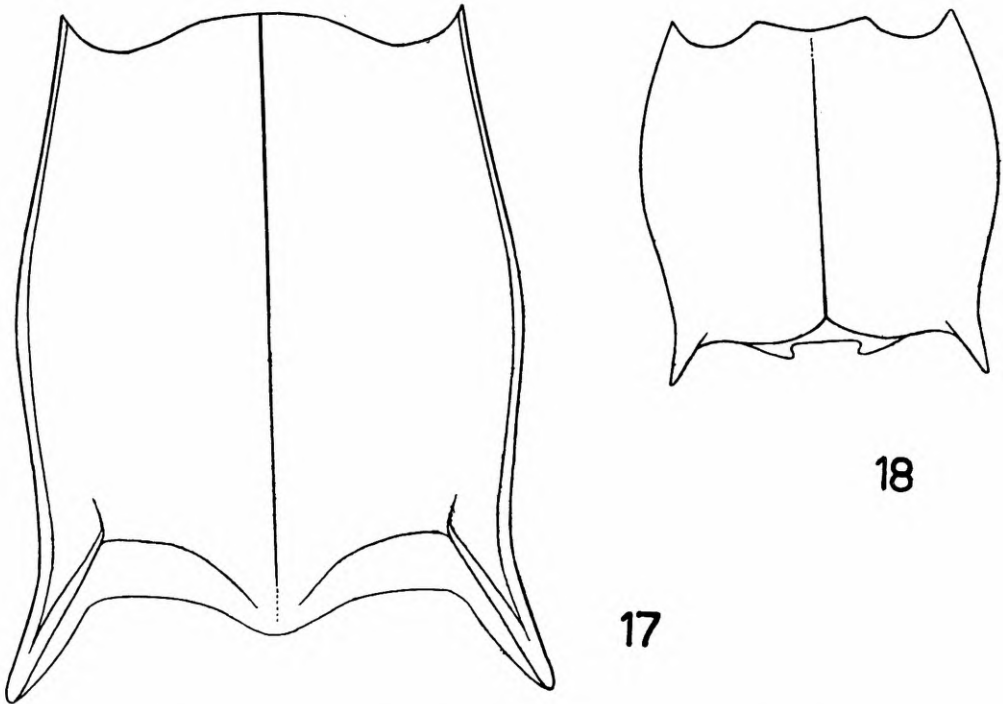


Fig. 17: *Arhaphes nigriceps* Cand., 1880, pronotum ♀; fig. 18: *Neorhaphes brasiliensis*, sp.n., pronotum ♀.

Holotype ♂, allotype, 3 paratypes ♂, 4 paratypes ♀, and 14 other paratypes of sex undetermined in the Departamento de Zoologia; 1 paratype ♂ and 1 paratype ♀ in the British Museum.

## RESUMO

Neste trabalho é descrito o novo gênero *Neoarhaphes*, próximo a *Arhaphes* Cand., originalmente estabelecido para uma espécie do Ceilão. Ambos diferenciam-se dos demais Hypolithinae pela ausência total de sutura prosternal. Até o momento, *Arhaphes* englobava cerca de vinte e cinco espécies distribuídas pelo Novo e Velho Mundo.

Examinamos diversas espécies não neotropicais, concluindo que as espécies do Novo Mundo constituem um novo gênero, com base no aspecto do pronoto, na não estriação dos élitros e na forma da genitália dos machos. Essas espécies americanas são *N. brasiliensis* (tipo do novo gênero) e *N. americanus* Champ., n.comb..

Além dessas duas espécies, são também figuradas as genitálias das seguintes espécies: *Arhaphes nigriceps* (Candèze, 1880) (Malaya), *A. diptychus* (Candèze, 1860) (Ceilão) e *A. minusculus* (Candèze, 1878) (Nilgiri), bem como o pronoto da fêmea de *Arhaphes nigriceps* (Cand.).

## REFERENCES

- CANDÈZE, M. E., 1860: Monographie des Élatérides, III. *Mém. Soc. roy. Sci. Liège* 15:512 pp., 5 pls.
- CHAMPION, C. G., 1895: *Biologia Centrali Americana: Coleoptera* 3(1):258-556, pls. 10-24.

