

STUDIES ON THE FAUNA OF SURINAME AND OTHER  
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**TWO NEW SPECIES OF HYDRODESSUS FROM  
SURINAME, WITH A KEY TO THE KNOWN SPECIES**

(Coleoptera: Dytiscidae)

by

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The genus *Hydrodessus* is readily distinguished, from the other small water beetles related to the Old World *Bidessus*, by the lack of pronotal or elytral plicae, by the structure of the hind coxal processes, and by the simple, unjointed parameres of the male genitalia (BALFOUR-BROWNE, 1953). The species are very rare in collections, and several are still known from only the unique types. The genus *Brinkius* (GUIGNOT, 1957) differs from *Hydrodessus* only in that a fine lateral humeral carina is present on the elytron above the epipleural margin. In all other characters, including the unique parameres of the male genitalia, the two genera seem to be identical, and I therefore apply the older name to both groups.

The two new species described below from Suriname extend the range of this genus north of the Amazon basin. All the previously described species are from Brasil or the Amazonas region of Perú. The species from Perú were described by SPANGLER (1966). Of these, *Hydrodessus nanayensis* is exceedingly similar to the genotype *H. siolii* Balfour-Browne described from the state of Pará, Brasil. I believe these will prove to be subspecies at most although the type localities are separated by over 1500 miles.

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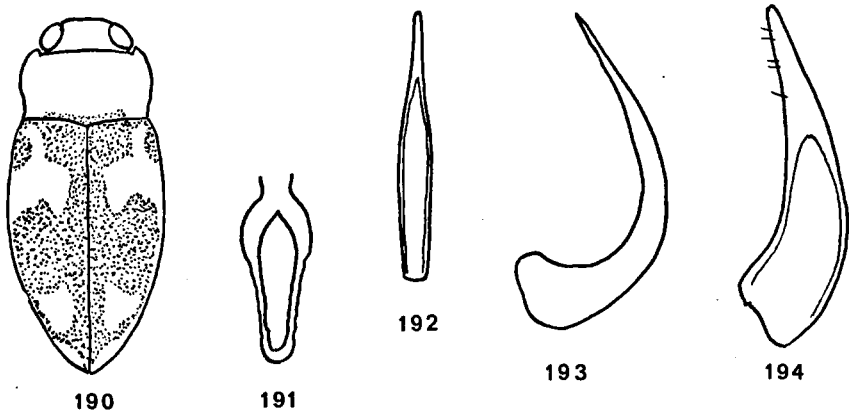
**Hydrodessus surinamensis** sp. nov.

Fig. 190–194. *Hydrodessus surinamensis*, holotype male. — 190: Dorsal outline and semidiagrammatic representation of color pattern. 191: Ventral view of tip of prosternal process. 192: Dorsal view of aedeagus. 193: Lateral view of aedeagus. 194: Inner aspect of left paramere.

**Diagnosis.** Smaller than any of the described species, total length 2.2 to 2.5 mm. Elytral humeri not carinate, simply rounded as in *siolii* J. Balfour-Browne and *nanayensis* Spangler. Dorsal punctation single, much finer than in *siolii* or *nanayensis*. Male genitalia similar to those of *siolii*; parameres simple with setae toward apex reduced or lacking; aedeagus rather abruptly narrowed in apical quarter when viewed horizontally, uniformly curved in lateral outline. Prosternal process narrow, deeply channeled. Ventral platform distinct, mesosternal margin offset inward from metasternal margin. Hind coxal processes much as in *siolii*.

**Holotype Male.** Length 2.3 mm, greatest width about 1.1 mm at basal third of elytra. *General color* testaceous with darker marking on elytra medium brown. Venter and appendages testaceous. *Head* very finely, not very densely punctate; punctures mostly separated by more than their diameter; space between punctures nearly smooth, shining; microsculpture not evident at 90x. *Clypeus* arcuately emarginate, not thickened anteriorly. Ventral surface of head more closely punctate, granulose. *Antennae and palpi* much

as in *siolii*. *Pronotum* finely margined, the lateral margins strongly curved, widest in anterior third and recurved to base forming an obtuse angle with elytral bases; punctation coarser and denser than on head; punctures separated by their diameter or less; microsculpture feebly developed. *Prosternum* granulose; prosternal process narrower than in *siolii* or *nanayensis*, more deeply channeled medially. *Elytra* with margins regularly curved; punctate about as coarsely and densely as pronotum; surface irregularly granulose, but with spaces between punctures polished, shining; discal punctures with minute setae, longer setae toward margins. *Ventral punctation* difficult to see because of the granulation of head, thorax, and abdominal segments. *Legs* and *coxae* granulose, rather finely punctate. *Anterior and middle tarsi* dilated with setae modified as suction disks beneath, somewhat broader than in female and with larger setal suction disks; claws similar, simple. *Last apparent abdominal segment* simple, not impressed behind the middle. *Color pattern*: General color testaceous. Pronotum with narrow darkened area along base between the coarser punctures which are the only indication of pronotal plicae. Dark pattern of elytra, medium brown. Pattern similar to that of *nanayensis* but dark areas more extensive. Margins testaceous, extending inward to form a sub-basal light fascia and a more or less detached preapical light spot. Apex very narrowly testaceous. (It is improper to describe the pattern in terms of the lighter areas since it is the deposition of pigment in the integument which produces the pattern. However, it is very difficult to describe the extent of dark pigment in most cases so that traditionally patterns in Dytiscidae are described as if it were the lighter areas which were superimposed upon the darker.)

Allotype Female. Length 2,4 mm, greatest width at basal third of elytra 1.1 mm. Very similar to male, but microsculpture on head, pronotum, and elytra somewhat more evident. Anterior tarsi less dilated with setal suction disks smaller.

Holotype, allotype, and 19 paratypes from: SURINAME, Carolina Creek, 10 km S. from Zanderij, waterhole in forest stream, November 18, 1962, collected by Mr. Borys Malkin. Two additional paratypes from: Suriname, Krakka-Phedra Road, Dist. 25, tiny forest pool, November 18, 1962, collected by Mr. Borys Malkin.

Holotype and allotype in Rijksmuseum van Natuurlijke Historie, Leiden. Paratypes will be distributed to other museums.

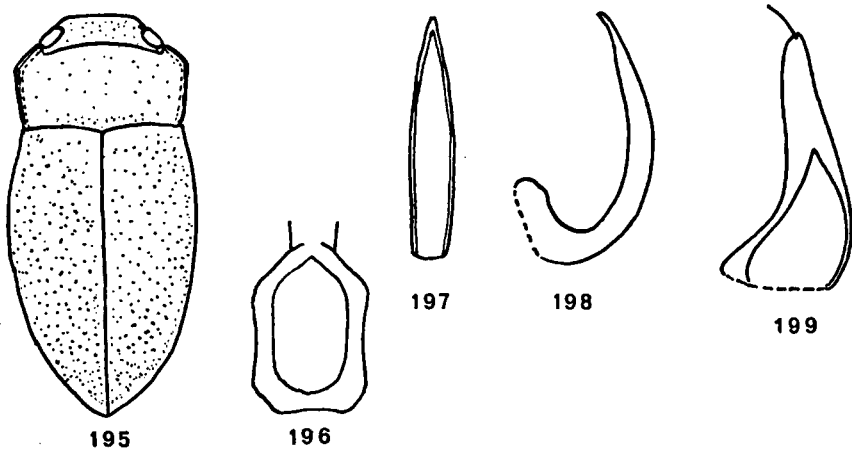
**Hydrodessus angularis** sp. nov.

Fig. 195–199. *Hydrodessus angularis*, holotype male. – 195: Dorsal outline and semidiagrammatic representation of color pattern. 196: Ventral view of tip of prosternal process. 197: Dorsal view of aedeagus. 198: Lateral view of aedeagus. 199: Inner aspect of left paramere.

**Diagnosis.** Larger than *surinamensis*, but smaller than other described species, length about 2.6+ mm. Distinguished from all the described species by its nearly uniformly reddish brown color and the angulation of the anterior part of the lateral margins of pronotum. Humeral carina distinct, extending more than half length of elytron. Dorsal punctation dense, irregular, indistinctly double. Male genitalia with parameres proportionately broader and shorter than *siolii* and aedeagus proportionately shorter and broader, not abruptly narrowing toward tip and with tip in lateral outline feebly recurved. Prosternal process with tip broad, roughly hexagonal, and depressed in center. Ventral platform distinctly margined, meso- and metasternal margins continuous. Hind coxal processes much as in *siolii*, central groove deep at apex.

**Holotype Male.** Length 2.64 mm, greatest width at basal third of elytra, 1.28 mm. *General color* light reddish brown, the elytra somewhat darker with margins vaguely lighter toward apex. Venter and appendages somewhat lighter, reddish yellow brown, with

prosternal process and some sutures dark brown. *Head* finely not very densely punctate, punctures separated by at least their own diameter; microsculpture inapparent at  $90\times$ , surface polished, shining. *Clypeus* appearing truncate when viewed from above, actually arcuately emarginate at middle with a fine, but distinct margin on either side which does not completely join irregular carinae extending out from the angles of the head before the eyes. Ventral surface of head less evidently granulose than in *surinamensis* or *nanayensis* (Antennae each with segments missing, apparently lost while beetle was alive). *Pronotum* with a distinct lateral margin inside which a longitudinal depression produces a broad, irregular second margin; sides when viewed from above with lateral margins extending outward anteriorly almost in line with lateral carinae of clypeus then abruptly turning, almost at a  $45^\circ$  angle, and running almost straight to converge with the elytra; pronotal base proportionately broader than in *nanayensis* and *surinamensis*, the angles formed with the elytra more obtuse; punctuation coarser than on head, and surface although shining is irregularly granulate; some punctures irregularly confluent; basal area of pronotum with distinct irregular granules and coarser punctures; base vaguely depressed on either side in approximate position of pronotal plicae in other *Bidessini* genera; microsculpture inapparent at  $90\times$ . *Prosternum* granulose, less so than in *nanayensis* and *surinamensis*; prosternal process with tip broad, roughly hexagonal with an irregular broad margin and center depressed deeply. *Elytra* about as coarsely, but more densely punctate than pronotum; many punctures confluent; surface although shining, very irregular; punctuation indistinctly double with large punctures and smaller ones between; punctures on disk not evidently setose, but long setae toward the sides. *Meso-, metasternum and abdominal sternites* granulose, less evidently so than in *nanayensis* and *surinamensis*, the punctuation coarser and more evident. *Legs and coxae* moderately granulose, moderately coarsely punctate. *Anterior and middle tarsi* broad, with setae with minute suction disks beneath; disks much smaller than in *surinamensis*; claws similar, simple. *Last apparent abdominal sternite* simple, slightly impressed before apex.

Female, unknown.

Holotype male from: SURINAME, Carolina Creek, 10 km. S. from Zanderij, waterholes in forest stream, November 18, 1962, collected by Mr. Borys Malkin. The type was associated with the types of *Hydrodessus surinamensis* and numerous other species of Dytiscidae, Noteridae, and Hydrophilidae.

Holotype in Rijksmuseum voor Natuurlijke Historie, Leiden.

### KEY TO THE DESCRIBED SPECIES OF *Hydrodessus*

(Modified in part from GUIGNOT, 1957)

- 1a. Pronotum black; size larger, 3.2 to 3.9 mm in length . . . 2
- 1b. Pronotum testaceous or reddish brown; size smaller, 2.2 to 3+ mm . . . . . 3
  
- 2a. Elytra maculate with double punctation; female matte; length 3.2 to 3.9 mm (BRASIL, Pará). . . . . *biguttatus* (Guignot)
- 2b. Elytra more or less concolorous, black, with simple punctation; female shining like male; length about 3.9 mm (BRASIL, Pará) . . . . . *pereirai* (Guignot)
  
- 3a. Elytra with a distinct carina on the sides above the epipleural margin . . . . . 4
- 3b. Elytra without a carina at the sides . . . . . 7
  
- 4a. Elytra brownish black, somewhat irridescent, each with a reddish brown preapical spot and the apices tinted with reddish brown lateral humeral carina short, extending about 1/5 length of elytron; length about 2.6 to 2.7 mm (BRASIL, Pará) . . . . . *octospilus* (Guignot)
- 4b. Elytra black, reddish brown, or with distinct fasciate pattern; lateral humeral carina extending at least 2/6 length of elytron. 5
  
- 5a. Elytra black or reddish brown, pattern vague or absent; lateral humeral carina at least 1/2 as long as elytron. . . . . 6
- 5b. Elytra testaceous with a reddish brown medial stripe along sutural margin, one incomplete transverse band basally and one complete transverse band medially, and a small preapical lateral macula; (sometimes dark pigment is reduced) lateral humeral carina about 2/6 length of elytron; length 2.4 to 2.85 mm (PERÚ, Amazonas) . . . . . *amazonensis* Spausler

- 6a. Elytra black, iridescent; pronotum not angulate anteriorly; length about 3 mm (BRASIL, Pará) . . . *brasiliensis* (Guignot)
- 6b. Elytra reddish brown, nearly concolorous; pronotum distinctly angulate anteriorly; clypeus carinate anteriorly above the median emargination; length 2.6+ mm (SURINAME) . . . . .  
 . . . . . *angularis* Young
- 7a. Prosternal process moderately broad nearly straight sided until near apex where margins converge to a point, thus roughly pentagonal when viewed from below, shallowly depressed along middle; size larger, 2.9 to 3.0 mm in length . . . . . 8
- 7b. Prosternal process broader anteriorly than posteriorly, roughly triangular with tip broadly rounded, deeply depressed along middle; pronotal outline with greatest width in anterior 1/3, the margins from there recurving to meet elytral bases; dark pattern of elytra fasciate, more extended. (SURINAME) . . . . .  
 . . . . . *surinamensis* Young
- 8a. Prosternal process shallowly depressed along middle; hind coxal processes with shallow internal longitudinal channels without distinct margin; elytral pattern tending to be maculate with dark pattern enclosing distinct lighter spots (BRASIL, Pará) . . . . .  
 . . . . . *siolii* Balfour-Browne
- 8b. Prosternal process more deeply channeled along middle; hind coxal processes with distinct internal longitudinal channels with distinct inner margins; elytral pattern fasciate without distinct maculae enclosed in more darkly pigmented areas (PERÚ, Amazonas) . . . . .  
 . . . . . *nanayensis* Spangler

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