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because the type material of *H. acuminatus* has not been located. The synonymic linkage to the name *H. acuminatus* goes back to earlier works (see above). At the present stage of knowledge I prefer not to distinguish subspecies, although geographical morphes may be distinguished. This species undoubtedly needs further study!

#### 6.5.10. Species group 10 (sp.gr. *parallelipennis*)

##### **Hydrovatus niokolensis** Guignot

Figs 756–761, 778.

*Hydrovatus niokolensis* GUIGNOT, 1956b:214 (orig. descr., faun.); BILARDO & PE-  
DERZANI, 1978:108 (disc.); BILARDO & ROCCHI, 1990:181, 192 (descr., faun.).

Type locality: Badi, Niokolo Koba National Parc, Senegal.

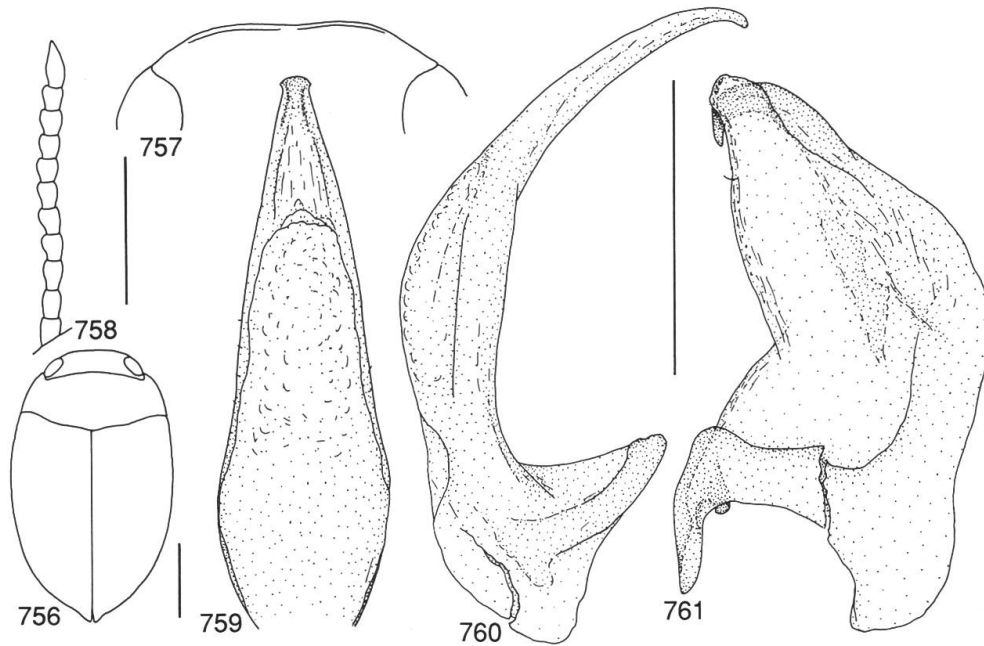
Type material studied: Holotype, m: Mission du IFAN au Parc National du Niokolo Koba Badi (Sngal) 15.VIII–25.IX.1955/Type/Museum Paris/F. Guignot det., 1954 *Hydrovatus (Vathydrus) niokolensis* n.sp. Type (MNHN). – Paratypes: Principally same as holotype (1 ex. MNHN, 1 ex. IFAN); Ouassadou 12.VIII.1955/au Parc National du Niokolo Koba (Sengal)/Paratype/Museum Paris 1960 Coll. F. Guignot (2 exx. MNHN); Ouassadou 12.VIII.1955 (1 ex. IFAN). In all, 6 exx.

Diagnosis: A quite distinct species, characterized by a somewhat elongated body, by very fine, sparse, hardly visible elytral punctation, and by the shape of the penis (dorsal aspect): Quite broad, narrows evenly towards an obtuse apex. Probably most closely related to *H. nimbaensis*. The two species are distinguished by difference in body size (*H. niokolensis* is smaller), by difference in shape of the male protarsal claws (thickened in *H. nimbaensis*) and by differences in the shape of the penis.

Length of body: 3.24–3.40 mm, breadth: 1.88–2.02 mm. Habitus (Fig. 756).

Head: Dark ferruginous to ferruginous. Finely and rather sparsely punctate. In rather shallow frontal depressions and narrowly at eyes with slightly coarser punctures. Shiny, very finely microsculptured (meshes discernible but very fine, partly indistinct). Head frontally rounded, medially straightened. Very finely margined (margin medially broken for a short distance) (Fig. 757). Antenna pale ferruginous, rather slender (Fig. 758).

Pronotum: Blackish ferruginous to ferruginous. Laterally palest. Finely, somewhat irregularly and sparsely punctate. At margins with an irregular row of punctures, which at basal margin is somewhat rudimentary and indistinct. Rather shiny, microsculptured (meshes very weakly developed but generally discernible). Lateral outline of pronotum rounded to almost straight.



Figs 756–761: *Hydrovatus niokoloensis*. – 756, habitus. – 757, head, frontal aspect. – 758, antenna. – 759, penis, dorsal aspect. – 760, penis, lateral aspect. – 761, paramere. Left top scale 0.5 mm, head and antenna; left bottom scale 1 mm, habitus; right scale 0.4 mm, genitalia.

**Elytra:** Blackish to dark ferruginous, laterally palest, but without distinct colour pattern. Punctuation very fine, sparse, hardly visible. Dorsal row of punctures from base to apex fairly distinct. Dorsolateral row of punctures discernible, but irregular. Lateral row of punctures sparse, somewhat irregular and consisting of fine punctures. A few scattered, slightly coarser punctures discernible between rows. Rather shiny, very finely microsculptured (meshes generally discernible). Epipleura ferruginous, almost impunctate, shiny and without microsculpture.

**Ventral side:** Blackish ferruginous to ferruginous. Almost impunctate; a few scattered, very fine punctures may be seen. Shiny, without microsculpture. Abdomen with very fine, partly obliterated microsculpture. Prosternal process laterally narrowly but fairly distinctly margined, medial surface slightly concave and with a few fine punctures.

**Legs:** Ferruginous to pale ferruginous. Pro- and mesotarsus somewhat enlarged.

**Male genitalia:** Figs 759–761.

**Female:** Externally approximately as male.

**Distribution:** Senegal (Fig. 778).

**Biology:** Unknown.

**Hydrovatus nimbaensis** Guignot

Figs 762–768, 778.

*Hydrovatus nimbaensis* GUIGNOT, 1954f:281 (orig. descr., faun.); 1958b:5 (disc.); 1959a:185, 189 (descr., faun.); PEDERZANI & ROCCHI, 1982:81 (disc.).

*Hydrovatus ornatus* GUIGNOT, 1958b:5 (orig. descr., faun.). **New synonym.**

Type locality: Mt Nimba, Guinea.

Type material studied: *H. nimbaensis*: Holotype, m: 49 Ea/IFAN Nimba (Guine) Lamotte et Roy VII–XII 51/Type/Guignot det. 1952 *Hydrovatus nimbaensis* Guign. Type m (MNHN). – Paratype: Same data as holotype (1 ex. MNHN). – *H. ornatus*: Holotype, f: Holotypus/Congo Belge PNG Miss. H. De Saeger II/gd/11, 4.V.1951/Coll. Mus. Congo (ex coll. I.P.N.C.B.)/Guignot det., 1957 *Hydrovatus ornatus* n.sp. Holotype f (MAC). – Paratypes: Principally with same data as holotype, but: 30.XII.1949 G. Demoulin 145 (1 ex. MAC); as holotype but 17.X.1951, 2644 (1 ex. MNHN); as holotype but 21.II.1952, 3143 (1 ex. MNHN, possibly not type material, being a male; original description mentions solely females). – As holotype but 28.VIII.1952, 3987 and additionally labelled as *H. nimbaensis* ssp. *ornatus* n.ssp. (3 exx. MAC of which one lacks paratype label; status as original type material uncertain). Possibly Guignot realized during examination of the material that this is not a separate species but a subspecies of a previously described species. This possibly explains the peculiar labelling?

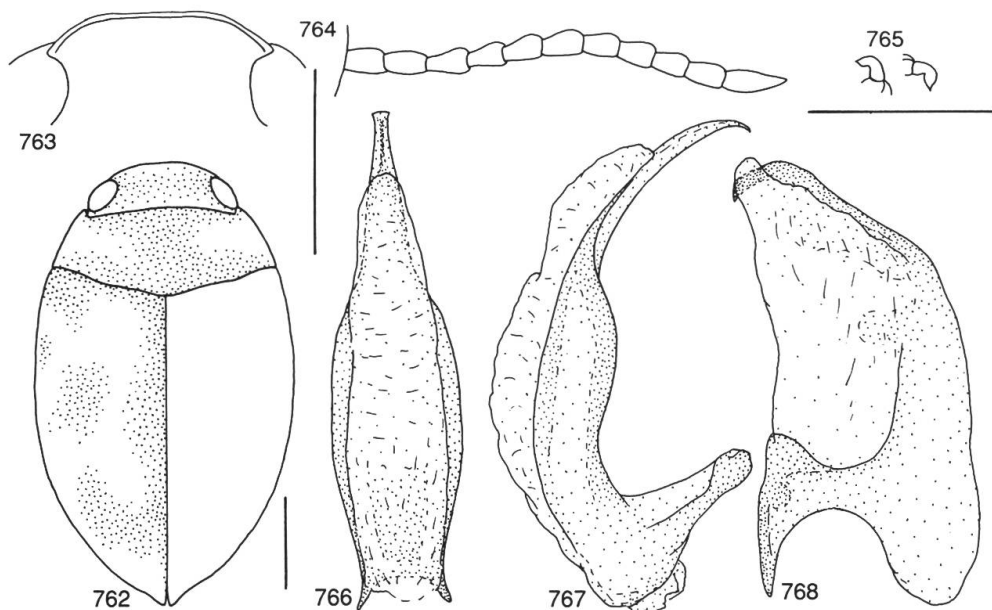
Additional material studied: Zaire: PNG Ndelele/11, 21.II.1952, 3143 (3 exx. ISN); PNG II/gd/11, 19.VIII.1952, 3956 (1 ex. ISN). All labelled as *H. nimbaensis* ssp. *ornatus*. In all, 13 exx.

Diagnosis: A quite distinct species although external morphology is slightly variable. Particularly characterized by a quite oval body, by a vague but generally discernible elytral colour pattern, by distinctly thickened male protarsal claws and by the shape of the male genitalia. See also under diagnosis of *H. niokoloensis* above.

Length of body: 3.60–4.20 mm, breadth: 2.18–2.48 mm. Habitus (Fig. 762).

Head: Dark ferrugineous to ferrugineous, frontally sometimes with vague darkened area. Punctuation fine, sparse, somewhat irregularly distributed. Narrowly at eyes and in shallow frontal depressions punctuation slightly coarser and denser. Slightly mat, microsculptured (meshes distinct). Head frontally rounded, medially somewhat straightened. From eye to eye narrowly margined (Fig. 763). Antenna pale ferrugineous, rather slender and not distinctly modified (Fig. 764).

Pronotum: Dark ferrugineous to ferrugineous, frontally and basally with blackish areas (areas sometimes quite vague). Punctuation fine, sparse, laterally punctures concentrated in margins leaving discally an area with distinctly sparser (punctuation partly absent) punctuation. Rather shiny, finely microsculptured (meshes rather weakly developed but clearly discernible). Lateral outline of pronotum rounded.



Figs 762–768: *Hydrovatus nimbaensis*. – 762, habitus. – 763, head, frontal aspect. – 764, antenna. – 765, male protarsal claws. – 766, penis, dorsal aspect. – 767, penis, lateral aspect. – 768, paramere. Horizontal scale 0.5 mm, antenna and claws; left top scale 1 mm, head; left bottom scale 1 mm, habitus; right scale 1 mm, genitalia.

**Elytra:** Blackish to dark ferrugineous, with vague to quite distinct ferrugineous to pale ferrugineous areas (Fig. 762). Elytral colour pattern sometimes rather indistinct. Punctuation fine to very fine, sparse, laterally sporadic and partly absent. Discal row of punctures from base to close to apex quite distinct. Dorsolateral row of punctures clearly visible but sparser and more irregular than discal row. Lateral rows of punctures clearly visible although somewhat irregular. Between dorsolateral and lateral rows of punctures with a few scattered coarser punctures. Rather shiny, finely microsculptured (meshes weakly developed but still clearly visible). Epipleura pale ferrugineous to ferrugineous, indistinctly punctate and finely reticulated.

**Ventral side:** Pale ferrugineous to ferrugineous. Punctuation fine to very fine, sparse. Abdomen almost impunctate. Shiny, almost without microsculpture. Abdomen with fine reticulation. Prosternal process laterally finely margined, medial surface almost flat, finely punctate.

**Legs:** Pale ferrugineous to ferrugineous. Pro- and mesotarsus quite broad. Protarsal claws distinctly thickened (Fig. 765).

**Male genitalia:** Figs 766–768.

Female: Body dorsally submat to mat, distinctly microsculptured (meshes well developed). Protarsal claws not thickened, simple.

Distribution: Guinea, Zaire (Fig. 778).

Biology: Unknown.

### **Hydrovatus parallelipennis** Régimbart

Figs 15, 769–778.

*Hydrovatus parallelus* RÉGIMBART, 1889:54 (orig. descr., faun.); 1895b:113 (disc., nom. praecoc. by *Hydrovatus parallelus* Sharp, 1882); ZIMMERMANN, 1920a:34 (list.); GUIGNOT, 1959a:174 (list.).

*Hydrovatus parallelipennis* RÉGIMBART, 1895b:113 (nom. nov., descr., faun.); ZIMMERMANN, 1920a:34 (faun.); GSCHWENDTNER, 1932a:260 (faun.); 1938b:337 (disc.); GUIGNOT, 1948a:6 (descr., disc., faun.); 1953a:234 (faun.); 1954a:3 (disc.); 1954b:12 (disc.); 1955c:182, 185 (female descr., disc., faun.); 1959a:172, 174 (descr., faun.); FERREIRA, 1967:532 (faun.); BERTRAND & LEGROS, 1975:678 (faun.); BILARDO & PEDERZANI, 1978:104, 107 (descr., disc., faun.); PEDERZANI & ROCCHI, 1982:71 (faun.); BILARDO & ROCCHI, 1990:161, 170 (faun., biol.).

*Hydrovatus histeroides* RÉGIMBART, 1899a:373 (orig. descr., faun.); ZIMMERMANN, 1920a:34 (faun.); GUIGNOT, 1954b:12 (faun.); 1959a:172, 175 (descr., faun.).

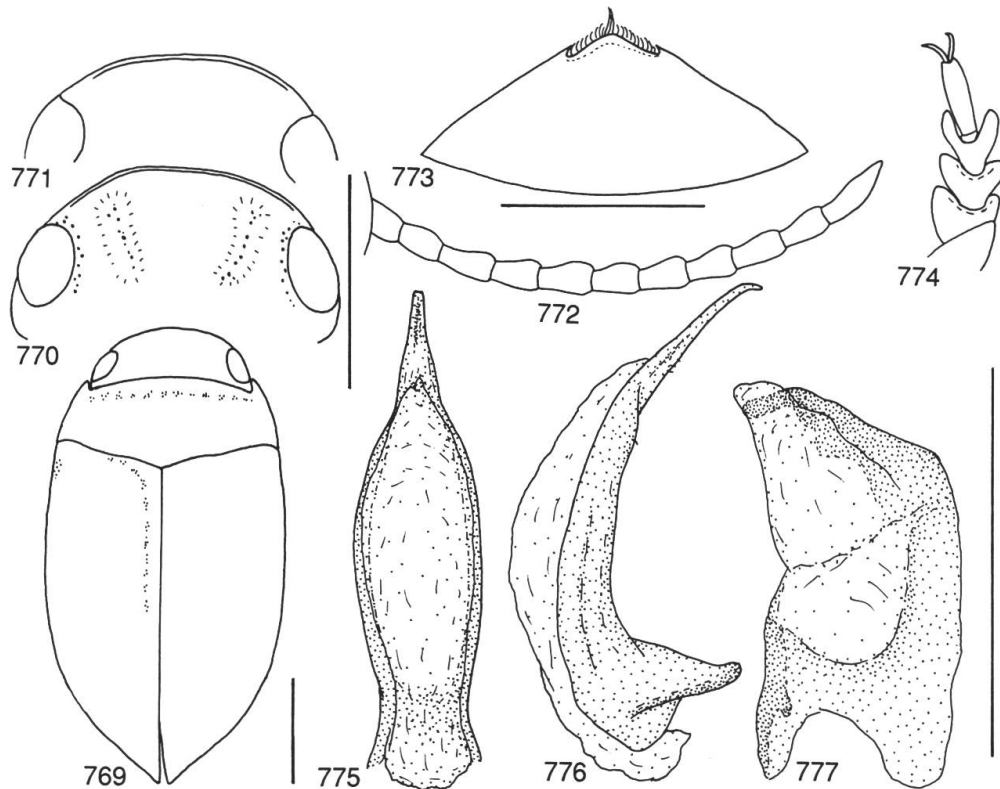
**New synonym.**

Type locality: Humpata, Angola.

Type material studied: *H. parallelus* = *H. parallelipennis*: Holotype, m: *Hydrovatus parallelus* n.sp. type Rgb./P.J. v.d. Kellen Humpata Afr. trop./*parallelus* n.sp. Régimbart (RNHL). – *H. histeroides*: Holotype, f: Madagascar Antongil (Sud) Mocquerys 1897/Type/*histeroides* n.sp. (MNHN). The unique specimen was rediscovered in MNHN.

Additional material studied: Sierra Leone: Makeni 12,03W;8,53N 27.XI.1993, light trap 18–21 (1 ex. LUZ). – Ivory Coast: Kafolo Como 28.IV.1988 (1 ex. MNS, 1 ex. MZH). – Ghana: N reg. Damongo game res. 9.04N–1.48W/at light 12.VIII.1971 (1 ex. TMP); N Reg. Banda-Nkwanta/light trap 10.X.1965 (1 ex. TMB); Ashanti Reg. Kumasi 330 m/light trap 12.,18.,20.V., 16.,24.VI.1966, 1967 (9 exx. TMB, 3 exx. MZH). – Nigeria: Zaria/*H. parallelipennis* Régb. det. Rocchi 1977 (1 ex. coll. Rocchi). – Zaire: Elisabethville (1 ex. ISN, mat female morph); Tshuapa Terr. Bikoro 350 m L. Tumba X.1955/*H. parallelipennis* var. f *heteromorphus* Guign. det. Guignot 1956 (1 ex. MAC, mat female); PNG 28.IV.1952/Guignot det., 1958 *H. hypophaeus* n.sp. holotype (1 ex. MAC, never described); same but 17.VII.1952 (1 ex. MAC); same but 8.VIII.1952 (1 ex. MAC); same but 19.VIII.1952 (1 ex. MAC); same but 13.IX.1952 (1 ex. MAC). – Sudan: Bahr el Abiad (1 ex. MNB). In all, 28 exx.

Diagnosis: A very distinct species characterized by a quite large, elongate body (body partly parallel-sided) and by the peculiar shape of the penis. Closely related to the two consecutive species *H. mollis* and *H. vividus*. The three species are distinguished by examination of the penis. The slender apex of the penis is very strongly bent, and the body in comparison is broader in *H. mollis*, and the penis of *H. vividus* is medially provided with a ventral expansion (lateral view).



Figs 769–777: *Hydrovatus parallelipennis*. – 769, habitus. – 770–771, head, frontal aspect. – 772, antenna. – 773, female apical sternite. – 774, male protarsus. – 775, penis, dorsal aspect. – 776, penis, lateral aspect. – 777, paramere. Horizontal scale 0.5 mm, antenna, tarsus and sternite; left top scale 1 mm, head; left bottom scale 1 mm, habitus; right scale 1 mm, genitalia.

Length of body: 3.36–4.12 mm, breadth: 2.00–2.24 mm. Habitus (Fig. 769). Body for quite a long distance almost parallel-sided.

Head: Pale ferrugineous to dark ferrugineous. Very finely and sparsely punctate. At eyes and in shallow frontal depressions with a few coarser punctures. Rather shiny, but microsculptured (meshes rather distinct). Head frontally rounded, medially straightened, narrowly margined (near eyes margin often reduced, partly absent) (Figs 770–771). Antenna pale ferrugineous, quite slender, not distinctly modified (Fig. 772).

Pronotum: Pale ferrugineous to blackish ferrugineous. Often paler laterally than medially. Finely and rather sparsely punctate. Laterally punctures become still finer; at sides of pronotum punctures may be absent, except for an irregular row of slightly coarser punctures located at pronotal margins (at basal margin row may be restricted to a few punctures). Rather shiny, finely microsculptured (meshes of



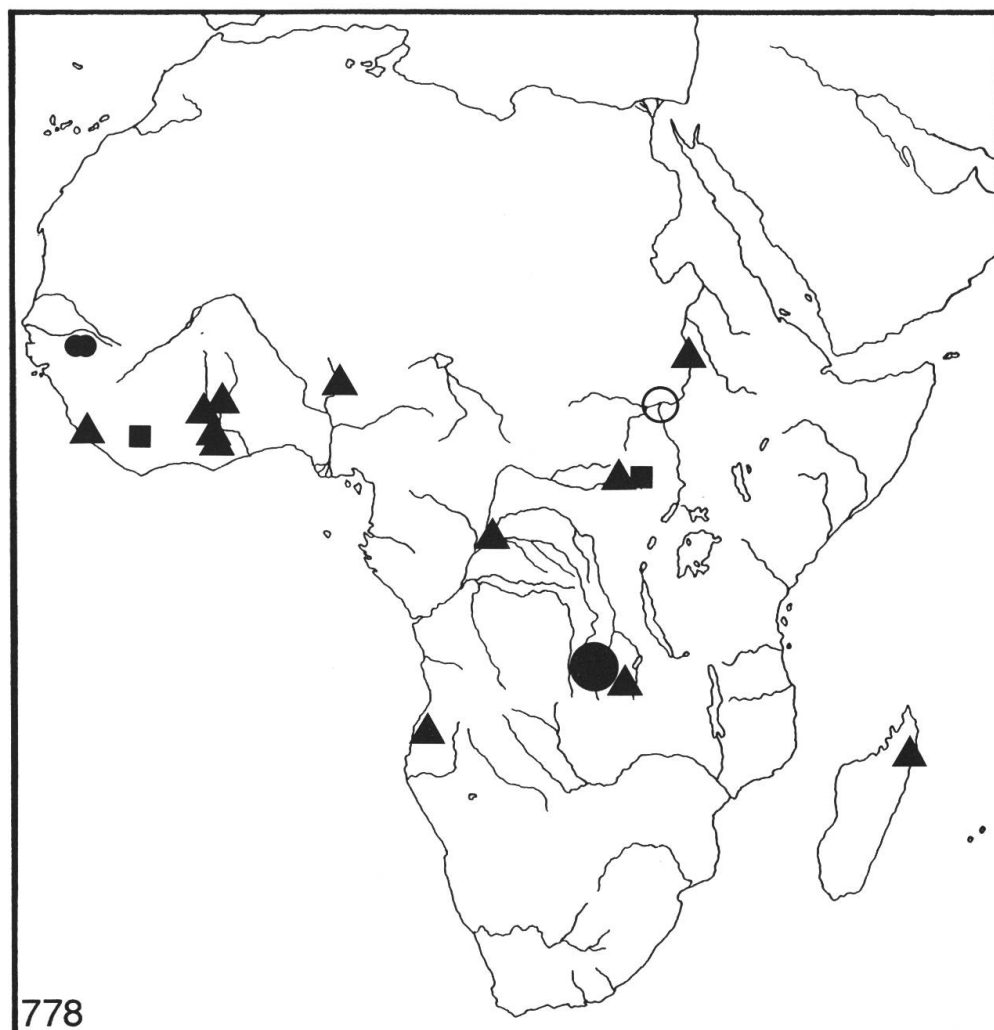


Fig. 778: Distribution of *Hydrovatus niokoloensis* (small dot), *H. nimbaensis* (square), *H. parallelipennis* (triangle), *H. mollis* (circle) and *H. vividus* (large dot).

microsculpture distinct). Lateral outline of pronotum rounded to almost straight.

Elytra: Pale ferrugineous to blackish ferrugineous. Laterally elytra often become gradually paler, but without distinct colour pattern. Very finely and sparsely punctate (laterally punctures almost absent). Discal row of punctures distinct from base almost to apex. Dorsolateral row of punctures distinct but sparser and more irregular than discal row. Lateral row of punctures also quite distinct although somewhat irregular (Fig. 15). At suture, scattered punctures also form an additional row. Between discal and lateral rows with a few scattered punctures besides fine punctation. Rather shiny, microscul-



ptured (meshes fairly distinct). Epipleura pale ferrugineous to dark ferrugineous, with a few coarse punctures, finely microsculptured.

Ventral side: Pale ferrugineous to pale brown to dark ferrugineous. Metathorax and -coxalplates almost totally rather finely and quite densely punctate. Metacoxal plates posteriorly and abdomen almost impunctate. Shiny, almost totally without microsculpture. Abdomen microsculptured, slightly mat. Prosternal process laterally and mediobasally margined, medial surface almost flat to slightly convex, with obscure punctation.

Legs: Pale brownish to pale ferrugineous to ferrugineous. Pro- and mesotarsus broad, with simple claws (Fig. 774).

Male genitalia: Figs 775–777.

Female: Elytra distinctly matter than pronotum and with well developed distinct reticulation. Abdominal sternite as in Fig. 773.

Distribution: Sierra Leone, Ivory Coast, Ghana, Nigeria, Zaire, Sudan, Angola, Madagascar (Fig. 778). Additional unverified records are Gabon (GUIGNOT, 1959a), and Congo (e.g. PEDERZANI & ROCCHI, 1982).

Biology: In Sierra Leone and Ghana sampled at light collection. See also BILARDO & ROCCHI (1990).

Synonymy: The holotype of both species involved has been examined, and despite minor external differences they are considered to belong to the same species. The name *H. parallelipennis* is the valid name of this species (oldest available name).

### **Hydrovatus mollis** n.sp.

Figs 778–783.

Type locality: River Post, appr. 105 km S of Lake No, Sudan.

Type material studied: Holotype, m: m/Type/Sudan 28.V–19.VI.1954 I.W.B. Thornton/Brit. Mus. 1987–14/River Post 21, app. 105 km S of Lake No/Pt. VIII (3) a/*Hydrovatus mollis* Type! J. Balfour-Browne det. XII.1956 (BMNH). In all, 1 ex.

Etymology: The manuscript-name *H. mollis* proposed by J. Balfour-Browne is here adopted.

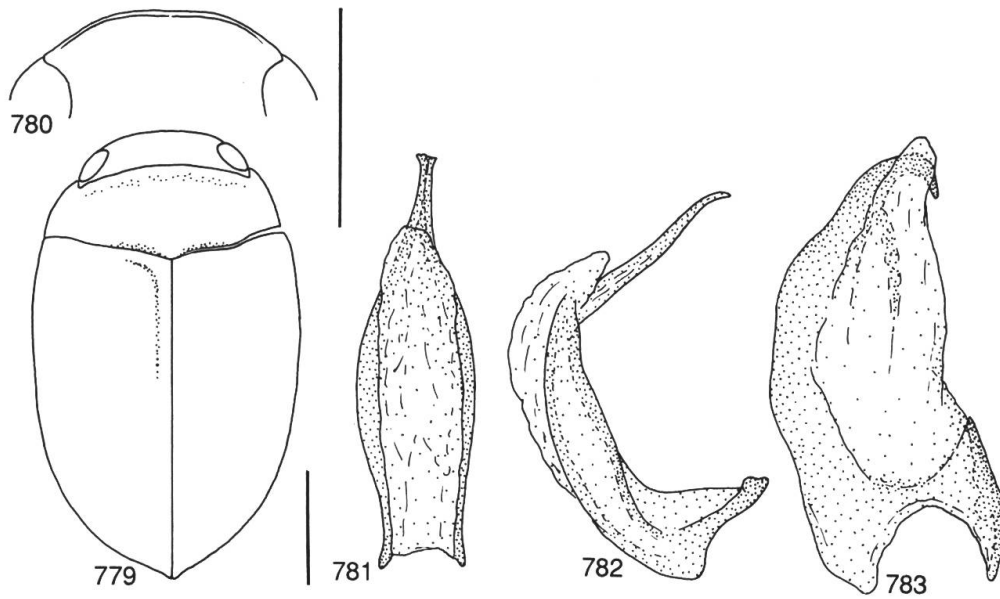
Diagnosis: A distinct species characterized by a comparatively broad body and by a strongly bent penis apex. See also diagnosis of *H. parallelipennis* above.

Description: only important deviations from description of *H. parallelipennis* recognized.

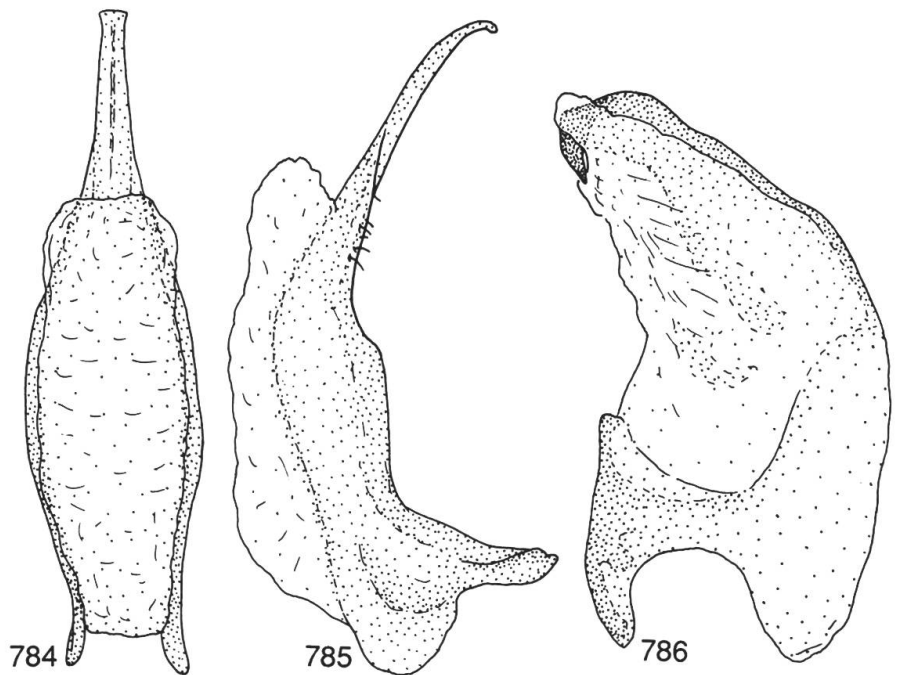
Length of body: 3.84 mm, breadth: 2.24 mm. Habitus in Fig. 779.

Head: Frontal aspect of head in Fig. 780. Antenna broken.

Pronotum: Lateral outline of pronotum distinctly curved.



Figs 779–783: *Hydrovatus mollis*. – 779, habitus. – 780, head, frontal aspect. – 781, penis, dorsal aspect. – 782, penis, lateral aspect. – 783, paramere. Left top scale 1 mm, head; left bottom scale 1 mm, habitus; right scale 1 mm, genitalia.



Figs 784–786: *Hydrovatus vividus*. – 784, penis, dorsal aspect. – 785, penis, lateral aspect. – 786, paramere. Scale 1 mm.

Ventral side: Prosternal process mediobasally not margined.

Male genitalia: Figs 781–783.

Female: Unknown.

Distribution: Sudan (Fig. 778).

Biology: Unknown.

### **Hydrovatus vividus** Guignot

Figs 778, 784–786.

*Hydrovatus vividus* GUIGNOT, 1954a:3 (orig. descr., faun.); 1954b:12 (descr., faun.); 1958b:5 (disc.); 1959a:172, 175 (descr., faun.).

Type locality: Mabwe, PNU, Zaire.

Type material studied: Holotype, m: Holotypus/Congo belge PNU Mabwe 585 m 2.II.1949 Mis. .F. de Witte 2305a/Coll. Mus. Congo (ex coll. I.P.N.C.B.)/Dr. F. Guignot det. 1953 *Hydrovatus vividus* Guign. Type m (MAC). – Paratype: Same data as holotype but: Allotypus/31.I. 3.II.1949, 2299a (1 ex. MAC). In all, 2 exx.

Diagnosis: Very close to *H. parallelipennis* above, but distinguished by examination of the penis: Ventral outline of penis medially with a distinct expansion.

Description: only important deviations from description of *H. parallelipennis* recognized.

Length of body: 4.36–4.40 mm, breadth: 2.48–2.52 mm. Dorsal aspect of body as in *H. parallelipennis* (Fig. 769).

Male genitalia: Figs 784–786.

Female: Externally as male.

Distribution: Zaire (Fig. 778).

Biology: Unknown.

### **6.5.11. Species group 11 (sp.gr. *oblongipennis*)**

#### **Hydrovatus seminarius** Motschulsky

Figs 787–795.

*Hydrovatus seminarius* MOTSCHULSKY, 1859:42 (orig. descr., faun.; in part *H. maai* n.sp.); 1869:29 (faun.); SHARP 1882a:815 (descr., faun.); BRANDEN, 1885:27 (faun.); RÉGIMBART, 1899b:239 (faun.); ZIMMERMANN, 1920a:35 (faun.).

*Hydrovatus fuscus* SHARP, 1882a:326 (orig. descr., disc., faun.); BRANDEN, 1885:26 (faun.); SHARP, 1890:343 (faun.); SEVERIN, 1890:CXC (faun.); RÉGIMBART, 1899b:233 (descr., faun.); JAKOBSON, 1905:419 (faun.); ZIMMERMANN, 1920a:33 (faun.); FENG, 1933a:324 (faun.); 1933b:92, 93 (descr., faun.); WU, 1937:203 (faun.); GUIGNOT, 1954g:564 (faun.); 1956g:57 (faun.); VAZIRANI, 1969:3 (faun.); 1970b:106 (descr., faun.); WEWALKA, 1972:115 (faun.); VAZIRANI, 1973:288, 293 (descr., faun.); ROCCHI, 1976:179 (faun.); VAZIRANI, 1977a:28 (faun.); BRANCUCCI, 1979:196 (faun., descr.); ROCCHI, 1982:57 (faun.); WEWALKA, 1982:117, 123 (faun.); JÄCH, 1984:237 (faun., biol.); ROCCHI, 1986a:33 (faun.); NAKANE, 1990a:198 (disc.). **New synonym.**