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Taxonomic Revision of the Genus *Hydrovatus* Motschulsky (Coleoptera, Dytiscidae)

(Contribution to the study of Dytiscidae 55)

by **O. Biström**

Abstract: This revision of the genus *Hydrovatus* Motschulsky, 1853 is based on examination of adult specimens. In all, 202 species are tentatively recognized in the genus (the status of some species remains unclear). A new classification based on a character analysis is introduced, dividing the genus into 15 species groups. The phylogeny of Hydrovatini is discussed; the tribe is regarded as monophyletic. Two monophyletic genera are associated with Hydrovatini: *Queda* Sharp and *Hydrovatus*. A combination of Methlini and *Hydrovatus* excluding *Queda* is rejected. Diagnoses and descriptions for all recognized taxa are given together with keys for their identification. Known distribution and biological data are given for all species. A brief zoogeographical survey indicates that the place of origin of Hydrovatini and its genera is Gondwanaland, 100 million years ago or more, before the opening of the South Atlantic rift.

New taxa are described as follows: *Hydrovatus hintoni* n.sp. (Mexico); *H. kavanaughi* n.sp. (Mexico); *H. youngi* n.sp. (Mexico); *H. longior* n.sp. (Mexico); *H. asemus* n.sp. (Uganda, Zaire); *H. visendus* n.sp. (Tanzania, Zimbabwe); *H. fernandoi* n.sp. (Angola); *H. eximius* n.sp. (Zimbabwe, Mozambique); *H. angusticornis* n.sp. (Angola); *H. imitator* n.sp. (Zaire); *H. nilssoni* n.sp. (Gambia, Senegal, Congo, Angola); *H. unguicularis* n.sp. (Uganda, Sudan); *H. tydaeus* n.sp. (Sudan, Ethiopia); *H. maai* n.sp. (Malaysia, Indonesia); *H. similis* n.sp. (Philippines); *H. balfourbrownei* n.sp. (Malaysia); *H. laosensis* n.sp. (Laos); *H. saundersi* n.sp. (Malaysia, Singapore); *H. pisiiformis* n.sp. (Thailand, Singapore); *H. latipalpis* n.sp. (Zaire); *H. rocchii* n.sp. (Guinea Bissau); *H. irianensis* n.sp. (Indonesia); *H. schawalleri* n.sp. (Tanzania); *H. mollis* n.sp. (Sudan); *H. weiri* n.sp. (Australia); *H. naviger* n.sp. (Philippines); *H. cessatus australis* n. ssp. (Angola); *H. vulpinus* n.sp. (Zimbabwe); *H. unguiculatus* n.sp. (Ghana), *H. wittei* n.sp. (Zaire); *H. vulneratus* n.sp. (Nigeria, Zaire); *H. soror* n.sp. (Tanzania, Zimbabwe); *H. stridulus* n.sp. (Thailand, Malaysia, Singapore); *H. samuelsoni* n.sp. (Indonesia); *H. enigmaticus* n.sp. (Indonesia); *H. jaechi* n.sp. (Indonesia); *H. agathodaemon* n.sp. (Indonesia).

New synonymies are established as follows (first valid name): *H. pictulus* Sharp, 1882 = *H. scymnoides* Régimbart, 1895; *H. subrotundatus* Motschulsky, 1859 = *H. carbonarius* (Clark, 1863), *H. carbonarius* v. *fuscobrunneus* (Clark, 1863), *H. ferrugatus* Régimbart, 1877, *H. elevatus* Sharp, 1882, *H. orientalis* Sharp, 1882 and *H. javanus* Csiki, 1938; *H. leconteii* (Clark, 1862) = *H. inornatus* Sharp, 1882; *H. pustulatus* (Melsheimer, 1846) = *H. indianensis* Blatchley, 1910; *H. parvulus* Régimbart, 1899 = *H. noctivagus* Guignot, 1953, *H. socors* Guignot, 1954 and *H. ocnerus* Guignot, 1958; *H. granosus* Guignot, 1958 = *H. similis* Bilardo & Rocchi, 1987; *H. confossus* Guignot, 1958 = *H. platycerus* Bilardo & Pederzani, 1978; *H. flammulatus* Sharp, 1882 = *H. gravicornis* Omer-Cooper, 1957; *H. absonus* Guignot, 1948 = *H. lachnaeus* Guignot, 1958 and *H. absonus borkuanus* Bruneau de Miré & Legros, 1963; *H. abraeoides* Régimbart, 1895 = *H. metrius* Guignot, 1961; *H. glaber* Guignot,

1953 = *H. katangensis* Guignot, 1958 and *H. medioximus* Omer-Cooper, 1963; *H. spissicornis* Régimbart, 1904 = *H. proculus* Guignot, 1942; *H. madagascariensis* Régimbart, 1903 = *H. lophotus* Guignot, 1948; *H. cribratus* Sharp, 1882 = *H. laticornis* Régimbart, 1895 and *H. dyscheres* Guignot, 1955; *H. longicornis* Sharp, 1882 = *H. berdoa* Bruneau de Miré & Legros, 1963; *H. globulosus* Gschwendtner, 1943 = *H. pauxillus* Gschwendtner, 1943; *H. pudicus* (Clark, 1863) = *H. pusillus* Régimbart, 1881; *H. gabonicus* Régimbart, 1895 = *H. pravus* Guignot, 1954, *H. difficilis* Guignot, 1956 and *H. discifer* Guignot, 1958; *H. ovalis* Sharp, 1882 = *H. armstrongi* Watts, 1978; *H. collega* Guignot, 1955 = *H. rutilus* Omer-Cooper, 1963; *H. acuminatus* Motschulsky, 1859 = *H. obscurus* Motschulsky, 1859, *H. sordidus* Sharp, 1882, *H. humilis* Sharp, 1882, *H. affinis* Régimbart, 1895 and *H. obscurus* Régimbart, 1895; *H. nimbaensis* Guignot, 1954 = *H. ornatus* Guignot, 1958; *H. parallelipennis* Régimbart, 1895 = *H. histeroides* Régimbart, 1899; *H. seminarius* Motschulsky, 1859 = *H. fuscus* Sharp, 1882, *H. tinctus* Sharp, 1882 and *H. matsuii* Nakane, 1990; *H. cuspidatus* (Kunze, 1818) = *H. simplex* Sharp, 1882; *H. insolitus* Guignot, 1948 = *H. propinquus* Guignot, 1955, *H. cryptus* Guignot, 1956, *H. tritus* Guignot, 1959 and *H. noctigali* Bruneau de Miré & Legros, 1963; *H. castaneus* Motschulsky, 1855 = *H. reticulatus* Zimmermann, 1924 and *H. bironicus* Guignot, 1956; *H. obsoletus* Peschet, 1922 = *H. adelphus* Guignot, 1956; *H. simoni* Régimbart, 1894 = *H. glomeratus* Guignot, 1942 and *H. consimilis* Omer-Cooper, 1957; *H. regimbarti* Zimmermann, 1919 = *H. laeviusculus* Gschwendtner, 1943 and *H. subsimilis* Guignot, 1958; *H. facetus* Guignot, 1942 = *H. continentalis* Guignot, 1957 and *H. quezeli* Bruneau de Miré & Legros, 1963; *H. reticuliceps* Régimbart, 1895 = *H. liberatus* Guignot, 1945 and *H. compotor* Guignot, 1955; *H. impunctatus* Guignot, 1953 = *H. cunctator* Guignot, 1958, *H. vagetinctus* Guignot, 1958 and *H. pallidus* Bilardo & Pederzani, 1979; *H. contumax* Guignot, 1954 = *H. rohani* Guignot, 1959; *H. villiersi* Guignot, 1955 = *H. albertianus* Guignot, 1959, *H. unicus* Guignot, 1959 and *H. browneanus* Guignot, 1959; *H. pulcher* Gschwendtner, 1934 = *H. legrosi* Guignot, 1954; *H. badeni* Sharp, 1882 = *H. cicer* Guignot, 1942; *H. obtusus* Motschulsky, 1855 = *H. acutus* Sharp, 1882.

Lectotypes are designated for many taxa.

Hydrovatus pasiricus Csiki, 1938 and *H. p.* var. *simplicior* Csiki, 1938 and *H. p.* var. *unicolor* Csiki, 1938 should not be placed in *Hydrovatus* as here defined. Possibly they should be placed somewhere close to *Hyphydrini*. The taxonomic status of a few *Hydrovatus* species remains unclear because no material have been available for study.

Key words: Coleoptera Dytiscidae - *Hydrovatus* - revision - description - new species.

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1. Introduction

With this revision of the diving-beetle genus *Hydrovatus* Motschulsky I conclude my survey of the taxonomy and systematics of the hydroporine tribe Hydrovatini.

The traditional composition of Hydrovatini, introduced by SHARP (1882a), includes two genera, viz. *Hydrovatus* and *Queda* Sharp. A separate revision of the latter genus was published by BISTRÖM (1990). A reorganisation of the Hydrovatini has recently been sug-