

**Towards a standardized scheme
for description of a new genus of Hydrophilidae
(Coleoptera: Hydrophilidae)
FRANZ HEBAUER**

ABSTRACT:

A standardized scheme for description of a new genus of Hydrophilidae is proposed.

KEY WORDS: INSECTA, COLEOPTERA, HYDROPHILIDAE, SYSTEMATICS.

INTRODUCTION

Standardization of descriptions:

When reading ancient descriptions (which are sometimes difficult to attain) of animals or plants one is often disappointed by their paucity and by lack of comparisons. In most cases only size, shape and colour are given. This was sufficient so long as no similar species were known or to be expected. Increasingly more and more species and genera have been discovered, which need more detailed descriptions enabling clear separation and comparison. The best way to compare descriptions is to standardize the mode of description. The more characters that are taken in consideration within a description the easier it is to compare and to separate the taxon from those with which it is allied. The description of a feature is worthless without mentioning the same feature in the compared species. It is recommendable that a specific scheme is drafted for every genus and that this is used when describing further species or genera, and for revising a genus.

Some examples of features in difficult genera are given by HEBAUER (2007).

KOMAREK, A. & BEUTEL, R.G. (2007) suggest a standardized description of new supraspecific insect taxa as the basis for phylogenetic principles and cladistics.

Following HANSEN (1999) every description of a new Hydrophilidae genus should follow a rough scheme as follows:

a) Tribe – genus – type species – etymology – description - discussion (delimitation from related genera) – key to the species – figures.

A PROPOSED STANDARDIZED SCHEME FOR DESCRIPTION OF A NEW GENUS OF HYDROPHILIDAE

HYDROPHILIDAE gen.nov.

(Proposed in cooperation with MICHAEL HANSEN +)

[I suggest writing the following table by a computer in a DIN A4 format, with gaps between the asked characters to use it as a formulary for better practical work]

GENUS:

TYPE SPECIES:

BODY SHAPE

elongate / oval / almost globular [with power of rolling up], little / moderately / strongly convex, [compressed from the sides], its contour not / distinctly interrupted between pronotum and elytra.

LABRUM

(size:) (shape), anterior margin with a narrow / wide excision / emargination in middle, (setae?)

CLYPEUS

[not] demarcated from frons by a fine transverse suture / impression, without / with an antero-lateral group of coarser setiferous punctures, [excised before eyes, so antennal base is exposed] [anterior / and lateral portions deflected].

FRONS

with even / uneven surface, with distinct / without ocelli.

EYES

(size & shape) [anteriorly markedly / distinctly emarginate] [partly / completely divided by a lateral canthus into a dorsal and a ventral part], posteriorly [not] demarcated from temporae [by a fine / strong ridge].

HEAD

abruptly / moderately / only slightly narrowed behind eyes.

MAXILLARY PALPI

(length:)x width of head, last segment asymmetrical / symmetrical, longer than / as long as / shorter than penultimate segment.

MENTUM ... x wider than long, (shape:) anterior margin [concave inside anterior angles], [medial portion prolonged forwards, smoothly convex / emarginate medially].

LABIAL PALPI

shorter than / as long as mentum, penultimate segment without / with a subapical wreath of / on inner face with a group of setae, last segment (size:) (setae:)

GULA

(length & shape) (width:length) x as wide as long.

ANTENNAE

....-segmented, 1st segment moderately / very long, 2nd (shape & length:) (intermediate segments:) cupula well / slightly / hardly differentiated, 7th –11th (or:) forming a loose / rather compact / compact pubescent club (other characteristics:)

PRONOTUM

(shape:) surface smooth / uneven (evt. pattern of punctures [forming an oblique transverse ellipsoid group on each side] [forming two oblique transverse, arcuate series (one behind the other) on each side].

INFLEXED PORTIONS OF PRONOTUM

glabrous [shining], strongly / feebly demarcated medially.

PROSTERNUM

well developed / very short, (convexity:) (pubescence:) with / without shallow / well defined antennal grooves [anteriorly on proepisternae] [on prosternum, these well demarcated laterally / and medially, reaching / not reaching lateral margins of prothorax].

PROSTERNAL PROCESS

(shape:) [with / without apical notch].

PROEPIMERES

closing / not closing coxal cavities posteriorly [in more than outer half].

MESOVENTRITE

(shape:) (convexity:) rather dull / shining, with / without [hydrofuge] pubescence, [fused to the mesepisternae].

METAVENTRITE

(convexity:) with / without hydrofuge / sparse pubescence [except (for a posteromedian glabrous area) on (raised) middle portion], with / without femoral lines, with / without anterolateral arcuate ridge corresponding to the arc described by the tips of posterior femora.

METEPISTERNAE

(shape & width:)

ABDOMEN

with ... visible sternites, 1st (length:) [not longitudinally carinate / with a sharp longitudinal carina in middle], (2nd segment:) [posterior margin of 5th visible sternite without / with a small median emargination (bordered with stout setae)] [with a pronounced sub-rectangular apical excision].

ELYTRA

with 10 (or:) regular series / striae of punctures / without series of punctures, with / without scutellary stria [but with impressed sutural stria posteriorly]. All striae running towards apex / lateral striae deflected towards elytral margin, gradually ending further to the anterior.

SCUTELLUM

(size & shape:)

COXAE

with hydrofuge / sparse pubescence [or: glabrous]; middle coxae (shape) ... posterior coxae rather strongly / slightly narrowed laterally.

ANTERIOR FEMORA

glabrous / pubescent in basal half / third; without / with tibial grooves [demarcated by (sharp) ventral / and dorsal ridges.

MIDDLE FEMORA (as anterior femora).

POSTERIOR FEMORA (as anterior femora).

MIDDLE AND POSTERIOR FEMORA

completely contacting the trochanter basally / not completely contacting the trochanter basally, but with the anterior basal angle freely projecting.

TIBIAE

[long and] slender / stout, not / only slightly / strongly flattened dorso-ventrally, with fine / stout spines.

MIDDLE TIBIAE

[with a fringe of long swimming hairs on outer face (and one on inner face)].

TARSI

... -segmented(relative length of segments:)......claws (appearance)

HIND WINGS

(length & shape) S-M2 runs from distal end / middle / proximal end of Ra, [media distinct, united with cubitus to form a M-Cu-loop] [media not distinct, no M-Cu loop].
basal cell reaching almost halfway / only 1/3 towards posterior margin, [not distinct],
wedge cell more than / only about 1/2 x as long as basal cell, [not distinct],
without / with jugal lobe [which is / is not demarcated from rest of wing by a sharp excision].

Other characteristics:

Eggs / larva / pupa described by:

APOMORPHIES (defining the genus):

NUMBER OF SPECIES:

DISTRIBUTION:

BIONOMICS:

TYPE SPECIES:

REFERENCES

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Acta Coleopterologica](#)

Jahr/Year: 2008

Band/Volume: [24_1](#)

Autor(en)/Author(s): Hebauer Franz

Artikel/Article: [Towards a standardized scheme for description of a new genus of Hydrophilidae \(Coleoptera: Hydrophilidae\) 63-66](#)