

TT 75-53022

From: Soc. Int. de Belg. Bul. and An., Vol. 79, No. 3,
1939. pp. 154 - 166.

D'Orchymont, A.

REVISION OF THE TYPES OF SPECIES CREPHELOCHARES
d'HELOCHARES (Revision des especes du sous-genre
Crephelechares d'Helochares).

Translated from French

Prepared for the Smithsonian Institution and National Science
Foundation, Washington, D.C. by Saad Publications (Translations
Division).

REVISION OF THE TYPES OF SPECIES CREPHELOCHARES & HELOCHARES.

SOC. ENT. DE BELG. BUL. AND AN., in French, Vol. 79, No. 3, 1939.
pp. 154 - 166.

(Article by D'Orchymont, A.)

.....

The subgenus Crepelochares was established by KUWERT in 1890 and considered different from the subgenus Helochares in sp, because of the presence of a sutural stripe, shortened in front and from the subgenus Graphelochares KUWERT 1890 (Hydrobaticus W. MacLeay, 1871) because of irregularly punctuated elytra. Therefore, many authors, amongst them FAUVEL, SHARP, REGIMBART, etc. took these Coleoptera for 'Philhydrus' (= Enochrus). Moreover, the mesosternum is not endowed in its middle and in front of the intermediary hips by a simple protuberance, but by a crest-shaped hull, placed lengthwise, slightly higher in front than at the rear. Out of the two species, placed by its author in the subgenus, only one, the subgenotype 'livornicus' Kuwert belongs to it. The other one, mentinotus is a mixture of Helochares (Hydrobaticus) mentinotus (Kuwert, s. str) and Enochrus (Lumetus) bicolor (Fabricius) ♀, as I showed it after studying the types⁽¹⁾.

(1) Bull. Mus roy, Hist. Nat. Belgium, no. 23, 1936, p. 6 - 10.

GANGLBAUER in 1904 was admitting this subgenus but was naming it Crepidelo - chares . He had no right to bring this change, which was rather unfortunate, as Kuwert had not indicated any etymology for the name he was proposing and therefore must be considered a gathering of letters only⁽¹⁾ .

REITTER in 1909 turned 'Crepidelochares' into a separate genus but as he was only concentrating on the palearctic fauna, he could not have an adequate and complete view of the internal hierarchy of the Helochares .

In 1919, I established that Crephelelochares (Crepidelochares) is only phylogenically a sub genus of Helochares and I reunited it to the American Chasmogenera of SHARP. Since then, I noticed that chasmogenus had 8- articulated antennae and an aedeagus of the simple trilobed type where-as for the Crephelelochares these appendages are 9-articulated and the aedeagus, though trilobed, is more specialized and highly differentiated from one species to another though the two subgenera are very close, they must remain separated.

(1) The word formation cannot thus be discussed. Did KUWERT intend to juxtapose the greek substantive root krepi from Krepis (man shoes etc or construction on the water side) to the name Helochares and thus contract the obtained composed noun by suppressing the 1'iota which is not usual, we do not know.

This coleopterae were taken by FAUVEL, SHARP and REGIMBART for Enochrus (Philhydrus) because their elytra were provided with a sutural stripe. Let us remind that the study of the various groups forming the complex Helochares on the one hand, and the S. lat, Enochrus on the other, demonstrates that the leit-motiv of insects evolution does not lie there. It lies in the long maxillary palps, the last segment of which is articulated near the mouth as for the Helochares ⁽¹⁾, whereas for the Enochrus, the palps are shorter and the last segment, much shorter, is articulated exteriorly.

The Crepelochares externally show a despairing uniformity which brought confusion in their study. I also thought there were only two or three species before I came to know the genotype, a first one, livornicus, the posterior pronotum angles of which are broadly rounded and to which I gave a vast area of dispersion; a second one, rutilus, known only in Gabon, recognizable by the same sharply rounded, almost straight angles. Indeed, because of their general facies which are always the same, their reddish brown coloration, more or less dark, close to black when they are normally colored, their very smooth aspect and their carving which tends to wipe off and finally their absence of sexual character and dimorphism, they could be considered having reached long ago a final equilibrium level.

1) This is why SHARP named the Ceylon species abnormalis thinking it was exceptional and unique. "The terminal Joint (of palps) articulated as in Helochares bend inwards not outwards as is the case in the normal Philhydrus".

His impression did not last after my examination of the male genital characteristics. This organ seemed to me very complicated in its subgeneric general morphology and in its more special differentiations of a specific order. The characteristics of this genital proved to be highly stable and with no transition within the frame of each species. The comparison of the aedeagus is thus the only mean which allows the discernment of species with no risk of errors. As to females, their attribution to males is very difficult, particularly when distinct forms live together in the same area. It is the case in Gabon and in the Eastern region.

The male genital offers particularities having a subgeneric value. Amongst those, we shall mention the median lobe, which is truncated at the end as for all the species, but narrows just before this truncature. The lobe just ends into a regular transversal small trapeze, the longer side of which is terminal. Moreover, the same lobe has a mobile ventral piece which is more or less sclerotized according to species and broadens towards the base. Distally, it ends into a more or less broad stylet which can be sometimes very narrow. Between the ventral and dorsal piece, on each side of the stylet, there is a membranous organ which is not always visible and sometimes tapers into a slightly sclerotized end. (fig. 5).

The geographical distribution of the group is generally very wide; but each species, when considered separately, has a

smaller dispersion area. The genotype livornicus, still ill-known, seems located in some places around the Mediterranean sea. Continental and tropical Africa possesses at least five species. The mollis area is limited to Madagascar and the Seychelles Islands. On the other hand, the Eastern Species abnormalis has been spotted in various places distant from one another; seen in Ceylon, it definitely exists in Indo-China, Malaysia and even in the Philippines. H. niteascens from New Caledonia seems to live also in East Australia and even in the Fiji Islands since I saw a (female) ♀, not definitely determined due to the (male) ♂ absence, marked Fiji, Lontoka, 24-IV-1919 (R. VEITCH), Helochares (Chasmogenus) n. sp. near nigritulus REG, KNISCH det 1922".

This study is only a catalogue which is brought upto date. The species are classified in order of seniority; their phylogenic relations from form to form are still not clear. Hence, this constitutes a limitation to this study.

It concerns quite rare insects or insects leading a hidden life, because they are seen in collections, isolated or in very small series. The series sent from Gabon by STAUDINGER is the only one which are quite complete.

Helochares subgenus Crephelochares KUWERT

Helochares subg. Crephelochares KUWERT, Verh.

Naturf. Ver. Brunn, vol. 28 (1889), 1890, p. 34.

A. D'ORCHYMONT, Mem. Est. Mus. Zool. Univ. Coimbra,

ser/ I, n° 96 (1936), 1937, p. 8.

Helochares subg. Crepidelocharis GANGLBAUER, Kaf .

Mittelleur., IV, I, 1904, p. 248.

Crepidelocharis REITTER, Susswasserfauna Deutschl., 3.4,

1909, p. 74; Fauna Germanica, II, 1909, p. 363,

nota 1.

Helochares subg. Chasmogenus A. D'ORCHYMONT, ex p.

(non SHARP, 1882), Ann. Soc. Ent. Fr., 88, 1919

p. 148. 149 (minus the American species).

H. (C.) nitescens (FAUVEL).

Philydrus nitescens FAUVEL, Rev. Ent. Caen, II, 1883,

p. 354; XXII, 1903, p. 353.

Though I could not see the type of this species described from New Caledonia, soft water marshes in Anse Vata, August - The FAUVEL collection is not accessible to non entomologists - I am certain it is Crephelochares because of the maxillary palps described "longissimis, gracilibus, gracilibus, articulo 3° 2° subaequali."

An Australian specimen marked 'Cairns Qd' (=Queensland) might belong to this species (1). It is a ♂ the aedeagus of

(1) In 1925, (Ent. Belg. Soc. Ann. Bull., 65, p 71) I took it wrongly for livornicus KUWERT.

Figure 1. - H. (C)? nilesceus (FAUVEL) Cairns specimens
Aedeagus, ventral view X 50.

.....

which is represented (Fig. 1). To confirm this determination one should see a specimen from the same sex and from New Caledonia.

H. (C) Livornicus KUWERT

Helochares (Crepelochares) livornicus KUWERT, Verh.

Naturf. Ver. Brunn, vol. 28 (1889), 1890 p. 38 and
327 (Italy: Livorno).

Helochares (Crepidelocharis) Livornicus, GANGLBAUER, Kaf.

Mitteler., IV, I, 1904, p. 248 (Livorno; Herzegovina).

Crepidelocharis livornicus, REITTER, Susswasserfna

Deutschl., 3-4, 1909, p. 74; Fna Germ., II, 1909,
p. 363, nota 1.

Moreover, it was quoted from Low Narenta, in 1921 by
KNISCH. This species seems to be, so far, particular to some

places around the European Mediterranean sea. It greatly differs from African forms, which I already brought to notice in 1936 ⁽²⁾ and in 1937 ⁽³⁾ .

Figure 2. - H. (C). livornicus KUWERT.
Aedeagus, Ventral view X 50.

.....

Owing to kindness of M.R. OBERTHUR I could study the types of the KUWERT collection. There are three specimens behind the label of the box 'Livornicus KUW. Italy; the first subject is a ♀ and measures 4, 7 x 2.3mm; the second one marked 'livorno' which I consider holotype, is a ♂, 4.4 x 2.2 mm the aedeagus was extracted; Finally, the last one is also a ♂, marked identically and has the same aedeagus as the second one. Fig 2 represents this organ. I know this species only through these typical specimens (4)

- 2) Bulletin mentioned p. 5.
- 3) Coimbra memoir mentioned p. 7.
- 4) A ♀ from Palestine seems also to belong to this species. But without the ♂ the determination remains doubtful.

H. (C.) abnormalis (SHARP).

Philydrus abnormalis SHARP, Trans. Entom. Soc. London,
1890. p. 351 (Ceylon : Colombo).

Phylthydrus ferrugatus REGIMBART, Ann. Soc. Ent.
Fr., 72. 1903, p. 57 (Cochin China, Sumatra)
(err. Typ.).

Philydrus nigritulus REGIMBART (non KUWERT, 1890),
ibid., p. 57 (Indo-China, Sumatra).

Enochrus (Luselus) abnormicollis ZAITSEV, Hor. Soc.
Ent. Ross., XXXVIII, 1908, p. 385 (nom. in
catal., err. (typ.)).

Helochares (Chasmogenus) Regimbarli KNISCH, in Junk
Col. Catal. n pars 79, 1924, p. 195 (nom. in
catal).

Helochares (Chasmogenus) livornicus A. D'ORCHYMONT
(non KUWERT, 1890) ex p., Bull. Ann. Soc. Ent.
Belg., 65, 1925, p. 70 (Indo-China. Sumatra);
Philip. Journ. of Science, 30, 1926, p. 379
(I. Philippines).

The type of this species in the British museum, which was
examined by Dr. Hugh Scott on my behalf, is ♀.

There are also two Colombo paratypes' on coast level',
which he showed me. During dissection they were found to be ♀.
The aedeagus of this species is represented on fig. 3. This

organ is closest to that (fig. 1) of ? nitescens.

Figure 3. H. (C) abnormalis (SHARP)
Aedeagus - Ventral view x 50.

.....

Of 'Phylhydrus ferrugatus', I saw an ex-typis from Mytho (Cochin-China), kindly communicated by M. Fleutiaux, it was measuring 3, 95 x 2 mm. It is a female which should not be separated from abnormalis. My correspondent marked it "Unique". It seems to me that there was only one subject from Cochin China. About 'Sumatra (FOERSTER), mentioned in the diagnosis, there is no specimen in the FOERSTER Collection.

Phylhydrus nigritulus REGUMBART should not be separated either. M. FLEUTIAUX kindly offered me an ex-typis also from Mytho, and ♂ with an aedeagus identical to that of abnormalis. It is smaller than the ferrugalis ♀ (3.6 x 1.75 mm)⁽¹⁾. The abnormalis ♂♂ are often slightly shorter than the females in size. This is not a specific character, as thought by

1) REGUMBART indicates 2-3/4-3 mm; but the measurement was certainly not taken with the micrometer.

REGIMBART. As he did not know SHARP species, he based his names mainly on details of coloring which actually represent a more or less advanced maturity (1) .

All the following abnormalis ♂♂ had their aedeagus checked.

Ceylon: Colombo, both paratypes (see above)

Cambodge (VITALIS), I, quoted by me without specific name, under H (Chasmogenus), in Ann. Soc., Ent. Belg., LIX, 1919, p. 78.

Indo China; Kunpong, Kedey, April 15 (VITALIS), I.

Cochin China; the ex-typis ♂ of nigritulus (see above).

Siam: Bangkok (H.M. SMITH, 2 (Washington Mus).

Malaysian peninsula: Selangor, Kuala Lumpur, May 1927 (PENDLEBURY), in the light, I.

Sumatra: Medan, July 1920 (CORPORAAL), 2; W. Padang, 2m., 1926 (JACOBSON), 11.

JAVA: Tji Solak, Wynkoopebaai (GRELAK), 1.

Celebes N; Gorontalo (H. AHLBURG) ferrugatus KNISCH, det. and ill., 1.

Philippine Islands: Manila, 1.

I saw no ♂ from Tonkin, Borneo, Pegu, but only ♂♂; one of those is marked ferrugatus by KNISCH. Another one from Pegu is determined by REGIMBART as Philhydrus rubricollis. It might be one of the specimens that this author

(1) It probably applies also to rubricollis which is mentioned later.

thought to have seen in Indo-China⁽¹⁾ .

H.(C). Mollis (REGIMBART).

Philhydrus mollis REGIMBART⁽²⁾ . Ann. Soc. Ent.
Fr., 72, 1903, p. 32 (Madagascar).

Philhydrus abnormalis Hugh SCOTT (non SHARP), Trans.
Linn.Soc. Lond., vol. 16, 2, 1913, p. 205
(Aldabra, Seychelles).

Helochares (Crepelochares) mollis, A. D'ORCHYMONT,
Mem. Est. Mus. Zool. Univ. Coimbra, ser, I,
n° 96 (1936), 1937, p. 7. (Madagascar).

The type mollis, from Madagascar, South Antongil
(Macquerys, 1897), Coll, Ch. Alluaud, in Paris museum which
I saw a ♂ and measures 3.5 x 1, 75 mm. The aedeagus was
extracted. There are also six paratypes, 5 from South
Madagascar, North Androy Country (ALLUAUD, 1900) and one
from the Mandzara coast (ALLUAUD, 1900); this locality was
not mentioned in the diagnosis. I did not examine them
further due to their high degree of immaturity already noted
by REGIMBART - The aedeagus of the type is identical to
that of the two other ♂♂ ; one from Tamatave, the other from
Tanenarive. This organ characterizes thus the species
(fig.4). The hook of the parameres is indented at the top for

(1) Ann, Soc, Ent. Fr, LXXII, 1903, p. 58.

(2) The Nairobi specimen recorded by REGIMBART in Ann, Soc.
Ent. Fr., 75, 1906, p.263, may belong to another species..

the three specimens.

Figure 4 - H. (C) mollis (REGIMBART).
Aedeagus, ventral view X 50.

.....

I have dissected another ♂ 'abnormalis' SCOTT det., from Aldabra, 08-09 (C.C. F. FRYER). The aedeagus is identical to that of Mollis. It is thus this species which is found in the Seychelles and not that of SHARP.

H. (C)? rubricollis (REGIMBART).

Philhydrus rubricollis REGIMBART, Ann. Soc. Ent. Fr.,
72, 1903, p. 58. (West Sumatra and Palembang).

Helochares (Chasmogenus) abnormalis KNISCH (non
SHARP, 1890), Archiv. Naturg. (1919), 1921, A8,
p. 69, ex p. (N.W. Sumatra: Tebing-Tinggi).

Helochares (Chasmogenus)? rubricollis, A.D'ORCHYMONT,
Ann. Soc. Ent. Belg., 65, 1925, p. 71, ♀ (Sumatra:
Medan).

The types of rubricollis could not be found again. They

are neither in the REGIMBART coll. in the Paris museum, from M. LESNE, nor in the Mulhouse lyceum for boys where the FOERSTER collection is kept, as the headmaster of this lyceum told me. The name is based on subjects from West Sumatra (FOERSTER) and Palembang. As already seen, a ♀ from Pegu, determined rubricollis by REGIMBART certainly belongs to abnormalis. Another one from North-East Sumatra (Tebing Tinggi, SCHULTHEISS) bearing the same name given by REGIMBART (KNISCH COLL) is smaller in size (3.4 x 1.7 mm)⁽¹⁾ corresponds better to the diagnosis. It is the subject mentioned by KNISCH in the 1921 note.

In the absence of ♂♂ from Sumatra which can be attributed to this ♀ and that of Medan, (my 1925 note) rubricollis cannot be ascertained a valid species, distinct from abnormalis. A small ♂ from Bornee (2.9 x 1.4 mm) Dessonlanden (Wahnes) has an aedeagus with an almost pointed paramere extremity instead of being club-shaped as for abnormalis, Would it be that of rubricollis?

H. (C.) rutilus (A.D'ORCHYMONT) (2)

Helochares (Chasmogenus) rutilus A.D'ORCHYMONT, Bull. Ann.Soc. Ent. Belg., 65, 1925, p. 71 (Gabon, Congo belge).

(1) REGIMBART mentioned 2-3/4-3 mm, but these measures were not taken with great accuracy.

(2) This name was not considered new in the Zoological Record.

Helochares (Chasmogenus) abnormalis KNISCH

(non SHARP, 1890), Archiv. Naturg. (1919),
1921, A8. p. 68 ex p. (Gabon).

Helochares (Crephelochares) rutilus A.D'ORCHYMONT,

Mem. Est. Mus. Zool. Univ. Coimbra, ser.
I, n° 96 (1936), 1937, p. 7 (Gabon).

This species is distinct from all other, except
rusticus by the posterior angles of the pronotum which are
closely rounded almost angle-like and not broadly rounded.
Aedeagus. fig. 5.

Fig. 5 - H (C). rutilus (A.D'ORCHYMONT) Aedeagus,
ventral view. X 50.

.....

Type : 'Gabun', mollis, REG. KNISCH dit and coll., ♂,
2.8 x 1.5 mm.

H. (C) africanus A. D'ORCHYMONT.

Helochares (Crephelochares) africanus A.D'ORCHYMONT,
Mem. Est. Mus. Zool. Univ. Coimbra, ser. I, n° 96
(1936), 1937, p. 7, fig. 2 (Zambia).

Fig. 6 - H (C). africanus. A.D'ORCHYMONT
Aedeagus - Ventral view X 50.

.....

The figure of the aedeagus is printed here (fig. 6).

H. (C) Luctuosus n. sp.

Helechares (Chasmogenus) livornicus KNISHC (non KUWERT,
1890). Archiv, Naturg. (1919), 1921, A8, p. 69 exp. (Gabon)
A.D'ORCHYMONT, Bull. Ann, Soc. Ent. Belg., 65, 1925, p. 70,
ex p. (Gabon).

It differs from rutilus by the posterior angles of
pronotum which are widely rounded; the size is bigger; it
differs from livornicus, mainly by the aedeagus the parameres
of which taper at the end with a long, thin thorn placed almost
perpendicularly inside and in the middle of this taper part;
moreover, the median lobe is more sharply truncated at the end
(fig. 7).

Long and quite narrow shape, with almost parallel sides, not very broad.

Blackish brown with dark reddish transparencies on the pronotum sides and the elytra and the front of the head. The very long maxillary palps are entirely light yellow in color; no darkening at the end.

Fig. 7 - *H. (C) luctuosus* n. sp. Extremity of the aedeagus (median lobe, parameres, apex of the basal lobe seen ventrally X 50.

.....

The head punctuation is quite fine and dense, slightly more dense on the pronotum, much finer on the elytra round the shield, even more so with more space towards the sides and mainly towards the back to the extent of showing on elytra only the systematic series of the big setigerous pores. The sutural stripe almost reaches the first quarter of the elytra and goes gradually deeper towards the back.

Underneath, as for livornicus, with the same roughly

wrinkled dotted excavated chin in front, the 5th abdominal segment endowed at the end with the usual small ciliated notch in the middle.

Type: Gabon, ♂ 4, 6 X 2.2 mm, several paratypes of both sexes, all from Gabon (ex STAUDINGER).

H. (C) Lycetus n. sp.

This species differs from rutilus and rusticus by the posterior angles of the pronotum which are neither sharply rounded nor angular. It differs from luctuosus only by the aedeagus; firstly whose internal internal paramere tooth is not thorn-shaped and far from the end, but triangular - shaped, shorter and nearer the end; secondly whose terminal stylet of the ventral sclerotized piece of the median lobe is very thin every where, whereas for the luctuosus, it thickens into a lengthened club (fig. 8). All specimens are immature with mishaped and transparent aedeagus. However the species is doubtlessly distinct.

Type: English East Africa, Taveta, 750 m, mars 1912 (ALLUAUD and JEANNEL), ♂ 4 X 1.9 mm. (Paris Museum). Paratypes: Angola, Huilla district (ROHAN CHARBOT), livornicus A. D'ORCHYMONT, 1927, det., 5 subjects of both sexes (same museum and my coll.). Also Transval.

H. (C) rusticus n. sp.

It looks like rutilus by the posterior angles of the

the pronotum which are straight, meaning sharply rounded. It differs from it by a bigger size and by the aedeagus which is shaped quite differently; The parameres are very much tapered at the end and bowed inwardly, truncated and dilated at the extremity. they do not end into a hook looking towards the axis of the organ as for *rutilus* (fig. 5); the median lobe is more sharply truncated at the extremity and its sclerotized ventral internal part is more broadly triangular shaped at the base; its terminal portion ends into a shorter thin stylet (fig. 9).

The other particularities of this species coloring, shape and carving are very much like those of *rutilus*. The pronotum seems slightly wider with bowed lateral sides, less convergent in front.

Type : Gabon, ♂, 4,3 Z 2.1 mm., ex STAUDINGER. One paratype ♂ from same origin.

Fig. 8 - *H (C). lycetus* n. sp. Extremity of the median lobe and parameres of the aedeagus ventral view X 50.

.....