

REMARKS ON SOME XANTHOLININAE  
(COLEOPTERA, STAPHYLINIDAE)<sup>1</sup>

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## ABSTRACT

A lectotype is designated for *Neoxantholinus filarius* (Erichson 1839). *Gyrophypnus punctulatus* (Paykull 1789) and *G. fracticornis* (Müller 1776) are considered as distinct species, and a short key to distinguish them is given; male aedoeagi, including internal sacs, of both species are illustrated; only *G. fracticornis* occurs in North America. *Echinophallus* Coiffait 1956 is placed in synonymy with *Idiolinus* Casey 1906, and *Helicophallus* Coiffait 1956 is placed in synonymy with *Typhlolinus* Reitter 1908.

This paper contains taxonomic and nomenclatorial remarks, and one lectotype designation, resulting from my current work on the revision of the subfamily Xantholininae of America north of Mexico.

The generic names *Gyrophypnus* Leach and *Xantholinus* Dej. are used in this paper in accordance with my application (Smetana 1978b) to the International Commission on Zoological Nomenclature to conserve several xantholinid genera, with "*Staphylinus fulgidus*" as the type-species, in their accustomed long-standing usage.

The original specimens from the Erichson collection were made available to me by M. Uhlig, Museum für Naturkunde an der Humboldt-Universität zu Berlin (MNHU), German Democratic Republic. His assistance is gratefully acknowledged.

I also thank my colleagues, E. C. Becker and J. M. Campbell, in the Coleoptera Unit of the Biosystematics Research Institute, Ottawa, for their suggestions and criticisms of the manuscript; and G. Sato, who prepared the illustrations.

*Neoxantholinus filarius* (Er.)*Leptacinus filarius* Erichson 1839:334

This species is currently assigned to the genus *Oligolinus* (e.g. Scheerpeltz 1953:604). However, all species of *Oligolinus* auct. (nec Casey 1906:420) were recently reassigned to *Neoxantholinus* Cam. (see Smetana 1978a:361 for details).

The Erichson collection (MNHU) contains 3 apparently conspecific specimens under the name *L. filarius*. The first specimen is labelled as follows: "5862"/"filarius Er. Columb. Mor." (large green label). The second specimen is without any labels. The third specimen bears a small red square. The first specimen (the only male) was dissected, and the aedoeagus and the genital segment were mounted in Canada balsam. These parts are illus-

<sup>1</sup>11th contribution to the knowledge of Staphylinidae.



trated by Figs. 5-7. The specimen is hereby designated as lectotype of *N. filarius*; the label "Lectotype *Leptacinus filarius* Erichson A. Smetana des. 1978", and my determination label "*Neoxantholinus filarius* (Er.)" were attached to it. Both front legs, both antennae, and the right maxillary palpus are missing in this specimen.

*Gyrophypnus punctulatus* (Payk.) and *G. fracticornis* (Müll.)

Early European authors treated *G. punctulatus* (Paykull 1789) (*Staphylinus*) as a variable species and listed *G. fracticornis* (Müller 1776) (*Staphylinus*) as a synonym despite the fact that the latter name clearly had priority (e.g. Ganglbauer 1895:480; Reitter 1908:18; 1909:136, etc.). This concept of one species was still used in the fifties (e.g. Coiffait 1956:54; Smetana 1958:96), except that the name *G. punctulatus* (preoccupied by *Staphylinus punctulatus* Goeze 1777) was replaced by the senior name *G. fracticornis*, as suggested by Tottenham (1939:231).

In 1958, Lohse (1958:121, 122) pointed out that 2 different species were actually confused under the name *G. punctulatus*. He briefly characterized both species and suggested, with good reason, that the name *G. punctulatus* should be used for one of them, and the name *G. fracticornis* for the other one, although Müller's original material was destroyed and not available (for details see Lohse 1958:122). Lohse's concept was accepted by most recent authors (e.g. Palm 1963:47; Lohse 1964:162; Szujewski 1976:20); however, Coiffait (1972; 182) in his large revision of the subfamily Xantholininae of the western Palaearctic Region treats them again as one variable species under the name *G. fracticornis*.

While working on the revision of the subfamily Xantholininae of America north of Mexico, and since *G. fracticornis* was recorded from North America (Moore & Legner 1975:76), I was concerned with the problem of whether really 2 species are involved, and if so, which one(s) occur in North America. A comparative study of both the palaearctic and nearctic material showed beyond doubt that 1) Lohse's concept of 2 species (Lohse 1958:120-122) was correct, and 2) only one of these species (*G. fracticornis*) occurs in North America.

The differences between these 2 species were outlined by Lohse (1958:121-122); 1964:161-162), Palm (1963:46-47), and Szujewski (1976:20), and I refer to these papers for details. However, it should be emphasized that both species are rather variable in shape of the head and its punctuation; therefore, the differences given by the above authors and in the key below may not be well pronounced in all specimens. On the other hand, the male aedeagus, and its internal sac in particular, provides excellent characters and should be used for distinguishing specimens which are intermediate in external characters.

The following key should be used to distinguish the 2 species:

1. Aedeagus larger and more voluminous, parameres stronger and stouter; internal sac large and voluminous, with dark bulky middle portion, densely covered with fine scale-like structures (Figs. 1, 3). Head longer (index  $l/w = 1.15$ ), slightly dilated posteriorly with lateral margins more or less arcuate, posterior angles obtusely rounded, temporal denticle less distinct; coarse punctuation of head more extensive, leaving at



most small area on vertex free. Average size slightly larger. Length 6.5-8.7 mm ..... *G. punctulatus* (Payk.)

- 1'. Aedoeagus smaller and less voluminous, parameres weaker and slenderer; internal sac smaller and less voluminous, middle portion narrow, not appreciably darker than rest of internal sac, covered with similar scale-like structures (Figs. 2, 4). Head shorter (index  $1/w=1.07$ ), usually slightly dilated posteriorly with lateral margins almost straight, posterior angles more angulate, temporal denticle more distinct; coarse punctation of head less extensive, leaving rather large area on vertex free. Average size slightly smaller. Length 6.4-8.2 mm....  
..... *G. fracticornis* (Müll.)

The name *Staphylinus punctulatus* Paykull 1789 is actually not valid, being preoccupied by *Staphylinus punctulatus* Goeze 1777 (see above). However, I agree completely with Pope (1977:XI) that the existing long-standing usage of junior primary homonyms that have been stable in the literature for 50 or more years should be validated by a ruling by the International Commission on Zoological Nomenclature. For this reason, I feel that we should continue to apply the name *G. punctulatus* in its long-standing current usage.

Both *G. fracticornis* and *G. punctulatus* are common and widely distributed in Europe, and do not significantly differ in their habitat requirements. It is therefore surprising that *G. punctulatus*, which should have had an equal opportunity of being introduced into North America as *G. fracticornis*, does not occur there. *G. fracticornis*, on the other hand, was introduced from Europe a long time ago (probably in the early 19th century) and was known to early North American authors under the name *G. obsidianus* (Melsh.). It is now very common and has a wide transcontinental distribution.

#### *Idiolinus* Csy.

*Idiolinus* Casey 1906:368, 375

*Echinophallus* Coiffait 1956:60 (**new synonymy**)

Casey (1906:368, 375) erected this genus for the Palaearctic species *Xantholinus crassicornis* Hochh. Since this species was the only one included, it automatically became the type-species of the genus, by monotypy. Two years later, Reitter (1908:26) included this species, together with 4 other species, in his new subgenus *Typhlolinus* of the genus *Xantholinus* Dej.<sup>2</sup> Bernhauer & Schubert (1914:300) listed *Idiolinus* as a synonym of the subgenus *Xantholinus*. Modern authors continued to treat *Idiolinus* in the same way, until Blackwelder (1952:405) reasoned that it actually is the valid name for the old subgenus "*Xantholinus*" (see Blackwelder, l.c., for details).

In 1956, Coiffait (1956:60) erected the subgenus *Echinophallus* for 3 Palaearctic *Xantholinus* species and designated *X. translucidus* Scriba as the type-species. In 1972, the same author (Coiffait 1972:224, 226) added 2 more species to this subgenus, one of them being *X. crassicornis*. He argued at

<sup>2</sup>See further on under *Typhlolinus*.



the same time that the name *Idiolinus* cannot be used for his subgenus *Echinophallus* and listed (p. 218) *Idiolinus*, together with *Typhlolinus*, as synonyms of *Xantholinus*; his reasons, however, were completely irrelevant. *Idiolinus* was validly described and its type-species designation is also valid. Therefore, as long as both *X. translucidus* and *X. crassicornis* are assigned to the same subgenus, the senior name *Idiolinus* has priority and must replace the junior name *Echinophallus* which becomes a junior synonym of *Idiolinus*.

*Typhlolinus* Reitt.

*Typhlolinus* Reitter 1908:25

*Helicophallus* Coiffait 1956:70 (**new synonymy**)

Reitter (1908:25) used this name for a new subgenus of the genus *Xantholinus* and assigned 5 palaearctic species to it, including *X. crassicornis* (see also under *Idiolinus*). Blackwelder (1943:474) designated *X. hungaricus* Reitt. as the type-species of *Typhlolinus* and subsequently, in 1956, Coiffait (1956:71) designated *X. corallinus* Reitt. as the type-species of *Typhlolinus*. The latter designation is invalid because of the previously valid type-species designation by Blackwelder.

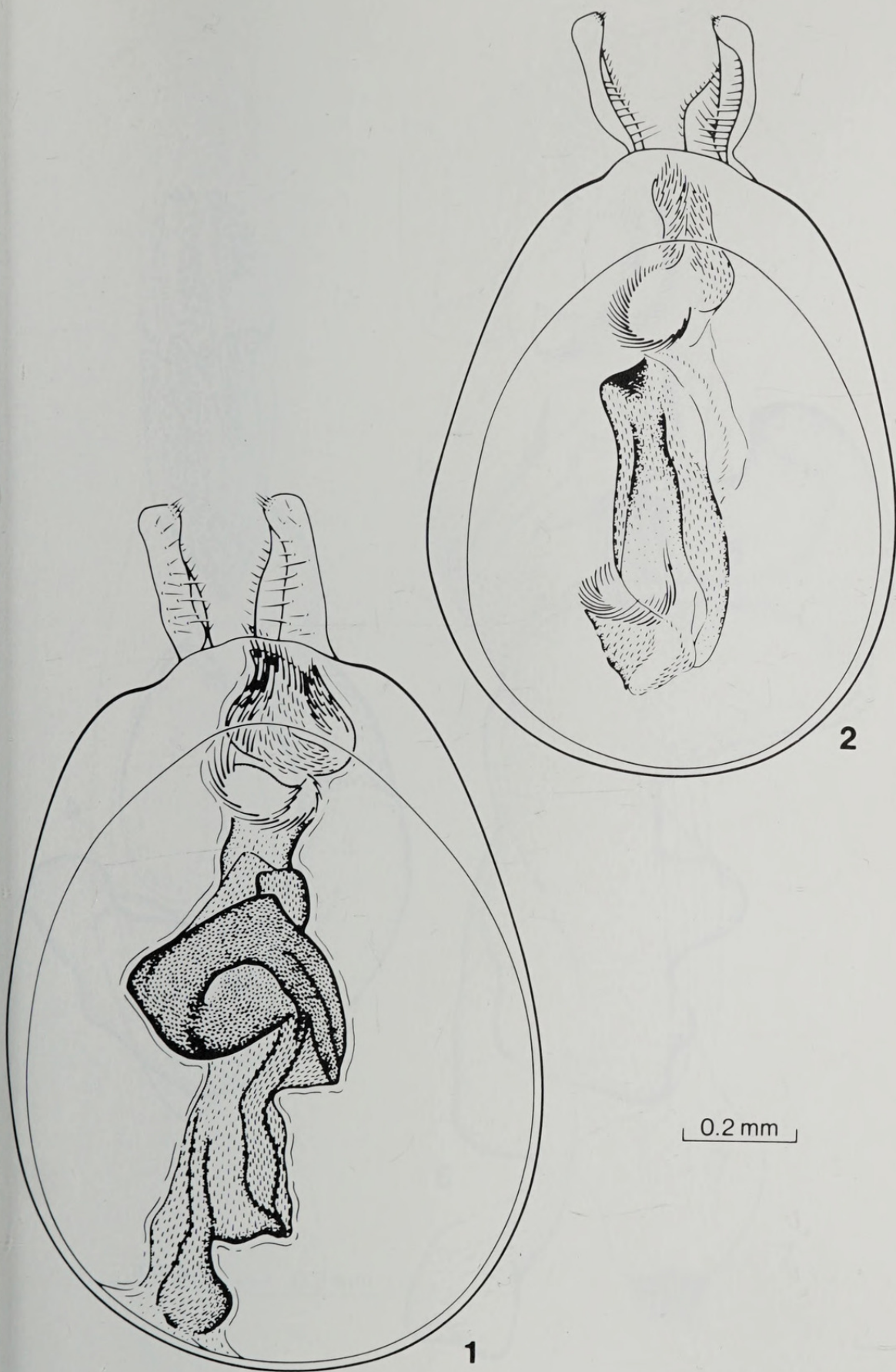
Coiffait (1956:70) erected the subgenus *Helicophallus* for 4 palaearctic *Xantholinus* species and designated *X. rufipes* Luc. as the type-species. At the same time he mentioned (p. 71) that *Helicophallus* might be identical with *Typhlolinus*. In 1972, the same author (Coiffait 1972:249-256) added many other species to the subgenus *Helicophallus*, including *X. hungaricus* (listed as a synonym of *X. distans* Muls. et Rey—see p. 302), and argued at the same time that *Typhlolinus* cannot be retained as a valid subgenus (p. 221). His arguments were completely invalid because *Typhlolinus* was validly described and its type-species designation (Blackwelder 1943:474) was also valid. Therefore, as long as both *X. rufipes* and *X. hungaricus* are assigned to the same subgenus, the senior name *Typhlolinus* has priority and must replace the name *Helicophallus* which becomes a junior synonym of *Typhlolinus*.

Coiffait erroneously (see above) considered *X. corallinus* as the type-species of *Typhlolinus*. In his 1972 paper, he assigned this species to the subgenus *Calolinus* Coiff. (p. 227), and therefore compared *Typhlolinus* with *Calolinus* rather than *Helicophallus*. Regardless of Coiffait's reasons (p. 218) as to why the name *Typhlolinus* could not be used for the subgenus *Calolinus*, *Typhlolinus* with *X. hungaricus* as the type-species as designated by Blackwelder (see above) is clearly different from *Calolinus*.

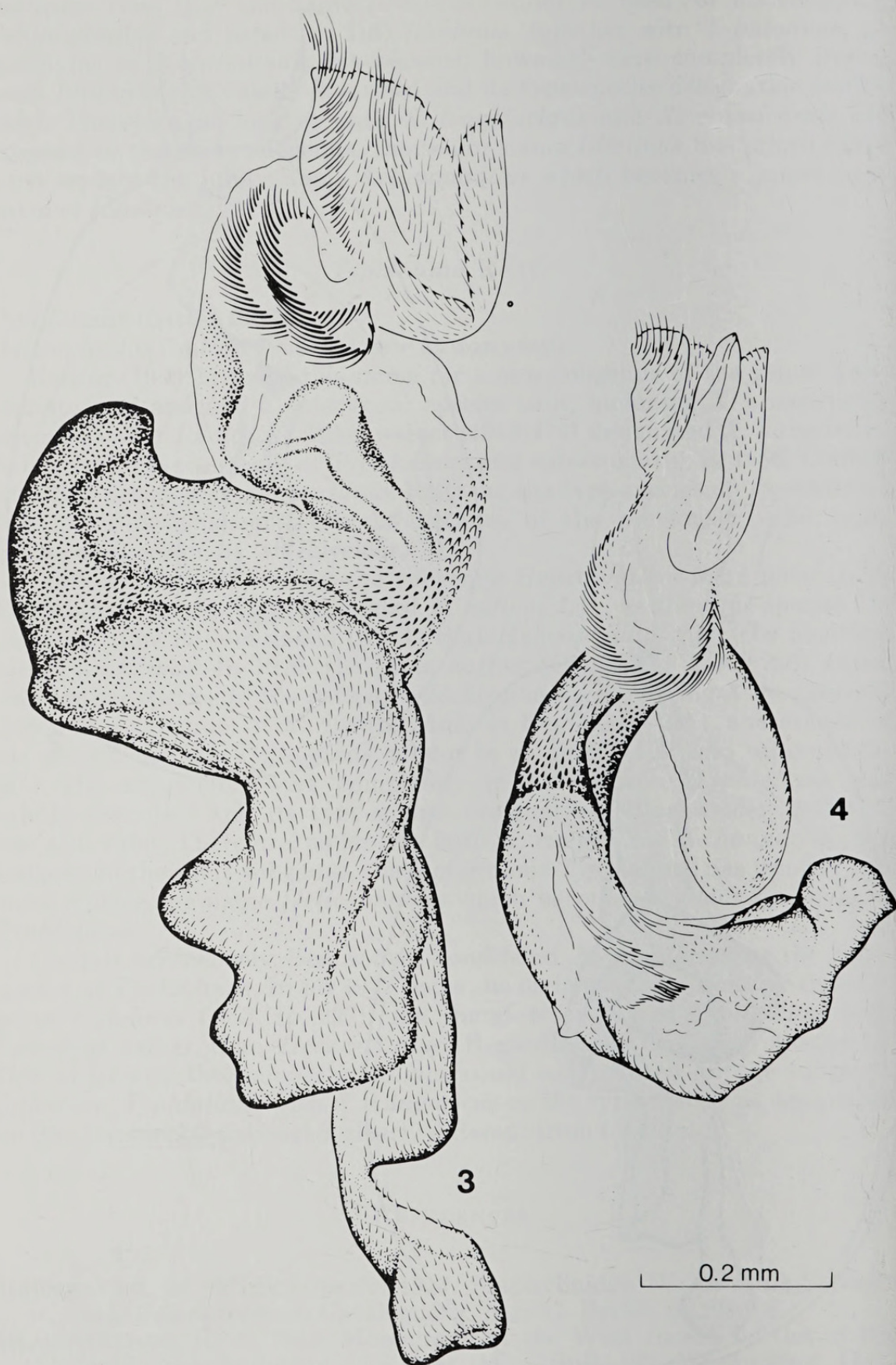
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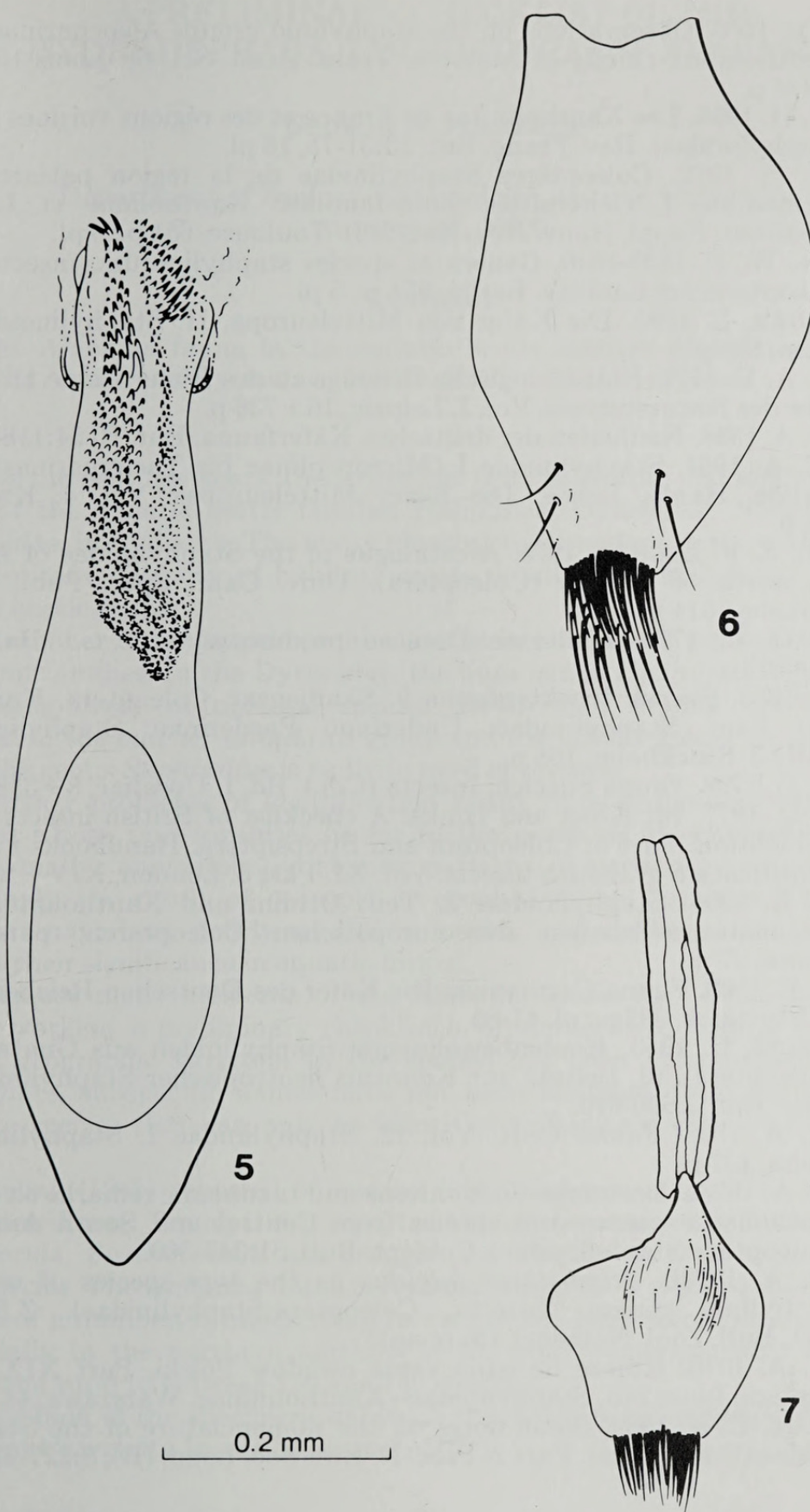


Figs. 1-2, aedeagus: 1, *Gyrophypnus punctulatus* (Payk). 2, *Gyrophypnus fracticornis* (Müll.).



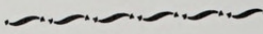
Figs. 3-4, extracted (not evaginated) internal sacs of aedeagi: 3, *Gyrophypnus punctulatus* (Payk.). 4, *Gyrophypnus fracticornis* (Müll.).





Figs. 5-7, *Neoxantholinus filarius* (Er.) (lectotype): 5, aedeagus. 6, sternite of male genital segment. 7, tergite of male genital segment.



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