

The nomenclatorial history of *Strongylosoma physkon* Attems, 1898 (Diplopoda, Polydesmida, Paradoxosomatidae) *

by

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After many years of coping with the Gordian knots that unfortunately characterize the nomenclature of Diplopoda, the present writers thought they could no longer be astonished by the caprices of their predecessors. Recently, however, as a result of wondering why the late Count ATTEMS in his well-known monograph on the "Strongylosomidae" of 1937 synonymized two particular African paradoxosomatid species, we accidentally touched off a "chain-reaction" in which one discovery led to another and revealed a sequence of events that is so ludicrous that we could only regard it with amazement.

The present account follows the curious history of *Strongylosoma physkon* Attems, 1898, a West African milliped that has been redescribed as new at least three times, has twice become the type of new genera, and has been placed in synonymy, by its own author, under another species to which it is only distantly related. An exciting career for a single species!

HISTORICAL SUMMARY

The story begins in 1898, when ATTEMS published the original description of *Strongylosoma physkon*, based upon specimens from Sierra Leone in the Hamburg Museum. This description is short but reasonably precise, and a figure of the right gonopod is given. The illustration, however, obviously was made from an over-macerated preparation, as it bears little close resemblance to the actual appearance of the normal gonopod.

Fifteen years later, CARL described two additional species of *Strongylosoma* from Sierra Leone: *S. monomorphum* and *S. dimorphum*, which were said to have identical gonopod structure and to differ from each other only in minor details of body proportion and coloration. *S. dimorphum* was described in some detail, and two reasonably good illustrations of the gonopod were given. CARL noted the similarity of his two new species with *S. physkon*, but correctly felt that the gonopods were sufficiently distinct from ATTEMS'S drawing to justify specific separation.

In the following year (1914) ATTEMS set up the new genus *Leontorinus* with *physkon* as type-species, giving only the diagnosis. In the key to the "strongylosomid" genera *Leontorinus* came near *Cnemodesmus* Cook, *Strongylosoma* Brandt, *Trachydesmus* Daday, and *Entothalassinum* Attems. Later, *Leontorinus* reappeared in ATTEMS'S treatment of the Diplopoda (in: KÜKENTHAL-KRUMBACH, Handbuch der Zoologie 4: 144; 1926), in a key to the "strongylosomid" genera in the vicinity of *Strongylosoma*, *Pseudostrongylosoma* Verhoeff, *Trachydesmus*, and

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Entothalassinum, from all of which it was separated by the statement "Tibialfortsatz lang und dünn, um den ebenfalls langen und schmalen Tarsus herumgewunden". But only a few years later, ATTEMS, 1929 (*Revue Zool. Bot. afr.* 17 : 261), in a revisionary survey of the paradoxosomatid genera, apparently felt already some doubt as to the justification of *Leontorinus* and the name was dropped from the key as genus inquirenda.

1937 was indeed a bad year for our species. In his large and important account of the family "Strongylosomidae" in "Das Tierreich", vol. 68, ATTEMS placed *physkon* into the synonymy of the North African species that he treated under the name of *Orthomorpha* (*Kalorthomorpha*) *guerinii* (Gervais), unfortunately without a word of justification. It is really difficult to understand the motivation for such a union, as the two species have little in common and are not even congeneric, much less conspecific!

So the situation became increasingly complicated. But still another tangential subplot was unknowingly introduced in 1932, when LANG described a remarkable "new" millipede from Czechoslovakia under the name of *Strongylomorpha storkani*. The generic name is preoccupied, and in a later issue of the *Zoologischer Anzeiger*, also published in 1932, LANG replaced it with the more appropriate *Karpathomorpha*. The original description of this Central European species gives most of the important characters, as well as a gonopod drawing that in virtually each detail agrees with that published by CARL for the West African *S. dimorphum* in 1913! Overlooking this remarkable concordance, ATTEMS included *Karpathomorpha* as a valid genus in his 1937 treatment, with the oracular statement "Steht *Sundanina* sehr nahe und fällt vielleicht mit dieser Gattung zusammen".

Finally we have the dénouement. Thinking it antecedently improbable that *physkon* and *guerinii* are actually conspecific, JEEKEL expressed his apprehensions in a letter to HOFFMAN, who then took the occasion to restudy the types of *physkon* during a subsequent visit to the Hamburg Museum. Shortly thereafter we went over the entire matter together, at which time the foregoing history was worked out. It now remains only to give a formalized nomenclatorial summary and some remarks on the status and affinities of *physkon*.

SYSTEMATIC NOTES

Habrodesmus physkon (Attems), new combination (fig. 1, 2)

- 1898 *Strongylosoma physkon* Attems, *Denkschr. Akad. Wiss. Wien, math.-naturw. Cl.* 67 : 315, pl. 2 fig. 34.
 1913 *Strongylosoma dimorphum* Carl, *Rev. suisse Zool.* 21 : 204, fig. 2—3. New synonymy!
 1913 *Strongylosoma monomorphum* Carl, l.c.: 206. New synonymy!
 1914 *Leontorinus physkon*; Attems, *Arch. Naturgesch.* 80A (4): 220.
 1932 *Strongylomorpha Štorkáni* Lang, *Zool. Anz.* 99 : 223, fig. 1—3. New synonymy!
 1932 *Karpathomorpha* [*Štorkáni*]; Lang, *Zool. Anz.* 100 : 111.
 1937 *Karpathomorpha storkani*; Attems, *Tierreich* 68 : 171.
 1937 *Habrodesmus dimorphus*; Attems, l.c.: 185, fig. 231.
 1937 *Habrodesmus monomorphus*; Attems, l.c.: 186.
 1954 *Karpathomorpha Štorkáni*; Lang, *Fauna ČSR* 2 : 95, fig. 69—70.

Type specimens. — The original type specimens of *Strongylosoma physkon* all appear to be in the Hamburg collection; no other material under this name has been seen in other European museums. At the present time, the type series consists of five syntypes, three males and two females (no holotype was indicated), with the following locality label:

Sierra Leon
26.8.1892
Dr. med. H. Brauns leg.
id. ded. 10.X.1892

Two of the males are intact. The third had been unrolled, and the right gonopod removed, presumably by ATTEMS; this specimen is now isolated and labelled as lectotype. The remaining four specimens are labelled as lectoparatypes. The left gonopod of the lectotype was removed for illustration, and is at present stored in a microvial in the tube containing the body of the specimen.

The type material of the two species described by CARL is in the Geneva Museum, that of the species described by LANG is presumably in the Prague Museum.

Synonymy. — The two species *S. dimorphum* and *S. monomorphum* of CARL were distinguished partly on the basis of a coloration difference between the sexes in the first named, the males being uniformly yellowish brown, the females dark brown with the poriferous paranota yellow. CARL also remarked a presumptive difference in body size: "Allein die Unterschiede in der Grösse sind trotz reichlichem Material sehr konstant und der bei *S. dimorphum* so auffällige sexuelle Färbungsdimorphismus fehlt bei *S. monomorphum* vollkommen". However, the specifications cited by CARL for the dimensions are not impressive:

dimorphum: 34—37 mm long; ♂ 3.5 mm wide, ♀ 4.5 mm wide.

monomorphum: 27—30 mm long; ♂ 3.5 mm wide, ♀ 4.0 mm wide.

The really important difference concerns the length, but then, length of diplopod specimens may greatly vary with the state of preservation. Perhaps state of preservation was also responsible for the differences in coloration. Anyhow, it seems improbable that two separate species are involved, although the noted differences might reflect a slight geographic differentiation, as indeed CARL himself suggested.

Particularly interesting is the status of the name *Strongylomorpha storkani*. From the original description and illustrations there can be no doubt whatever that the type was conspecific with that of CARL's *dimorphum*, but it was labelled as coming from the Carpathian region of southwestern Russia. It seems only probable that some mix-up of labels occurred, an event altogether too common in collections of "Myriapoda". What is more astonishing is that ATTEMS in 1937 not only accepted the renamed genus *Karpathomorpha* in his "Tierreich" treatment, but placed it next to *Sundanina* Attems as a close relative. Possibly the rodlike process arising from the base of the tibiotarsus was mistaken for the similar process arising from the postfemoral region of the gonopod in *Sundanina*.

Finally, the re-examination of the type series of *Strongylosoma physkon* in August 1964 showed without any doubt at all that all three of the foregoing

specific names are in fact junior synonyms of *physkon*, a circumstance attributable to the fact that the original drawing given for that species is so distorted as to have no resemblance to the actual gonopod structure. The slender tibiotarsal process is not shown in the drawing, and it is no wonder that the usually cautious CARL was misled into proposing *dimorphum* as a new species.

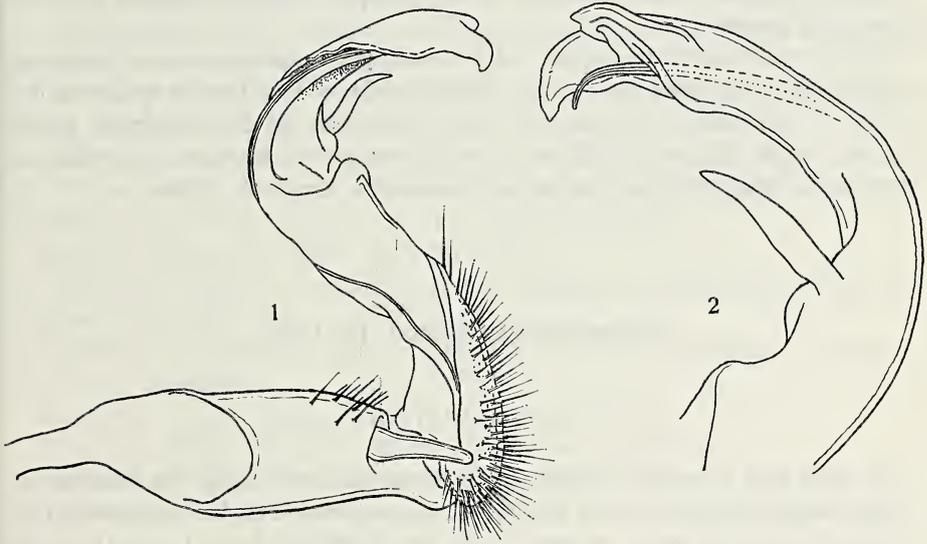


Fig. 1—2. *Habrodesmus physkon* (Attems, 1898). 1: left gonopod of ♂ lectotype, mesal aspect. 2: tibiotarsus of same, lateral aspect. (HOFFMAN del.)

Taxonomic position. — As indicated by the accompanying drawings (fig. 1—2) made from the lectotype gonopod, *physkon* seems obviously congeneric with a number of African species currently being referred to the genus *Habrodesmus* Cook, 1896. This genus in the sense of ATTEMS, 1937, is quite a composite one even after removal of the South American forms. More critically the gonopod characters of the type-species remain unknown at the present time.*) The East

*) As type-species of *Habrodesmus* two species have been cited, neither of which, however, are entitled to this status.

ATTEMS in 1937 mentions *Habrodesmus andreinii* (Brölemann, 1904), but this species was not included in the original concept of the genus, and, therefore, is not eligible for type designation.

When proposing the genus COOK, 1896 (*Proc. U.S. natn. Mus.* 18 : 97), designated as type-species *Habrodesmus laetus* Cook. However, of the three species originally included in the genus, *Strongylosoma hartmanni* Peters, 1864, *Strongylosoma aculeatum* Peters, 1855, and *Habrodesmus laetus* Cook, only the first two were described at the time the paper was published, 23.IV.1896. *Habrodesmus laetus* was a nomen nudum, because the statement under *hartmanni*: "closely related to the type of the genus", cannot be regarded as a descriptive statement in the sense of the Code. True descriptive statements on *laetus* were first published by COOK in May, 1896 (*Am. Nat.* 30 : 418). The type designation by COOK, therefore, was invalid.

Evidently the type of *Habrodesmus* has to be selected from the two species described by PETERS. Therefore, we herewith designate *Strongylosoma hartmanni* Peters, 1864 (*Mber. k. Preuss. Akad. Wiss. Berl.* 1864 : 534), from the Sudan, as type-species of *Habrodesmus* Cook, 1896.

African *H. magretti* (Brölemann) and *H. ugrianus* (Brölemann) appear closely related to *physkon*, as do several forms from the northern and eastern regions of the Congo: *H. penicularius* (Attems), *H. uelenus* Attems, etc. From all of these, *physkon* differs remarkably in the presence of a digitiform process from the base of the tibiotarsus. From CARL's drawing of *dimorphum* one gets the impression of a laboulbeniaceous fungus attached to the gonopod, but the structure is a true gonopodal process.

In the event that the type-species of *Habrodesmus* is found to be not congeneric with *physkon*, the name *Leontorinus* Attems can be revived for the species of this group. At any rate these forms have little to do with the North African species *guerinii* which ATTEMS considered a senior synonym of *physkon*, and which has become the type-species of the genus *Oranmorpha* Verhoeff, 1941.

Zweefvliegvangsten in 1966

door

B. VAN AARTSEN

In 1966 heb ik ook wat tijd kunnen besteden aan het vangen van Nederlandse zweefvliegen. De heer V. VAN DER GOOT was zo vriendelijk het vrij omvangrijke materiaal te determineren, waarvoor mijn zeer hartelijke dank! In totaal werden 153 soorten verzameld, waaronder één nieuwe voor de Nederlandse fauna. De volgende daarvan zijn vermeldenswaard:

Pipiza quadrimaculata Panzer, Delden 1.VII één exemplaar.

Heringia heringii Zett., Valkenisse 27.VII één exemplaar.

Triglyphus primus Loew, exemplaren te Valkenisse 28.V en 26.VII en Venlo 3.VIII.

Orthoneura geniculata Meig., Kortenhoeve 9.V één exemplaar.

Orthoneura intermedia Lundb., Arcen 18.VI, Naardermeer 22.V, Vragender 2.VI.

Orthoneura nobilis Fall., Colmont 22.VII en Bunde 16.VI, op beide plaatsen één exemplaar.

Chrysogaster chalybeata Meig., Cadier 7.VII vijf exemplaren, Nuth 15.VI tien ex., Colmont 22.VII en Bergen op Zoom 5.VIII één exemplaar.

Chrysogaster splendens Meig., Nuth 15.VI één exemplaar.

Chrysogaster virescens Loew, Vijlen 29.V. Na de vangst van v. D. GOOT in het Bunderbos de tweede vindplaats in ons land.

Cheilosia albipila Meig., Best 25.IV, de Lutte 4.V.

Cheilosia antiqua Meig., Losser 3.V zeven ex., Bunde 29.IV.

Cheilosia barbata Loew., Colmont 24.V.

Cheilosia canicularis Panz., Neerbeek 29.IX, Hoensbroek 29.IX.

Cheilosia carbonaria Egger, de Lutte 4.V.

Cheilosia illustrata Harr. Buiten de vangsten uit Zuid-Limburg kan ik de soort ook vermelden van Veenhuizen, 17.VIII negen exemplaren.