ACTA ENTOMOLOGICA MUSEI NATIONALIS PRAGAE

1961, XXXIV, 600

REDESCRIPTION OF SPHENOLEPIS PYGMAEA NEES (HYM., EULOPHIDAE, TETRASTICHINAE)—A SPECIES NOT REFOUND SINCE 1812

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The genus *Sphenolepis* was erected in 1834 by Nees (p. 256) for the single species *S. pygmaea* Nees, and has been misinterpreted many times since. Most of the later authors regarded it as an Encyrtid, and considered the genus a synonym of *Ectroma* Westw. following thus Ashmead, 1904 (p. 389), or of *Choreia* Westw., when taking account of the erroneous combination of *Encyrtus ineptus* Dalm. with *Sphenolepis,* suspected as probably right already by Nees, 1834 (pp. 256, 258). *Sphenolepis* has, however, nothing to do with the family Encyrtidae, but is an Eulophid of the subfamily Tetrastichinae, and as will be shown in this article, is a senior subjective synonym of *Tetrastichus* Haliday, 1843 (nec Walker, 1842).

Tetrastichus is differently interpreted by several recent authors. Some of them follow Kurdjumov, 1913, who considered *Tetrastichus* Hal., *Geniocerus* Ratz. and *Aprostocetus* Westw. as distinct valid genera. On the other hand, most of those authors who base their opinions on fresh studies of the whole complex, generally agree in considering the group one large genus, named in this case *Tetrastichus* Walker, 1842, leaving at most only *Aprostocetus* as independent. A more or less plain expression of this conception can be found in the papers of Burks, 1943, Peck, 1951, and Graham *(in:* Lindroth and Graham), 1960. I myself supported the latter view in our Czech Keys to the genera of the Chalcid flies in 1957 and am of the same opinion today.

As recognised for the first time by Peck, 1951 (p. 443), and pointed out by Graham in 1960 (p. 94), the name *Tetrastichus* Haliday, 1843, is preoccupied by *Tetrastichus* Walker, 1842, the latter being a subjective junior synonym of *Aprostocetus* Westwood, 1833. Graham expressed the opinion that also in this case *Tetrastichus* should be retained as a well established and widely accepted name. I fully support this as was already mentioned in 1958 (p. 352). But even if the *Aprostocetus* species-complex could be considered generically separable from *Tetrastichus* sensu Kurdjumov (with one dorsal bristle on the submarginal vein), there arises today another problem as regards *Sphenolepis.* This is namely an earlier name for this species-group, though forgotten or misinterpreted for nearly 130 years. And if the opinions of Burks, Peck,

myself, etc., viz. that the complex cannot be segregated generically from *Geniocerus* Ratzeburg, 1848, on the basis of the number of the submarginal bristles prove to be right, this large group should bear the name *Sphenolepis* (e. g. all the species listed under *Tetrastichus* in America!). It is therefore quite evident that the whole group is badly in need of a revision (which Dr. Graham and Dr. Domenichini are undertaking in Europe). My present contribution does not solve the problem, but nevertheless I believe it helpful to elucidate one old generic name that might complicate the solution later, if overlooked. I do not wish to influence the final taxonomic solution of the problem in any way, but when it is passed to the International Commission on Zoological Nomenclature, I will vote for the suppression of all other names but *Tetrastichus,* which is so widely used in economic entomology. Besides, my experience so far seems to support the opinion that all the names involved are taxonomically or nomenclatorially (subjective or objective) synonyms and designate thus one single genus.

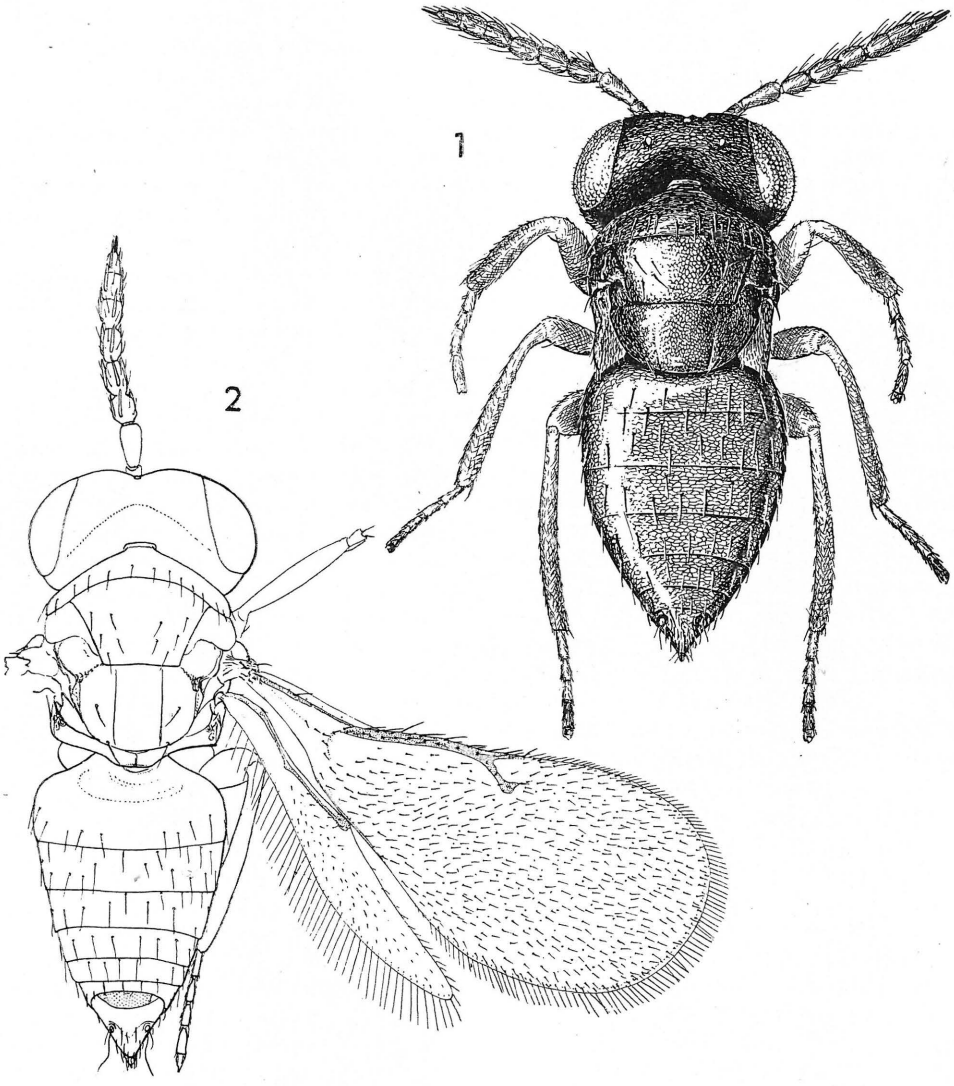
As mentioned above, the species *Sphenolepis pygmaea* Nees has been unknown since 1834. Some 15 years ago I received a fresh specimen of this species collected by the Czech coleopterist and heteropterist Prof. J. Roubal in Eastern Bohemia, but did not know its name then. About 10 years ago I sent its brief redescription and a figure of the antenna to Ing. S. Novitzky, Vienna, who turned my attention to *Spheloleпis.* I found the specimen well agreeing with the description of that mysterious species. Later on I found still another, fully-winged female and also what I consider the (winged) male to it. Two years ago I submitted this material to Dr. Graham, Oxford, for consideration, and was very agreeably surprised when Dr. Graham let me know that he had very good reason to confirm my identification — J. O. Westwood's sketches and notes made from the type of *S. pygmaea* in about 1840 when most of the Nees types were borrowed from the Bonn Museum (and remained in Oxford then, which is deplored by Förster in 1841, p. 6). Dr. Graham then suggested this publication.

In the following I am bringing a redescription of the species and am figuring the brachypterous ("typical") form as well as the holopterous form of the female. When the opinion I have expressed above is confirmed and the name *Tetrastichus* preserved, the species would bear the name *Tetrastichus pygmaeus* (Nees).

Redescription of Sphenolepis pygmaea Nees

Female, brachypterous form (fig. 1.). — Body brownish black with a faint greenish metallic tint; antennal scape, pedicellus beneath and legs except for coxae (which are concolorous with the body), dark testaceous; femora rather dark; antennal flagellum brownish; also claw segments of tarsi somewhat infuscate. Tegulae brownish, wing stumps infumate.

Head distinctly wider than mesoscutum (24 : 20.5; not collapsed), twice as broad as thick (24 : 12, minimum in the middle: 24 : 6); minimum width of frons 13, ocelli in a low triangle of about 140°, POL : OOL = 7 : 3; temples not developed; occiput immargined, rather deeply excavated; antennal scrobes deep (which may be partly due to postmortem collapsing), very narrow above and reaching the anterior ocellus, its bottom



Figs. 1—2: *Sphenolepis pygmaea* Nees, female. — Fig. 1: brachypterous form; fig. 2: holopterous form.

divided in lower half by a blunt carina; eyes large, short-oval, 13 : 11, with short and rather dense pubescence; malar space half as long as the longer diameter of eye, 6.5:13, relative breadth of the mouth-opening then being 8; clypeal margin indistinctly bilobed; three teeth seen on the left mandible; face and vertex irregularly minutely reticulate, rather densely hairy, but hairs very short; head in front view transverse, 21 : 24, eye orbits diverging downwards, relative distance between lower edges of eyes 17, between mouth margin and antennal sockets, 6.5. Antennae inserted slightly above the level of ventral edge of eyes; scape not reaching ocellus, fully as long as pedicellus plus first funicle segment (9 : 8.5); flagellum with pedicellus slightly longer than the breadth of head (26 : 24); pedicellus nearly 2.5 times as long as broad, longer than first funicle segment; one ring segment discernible; all three funicle segments subequal in length, the first somewhat broader and shorter, about 1.3 times as long as broad, the second and the third about 1.5 times as long as broad each; clava distinctly three-segmented, together with its terminal spine as long as the funicle, not broader, spine slender and as long as breadth of the terminal clava segment; each segment of funicle and clava in profile with one or two longitudinal sensillae and hairy.

Thorax squat, as long as broad. Pronotum rather broadly crescentic. Mesoscutum with mid lobe considerably transverse (fig. 1), without any median line, with about 5 bristles in two rows sublaterally on either side near the parapsidal furrow. Surface of mesoscutum and scutellum distinctly reticulated, meshes on scutellum only slightly smaller than on mesoscutum; scutellum transverse, as long as mesoscutum, rather flat, even at apex which overlaps metanotum, propodeum and the base of abdomen; submedian grooved lines feebly distinct, nearly effaced anteriorly; anterior pair of bristles broken off, but some traces discernible just before the middle of the sclerite. Metanotum and propodeum vertical, hidden under posterior margin of scutellum. Forewing stump subtriangular, reaching the base of abdomen, densely hairy. Legs rather strong; coxae distinctly reticulate; tarsi short, hardly two-thirds as long as the corresponding tibiae (mid one 13 : 21, hind one 13 : 22), first segment of mid and hind tarsi hardly longer than the second. Gaster broadly sessile, as long as head plus thorax, ovate, convex, distinctly reticulate, with sparse but rather long hairs all over the surface; tergites 1 — 4 subequal in length; ovipositor sheaths very shortly exceeding the apex of the gaster.

Length, approximately 0.9 mm.

Female, holopterous form (fig. 2). — Similar to the brachypterous form except for the following. Anterior part of the first gastral tergite brown; femora and tibiae testaceous. Thorax sclerites different due to the development of wings (comp. figs. 1 and 2): pronotum shorter; mesoscutum less transverse, slightly longer than the scutellum; grooved lines on scutellum clearly cut; metanotum and propodeum vertical at meson, distinctly reticulated, propodeum with a thin median carina, plicae wanting, spiracles suboval and very small, separated by about half their diameter from the metanotal border and placed on the inner side of the

raised lateral longitudinal crest. Forewing more than twice as long as broad (59 : 25), marginal fringe somewhat shorter than the stigmal vein; costal cell relatively narrow, the line of hairs on its underside only at base close to the submarginal vein; this vein with one dorsal bristle; marginal vein slightly shorter than the costal cell (13 : 15) and nearly three times as long as the stigmal (13 : 5); postmarginal vein fully as long as two-thirds of the stigmal. Hind wing rather narrow, with marginal vein ending in the middle and fringe of hind margin nearly as long as wing breadth. Abdomen less closely jointed to thorax, first gastral tergite somewhat longer than two following segments combined, distinctly narrowing basad, with a shallow fovea in the middle. Length 1 mm.

Male. — I am not quite sure whether the following specimen is correctly identified as *S. pygmaea* (though I believe so), because the left forewing clearly bears two dorsal bristles on the submarginal vein (on the right wing the bristles are broken off, but only the trace of the basal one is discernible). Otherwise the specimen agrees in every respect with the holopterous female described above, except for the antennae and abdomen, and the apical fringe of the forewing which is a bit longer.

Legs and antennae somewhat darker than in female. Antennal flagellum longer, funicle five-segmented, clava bisegmented; first funicle segment slightly transverse and about half as long as the third, the second nearly twice as long as broad, the third to fifth segments subequal in length, at least twice as long as broad; clava with distal segment narrower and nearly twice shorter than the basal one, terminal spine short; each funicle segment with a dorsal semi-whorl of very long setae (the longest about three times as long as the fifth funicle segment). Abdomen subrotund, much shorter than the thorax. Length 0.8 mm.

Bionomics unknown.

Redescribed from the following material: Brachypterous female (labelled as plesiotype): Eastern Bohemia, Vamberk, IX. 1944, J. Roubal leg. — Holopterous female: Western Bohemia, Kamenná (formerly Steinbach) near Sokolovo (formerly Falknov), 21. VII. 1951, Z. Bouček leg. — Male: Eastern Bohemia, Hradec Králové, about 1945, Z. Bouček leg. The Neesian specimen was collected in Germany, near Sickershausen, 25. VIII. 1812.

The species *S. pygmaea* belongs to the species group "cohors *atrocoeruleus*" under *Tetrastichus* in Erdös, 1954, but is to be found neither in the key of this author (pp. 361—362), nor in Kurdjumov's key of 1913 (pp. 253—254).

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