Stictomischus longiventris Thomson in Finland and the characters of Finnish specimens, especially males (Hymenoptera: Chalcidoidea, Pteromalidae)

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Vikberg. V. 2020: *Stictomischus longiventris* Thomson in Finland and the characters of Finnish specimens, especially males (Hymenoptera: Chalcidoidea, Pteromalidae). — Sahlbergia 26(1–2): 21–23.

The characters of Finnish females and males of *Stictomischus longiventris* Thomson, 1876 were studied in order to aid the identification of the male. The species is associated with spruce and is found early in the season. Two Finnish females and one male were photographed.

Stictomischus longiventris (Thomson, 1876) on Pteromalidae-heimon kiilukainen, joka esiintyy Etelä-Suomessa touko- ja kesäkuussa kuusimetsissä. Sen biologia on tuntematon; isäntä lienee jonkin kärpäsen toukka. Suomalaisten naaraiden ja koiraiden tuntomerkkejä kuvataan ja niistä esitetään valokuvat tunnistuksen helpottamiseksi.

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Introduction

The female of *Stictomischus longiventris* Thomson, 1876 was described from Sweden (Thomson, 1876). It was re-described by Delucchi (1955) and keyed by Graham (1969). Graham selected a lectotype for the species in Thomson's collection in Lund. The male of the species was described and figured by Huggert (1976). The species has been recorded from Sachsen in Germany, from Sweden and possibly also from Austria (Delucchi 1955, Noyes 2019). From Sweden it is known from Dalarna, Småland and Västerbotten (Huggert 1976, Hedqvist 2003)

From Finland the species was reported by me (Vikberg 1982). The localities were Varsinais-Suomi: Karkkila and South Häme: Hämeenlinna, Hattula (the two females from South Häme were collected and identified by Erkki Valkeila). In Karkkila (WGS84 60.503 °N, 24.203 °E) one female and two males were captured in a spruce forest on 9.V.1959 and one female on 12.V.1960 and 22.V.1960. Later one male and one female were swept on spruce (*Picea abies*) in Janakkala, Kalpalinna (WGS84 60.926 °N, 24.604 °E) on 28.IV.2000 by me. The characters of these Finnish specimens were studied using Graham (1969) and Huggert (1976), and I noticed that the males differed in many measurements of Huggert's males, which were weakly sclerotized specimens. Because the lectotype female of Thomson's species is now damaged, new photographs were taken also of females, and the males were measured and compared with Huggert's description.

The following abbreviations are used: POL - postocellar line, measured as the distance between the inner margins of the lateral ocelli. OOL - ocello-ocular line, measured as the distance between the outer margin of one lateral ocellus and the inner margin of the compound eye of the same side.

Characters of the Finnish specimens

Females of *Stictomischus longiventris* (Figs 1–2) are 2.9–3.6 mm long, with fore wings 2.6–2.8 mm long. Head in dorsal view 2.3 times as wide as long, with temples about 0.3 times as long as an eye. POL = 1.00–1.16 x OOL. Antennal clava with micropilosity only on apex of third segment. Scutellar frenum finely reticulated. Petiole 1.5-1.6 times as wide as long, subcordiform, with one seta only on the left side in one female. pedicel and flagellum 0.98–1.03 as long as head width, sixth funicular segment slightly transverse. Fore wing with a narrow bare line just outside the basal vein. Wing stigma: length 0.15 mm, height 0.14 mm, its distance from anterior wing margin 0.25 mm. The gaster is 3.0–3.6 times as long as wide and 1.33–1.5 times as long as mesosoma, last tergum triangular, medially 0.67–1.03 as long as wide.

Figure 1. Female of *Stictomischus longiventris* from Hämeenlinna (Vanaja) from side. Photo by Pekka Malinen. Specimen http://id.luomus.fi/GL.9271.

Males of *Stictomischus longiventris* (Fig. 3) are 2.6–3.1 mm long, and their fore wings are 2.3–2.6 mm long. Head in dorsal view 2.3–2.4 times as wide as long, 1.25 times as wide as mesoscutum,with temples 0.3 times as long as an eye . POL = 1.07–1.18 x OOL. Head in frontal view 1.35 times as wide as high. Mouth 2.94 times as wide as malar space length; malar space 0.41 times as long as eye height. Distance between eyes 1.6 times eye height. Scape 3.3 times as long as wide, 0.63 times as long as eye height, not reaching median ocellus. Pedicel and flagellum combined length1.28–1.35 times as long as head width. Length and width in millimeters of antennal segments in lateral view of the largest male: pedicel 0.10 x 0.07, anelli 0.05 x 0.06, F1 0.17 x 0.08, F2 0.16 x 0.08, F3 0.15 x 0.08, F4 0.16 x 0.09, F5 0.15 x 0.09. F6 0.14 x 0.09, clava 0.26 x 0.10. The setae on flagellum are short and stand out at an angle of 30 degrees.

Wing stigma: length 0.15–016 mm, height 0.14–0.15 mm, its distance from anterior wing margin 0.21–0.22. Petiole about as wide as long. Gaster 1.74–1.78 times as long as wide, slightly shorter (0.94–0.98 x) than mesosoma.

Both female and male have good characters in body color and microsculpture. The color of mesosoma is black, with weak greenish tint. The mesoscutum is finely reticulated, hardly raised above surface, rather shining. Scutellum, frenum and dorsellum have dense, very fine engraved reticulation. Propodeum in female is almost smooth and in the lectotype and Finnish specimens without median carina, in males with a weak median carina. The color of mesosoma and typical sculpture of mesoscutum, scutellum, frenum and dorsellum can be seen in the photograph of the lectotype female in Lund's collection of photographs (the lectotype has only mesosoma left) and the sculpture of frenum and dorsellum in Huggert's Fig. 5 of the male. The Finnish males have a normal prepectus: upper side is straight and not rounded as in Huggert's Fig. 10.

The female is easily identified by its long gaster. The male is missing in Graham (1959).

Using the key to males of Graham (1969) the male of *S. longiventris* runs to couplet 3 (scutellar frenum not very shiny, finely reticulated), where it does not fit *S. scaposus* Thomson, 1876 (gastral petiole not bounded anteriorly by an arcuate crest and antennal scape not mostly testaceous, but wholly dark).

In couplet 4, if POL is longer than OOL, *S. longiventris* differs from *S. tumidus*, a smaller species (at most 2.2 mm long), by antennal hairs on flagellum standing out at an angle of about 45 degrees. If POL is about as long as OOL, *S. longiventris* differs from *S. lamprosomus* Graham, 1969 (its valid name now *Stictomischus nitentis* Delucchi, 1955 according to Baur 2001) by its shorter antenna: the antenna of *S. lamprosomus* has combined length of pedicel and flagellum about 1.75 times breadth of head.

Figure 2. Female of *Stictomischus longiventris* from Janakkala from above, Photo by Pekka Malinen. Specimen http://id.luomus.fi/GL.9272.

Figure 3. Male of *Stictomischus longiventris* from Janakkala from above, Photo by Pekka Malinen. Specimen http://id.luomus.fi/GL.9273.

The body size fits to that of *S. gibbus* (Walker, 1833), a species with POL and OOL of about the same length, but the antennal scape of *S. gibbus* is slightly expanded above the middle and its outer surface has a shiny boss which extends fully half way down (in *S. longiventris* the scape is not expanded and boss is missing).

Discussion

Stictomischus longiventris has been reported only from few countries in Europe. Its biology is unknown, but obviously the host is larva of a fly. Huggert (1976) swept one male from spruce and suggested that the species is probably associated

with that tree. My observations support this view. In British Isles the spruce is not a native tree and the species has not been recorded from there, although Pteromalidae species are well studied there. The specimens in Finland and Sweden have been captured early in the year (from April to June).

In Finland the Norway spruce (*Picea abies*) is a common tree and spread to rather high into Lapland. *Stictomischus longiventris* is known so far only from South Finland (in addition to specimens mentioned above one female has been found in Uusimaa; Helsinki (YKJ 668:338) 1.V.1959 by Esko Kangas (det. Martti Koponen). It is probable that the species has a wider distribution in Finland, because in Sweden the northernmost finds are in Västerbotten.

Acknowledgments

Pekka Malinen took kindly the photographs of Finnish specimens.

References

Baur, H. 2001: Hymenoptera (Chalcidoidea, Ichneumonoidea, Platygastroidea) described by Vittoro Delucchi: an annotated catalogue. — Journal of Natural History 35: 55–125.

Delucchi, V. 1955: Contribution à l'étude des Lamprotatinae (Chalcid., Pteromalidae). — Acta Universitatis Lundensis (n.s.) Avd. 2, 50(20): 1–97.

Graham, M. W. R. de V. 1969: The Pteromalidae of north-western Europe (Hymenoptera: Chalcidoidea). — Bulletin of the British Museum (Natural History) Entomology, Supplement 16: 1–908.

Hedqvist, K.-J. 2003. Katalog över svenska Chalcidoidea. — Entomologisk Tidskrift 124(1–2): 73–133.

Huggert; L. 1976: Decriptions of a previously unknown male, of a new genus and three new species of Pteromalidae (Hym., Chalcidoidea) from northern Sweden. — Entomologisk Tidskrift 97(1–2): 55-64.

Noyes, J. S. 2019: Universal Chalcidoidea Database. WWW publication. The Natural History Museum, London. — http://www.nhm.ac.uk/research-curation/projects/chalcidoids/index.html (accessed 20 December 2019).

Thomson, C. G. 1876: Hymenoptera Scandinaviae Tom. IV. *Pteromalus* (Svederus) — Haqv. Ohlsson, Lund: 193–259.

Vikberg, V. 1982: Additions to the chalcid fauna of Finland (Hymenoptera, Chalcidoidea). — Notulae entomologicae 62: 129–142.