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A new *Pherbellia* (Diptera, Sciomyzidae) from Central Europe

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Pherbellia dentata sp. nov. is described, illustrated, and compared with related species, especially with *P. pallidicarpa* (RONDANI). It was collected with a light trap in central Switzerland (Canton Schwyz, Gersau-Oberholz). Phylogenetic considerations for some groups of *Pherbellia* are presented.

Keywords: *Pherbellia dentata* n.sp., Sciomyzidae, Switzerland, taxonomy.

INTRODUCTION

Pherbellia is by far the largest genus of Sciomyzidae in the Palaearctic region with 49 described species (ROZKOSNY, 1991), therefore including more than one fourth of all known Palaearctic species. Despite its high diversity it has received only little attention in the past because of its small size and inconspicuous appearance, with only few species exhibiting a prominent wing pattern. As shown in Tab. 1, the highest density of newly discovered species was in the last 15 years, where careful examination of ♂ genitalia has led to the discovery of many new species.

One couple of an apparently undescribed species was found in the Natur-Museum, Luzern (Lucerne) while various entomological collections as part of a faunistic survey of Swiss Sciomyzidae were studied. The results of this study will be presented elsewhere (MERZ, in prep.). It is noteworthy that both specimens were

Tab. 1. Historical development in describing new species of *Pherbellia*. Data mostly taken from ROZKOSNY (1991). The first 9 species were described by FALLÉN (1820). The number of new species is given in intervals of 40 years.

Year	New species	Sum of species
1820 (FALLÉN)	9	9
1821-1860	8	17
1861-1900	6	23
1901-1940	6	29
1941-1980	7	36
1981-1992	13	49

attracted to a light trap, a rather unusual method for collecting Sciomyzidae. Details about the collecting site and methods of investigations are given by REZBANYAI-RESER (1984).

Pherbellia dentata n.sp.

Diagnosis

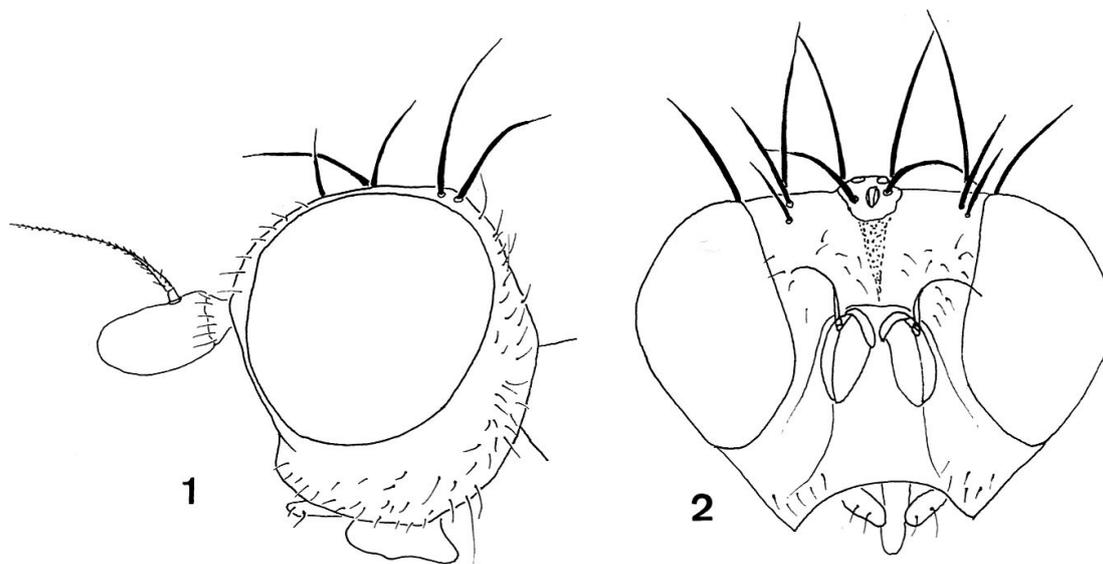
Small species of *Pherbellia* with long and narrow midfrontal stripe almost reaching the lunule, hyaline wings, and anepisternum bare; genitalia of ♂ very typical, with a tooth-like process on the anterior part of the gonostyles and a large, rectangular distal part of the gonostyles. Closely related to *Pherbellia pallidicarpa*, which differs mainly in the structures of ♂ genitalia (Fig. 3–8).

Description

Wing length ♂ (Holotype): 3.36 mm; ♀ (Paratype): 3.60 mm.

Head (figs 1–2): ground colour yellow-brown; ocellar triangle and upper part of occiput with grey pollinosity; face, genae, and jowls with silvery pollinosity; posterior part of frons darker than anterior part; antennae entirely yellow. Frontal stripe narrow, long and almost reaching lunule; frons with blackish hairs, especially in anterior part; arista of antennae with very fine hairs, longest hairs shorter than base of arista. Jowls about one third as high as one eye; chaetotaxy as usual in the genus (see ROZKOSNY, 1987).

Thorax: entirely covered with grey dust on black background; two narrow, darker longitudinal stripes present between the dorsocentral bristles; scutellum yellowish. All hairs dark; anepisternum entirely bare; anepimeron with 3–6 bristles, the posterior 2–3 bristles stronger; katepisternum covered with fine black hairs; pre-scutellar acrostichal setae present.



Figs 1–2. *Pherbellia dentata* sp.nov. 1. Head, lateral view; 2. same, frontal view.

Legs: yellow, tibiae and the 4 last tarsal segments of anterior legs brownish, basitarsus contrasting yellowish.

Wing: hyaline, without stump veins, posterior crossvein (dm-cu) with a very faint brownish border on upper part.

Abdomen: unicoloured orange-grey, without transversal stripes, but with irregular marmoration of some tergites.

♂ Genitalia (figs 3–5): very characteristic, with prominent, tooth-like apical projection of anterior part of gonostyles, which is about as long as basal part; posterior part of gonostyles very large, almost rectangular.

♀ Genitalia: not examined.

Holotype ♂ “CH [= Switzerland], SZ [= Canton Schwyz], Gersau-Oberholz, 550 m, 19.X.1979, leg. Dr. L. Rezbanyai-Reser, LF [= light trap]”; Paratype ♀, same locality, but date “16.X.1981.”

The holotype is in a good condition, directly pinned; the abdomen with the genitalia is preserved in glycerol in a plastic tube on the same pin as the specimen and deposited in the Natur-Museum Luzern. Paratype ♀ in coll. Merz.

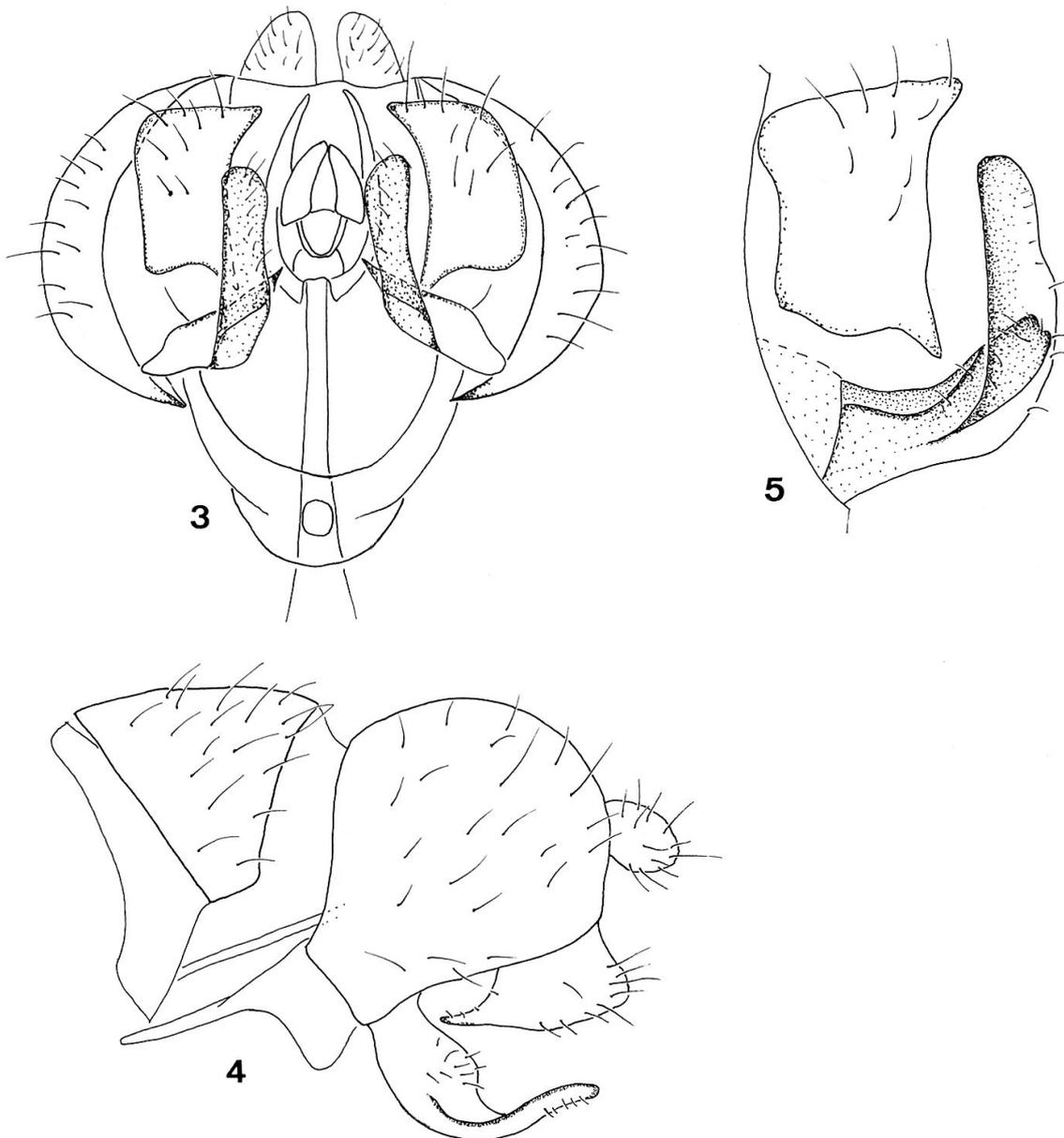
Systematic position

In the key of ROZKOSNY (1991) the new species runs to couplet 35, which has to be modified as follows:

- 35 (34) Posterior part of gonostylus broad, subquadrate 35a
 – Posterior part of gonostylus more slender, tapered towards apex 36
 35a (35) Anterior part of gonostylus with long, tooth-like projection at apex (Figs. 3–5) *P. dentata* sp.n.
 – Anterior part of gonostylus gradually tapered toward apex, without apical projection (Fig. 28) *P. knutsoni* VERBEKE, 1967

Phylogenetic considerations

The new species differs from the very similar *P. pallidicarpa* (RONDANI) only in the structure of the ♂ genitalia (Figs 3–8): In the latter species, the posterior part of the gonostylus is triangular, not rectangular, and the tooth-like apical process of the anterior part of the gonostylus is shorter than the basal part, not equal in length. Further, the anterior part of the gonostylus is much heavier bristled in *P. pallidicarpa*. *P. dentata* may be distinguished from other similar looking species, like *P. brunnipes* (MEIGEN), *P. knutsoni* VERBEKE, *P. albicarpa* (RONDANI), and *P. lutheri* ROZKOSNY by the characters of the ♂ genitalia as given in the key of ROZKOSNY (1991). All the above mentioned species except *P. brunnipes* probably form a monophyletic species group (the *P. albicarpa*-group) characterized by the long mid frontal stripe, the bare anepisternum, the uniformly haired kateipsternum, and the structure of the ♂ genitalia: The anterior part of the gonostylus is only haired (not with stronger bristles as in the *P. scutellaris*-group, e.g. *P. scutellaris*, *P. rozkosnyi*, *P. steyskali*) and simple (not bifid as in *P. sordida*-group, e.g. *P. sordida*, *P. pallidiventris*, *P. griseicollis*) and the posterior part of the gonostylus is rather robust, without any appendages.



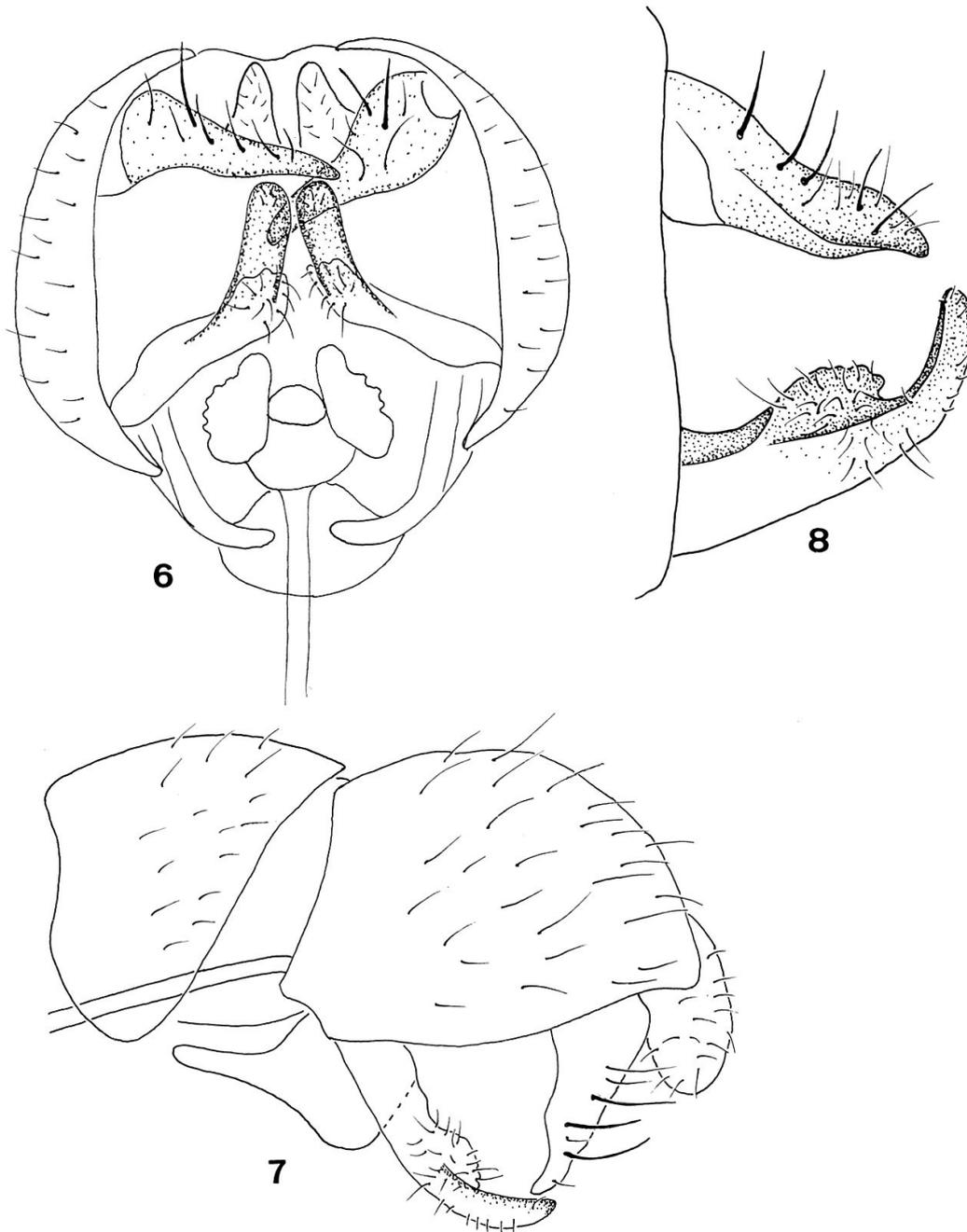
Figs 3–5. *Pherbellia dentata* sp. nov. 3. Andrium, ventral view; 4. same, lateral view; 5. Anterior and posterior part of gonostylus.

ACKNOWLEDGEMENTS

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ZUSAMMENFASSUNG

Eine neue *Pherbellia* aus Mitteleuropa (Diptera, Sciomyzidae) – *Pherbellia dentata* n.sp. wird beschrieben, illustriert und mit verwandten Arten verglichen, insbesondere mit *P. pallidicarpa* (RONDANI). Die neue Art wurde mit einer Lichtfalle in der Zentralschweiz (Kanton Schwyz, Gersau-Oberholz) gesammelt. Es werden Hinweise zur Phylogenie einiger Artengruppen gegeben.



Figs 6–8. *Pherbellia pallidicarpa* (RONDANI). 6. Andrium, ventral view; 7. same, lateral view; 8. Anterior and posterior part of gonostylus.

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