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A new subspecies of a scuttle fly (*Diptera: Phoridae*) that feeds on oyster mushrooms (*Pleurotus ostreatus*) in Poland

Abstract. The Oriental species *Megaselia tamilnaduensis* DISNEY, but of a new subspecies *polonica*, is reported to be a pest of the mycelium of cultivated *Pleurotus ostreatus* (JACQ. ex FR.) QUÉL. in Poland. In considering its affinities with European species, *M. compacta* SCHMITZ is synonymised with *M. devia* SCHMITZ

Key words: *Lentinaceae*, *Pleurotus*, *Phoridae*, *Megaselia*, pest, subspecies, synonym.

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INTRODUCTION

The cultivation of oyster mushrooms is increasingly popular and hence the study of their pests is a growing field of research. A new host record for *Megaselia tamilnaduensis* DISNEY (*Diptera: Phoridae*), but of a new subspecies, whose larvae feed on the mycelium of cultivated *Pleurotus ostreatus* (JACQ. ex FR.) QUÉL. in Poland is reported. It was reared from larvae spoiling the mycelium of oyster mushrooms being cultivated on sacks of pasteurised rye straw at two farms near Kock (150–200 km SE of Warsaw). Mr M. Lewandowski (W. A. U. – Department of Applied Entomology) sent the material to the Museum and Institute of Zoology PAS., where the flies were reared out in the laboratory by E. Durska and sent to R. H. L. Disney for identification. The species proves to be the Oriental species *Megaselia tamilnaduensis* DISNEY (MOHAN, MOHAN, DISNEY 1996) but of a new subspecies, which is described below.

DESCRIPTION

Megaselia tamilnaduensis polonica subsp. n.

Megaselia tamilnaduensis DISNEY in MOHAN, MOHAN, DISNEY 1996:516.

This subspecies differs from *M. tamilnaduensis tamilnaduensis* in having the hind femur a little longer in relation to its maximum breadth (being $> 2.6\times$ as long as broad as compared with being $< 2.6\times$) and the range for the costal index is 0.41–0.46 (compared with 0.39–0.43). The male hypopygium of the Polish subspecies is as Figs 1–2.

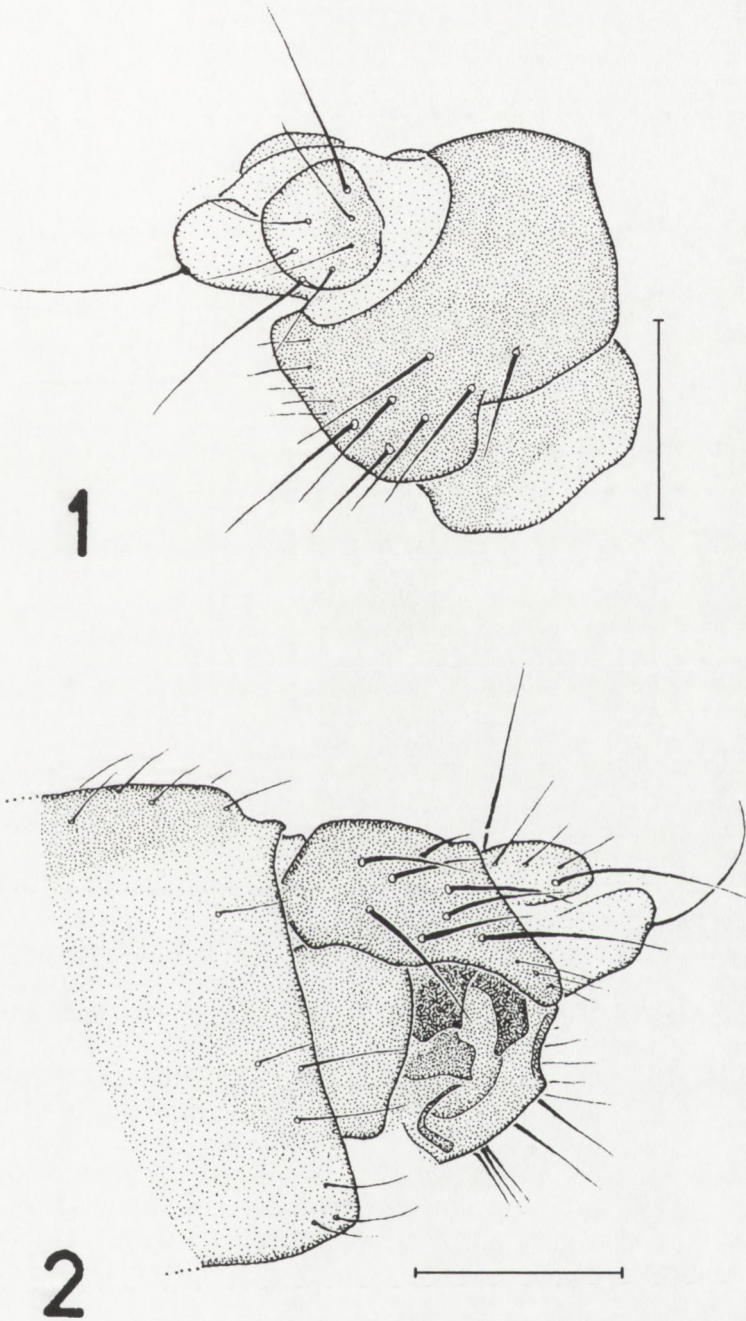
Material examined. Holotype male: POLAND, Kock, 4 June 1998, paratypes: 4 males, 2 females, same data as holotype (University Museum of Zoology, Cambridge). Paratype male: same date as holotype (Museum and Institute of Zoology, PAS, Warsaw).

Taxonomic remarks. In considering this species in relation to the European fauna, we note that the males will run to lead 2 of couplet 285 in the key to British species (DISNEY 1989). It is immediately distinguished from *M. rivalis* (WOOD) by the antial and anterolateral bristles being almost at the same level in the latter species. *M. praeacuta* SCHMITZ will also run to this lead, but it has short hairs only on the epandrium (ČAKAR, DISNEY 1991, DISNEY, CAMPADELLI 1997). *M. beatricis* COLYER (1962) is only known in the female sex and is covered by no key. It clearly resembles *M. tamilnaduensis*, but it is immediately distinguished by having only short sparse hairs below the basal half of the hind femur. Likewise *M. compacta* SCHMITZ (1940) is covered by no key and its description resembles the new species. However, R. H. L. Disney remounted the holotype (from the Museum Koenig, Bonn) on a slide and found it to be *M. devia* SCHMITZ (1936). Therefore *M. compacta* is herewith synonymised with *M. devia*. In discussing the affinities of *M. compacta*, SCHMITZ (1940) made no reference to *M. devia*. The male of the latter is keyed by DISNEY (1989). I note in addition that the male labella are somewhat spinose below and that the SPS vesicles of the third antennal segment (see PFEIL, WALSH, MUMMA 1994) are unusually large (Fig. 4). In *M. tamilnaduensis* these vesicles are absent.

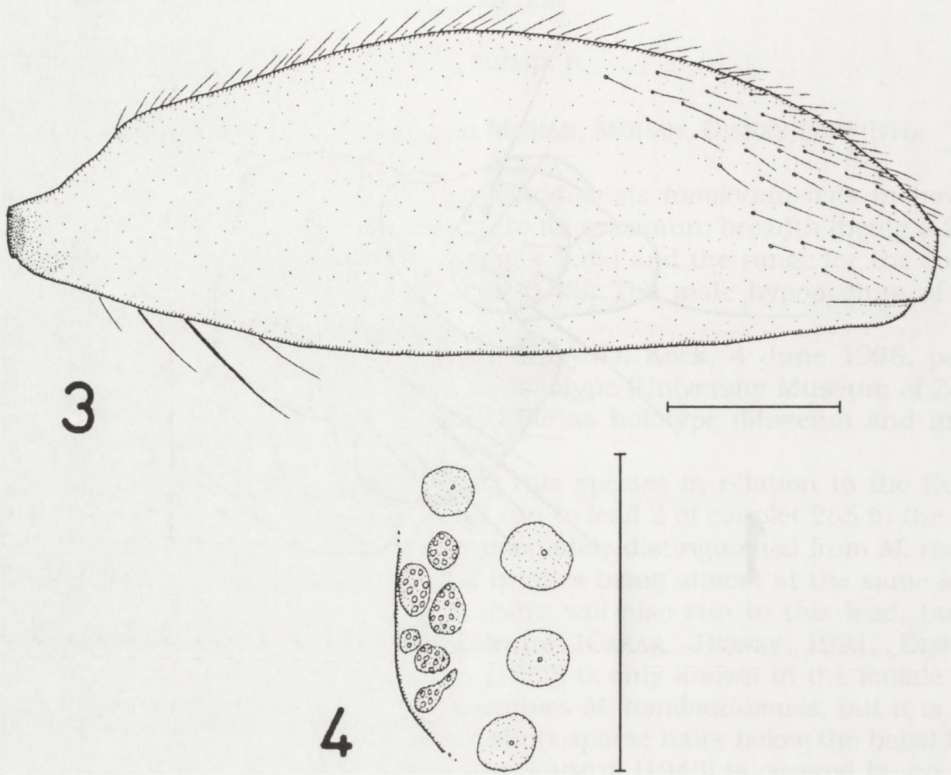
If *M. tamilnaduensis* is run through the relevant section of the keys to Nearctic species (BORGMEIER 1966) its combination of brown femora and the possession of some long hairs below the basal half of the hind femur will exclude all similar species.

DISCUSSION

The larvae of the following *Phoridae* are now known to feed on species of oyster mushrooms, *Pleurotus* (FR.) P. KUMM. (*Lentinaceae*), most being reported from sporophores:



Figs 1-2. *Megaselia* male. *Megaselia tamilnaduensis polonica* subsp. n., hypopygium. 1 - right face, 2 - left face. (Scale bars = 0.1 mm).



Figs 3-4. *Megaselia* males. *Megaselia tamilnaduensis polonica* subsp. n. 3 - posterior face of hind femur, 4 - *M. devia* Schmitz, SPS vesicles of third antennal segment. (Scale bars = 0.1 mm).

Pleurotus sp. - *Megaselia chaetoneura* (MALLOCH) (BROWN, MARSHALL 1984), *M. sylvatica* (WOOD) (DISNEY, EVANS 1979);

P. citrinopileatus SINGER [HILBER (1993) treated this species as a subspecies of *P. cornucopiae*, but without giving any grounds for this conclusion] - *M. tamilnaduensis* DISNEY, the larvae feeding on the mycelium (MOHAN, MOHAN, DISNEY 1996);

P. cornucopiae (PAUL. ex PERS.) ROLLAND. - *M. frameata* SCHMITZ (BUXTON 1961, CHANDLER 1973, DISNEY 1994), *M. giraudii* (EGGER) (BUXTON 1961), *M. plurispinulosa* (ZETTERSTEDT) (CHANDLER 1973);

P. ostreatus - (JACQ. ex FR.) QUÉL. - *M. longipennis* (MALLOCH) (ACKERMAN, SHENEFELDT 1973), the larvae of this species being primarily a mycelium feeder (HUSSEY 1960), *M. rubescens* (WOOD) (YAKOVLEV 1986), *M. tamilnaduensis* DISNEY subspecies *polonica* DISNEY & DURSKA, the larvae feeding on the mycelium (this paper);

P. sajor-caju (FR.) SINGER - *M. pleurota* DISNEY, the larvae feeding on the sporophores, and *M. scalaris* (LOEW), whose larvae initially feed on the mycelium but subsequently invade the sporophores (JOHAL, DISNEY 1994).

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[Tytuł: Nowy podgatunek *Phoridae* niszczący uprawy bocznika (*Pleurotus ostreatus*) w Polsce]

Opisano nowy podgatunek z rodziny *Phoridae* (*Diptera*) – *Megaselia tamilnaduensis polonica* DISNEY & DURSKA z Polski. Podgatunek ten, jak również orientalny gatunek *Megaselia tamilnaduensis* DISNEY niszczą uprawy bocznika (*Pleurotus*). W pracy został także zsynonimizowany gatunek *Megaselia compacta* SCHMITZ z *M. devia* SCHMITZ.