



Two new species of *Megaselia* Rondani (Diptera: Phoridae) from Poland

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Abstract: Two new scuttle fly species of genus *Megaselia* are described from Poland. *M. boguslawi* sp. n. was found in central Poland in the pine forest after fire. *M. wigryensis* n. sp. was caught in the north-eastern part of country in the linden-oak-hornbeam forest of the Wigry National Park.

Key words: Diptera, Phoridae, *Megaselia*, new species, Poland

INTRODUCTION

Megaselia Rondani is the giant genus of Phoridae family of Diptera order. Up to now we know nearly 500 Palearctic species in this genus, whose larval habits are more diverse than any family of insects (Disney 1994; Disney & Durska 1998, 2011). When viewing larger material lots, especially from poorly researched areas, new species are constantly being discovered. That was also the case.

During the identification of Phoridae material collected in the frame of two different subjects conducted in two regions of Poland: in central Poland¹ (pine forest, 2015 after fire near Włocławek) and in north-eastern part of the country² (linden-oak-hornbeam forest, 2016, Wigry National Park). Among the collection, two specimens of *Megaselia* were found (Ewa Durska) that failed to key out in the existing literature. They have proved to be new species and are described (R. H. L. Disney) below.

METHODS

The specimens were preserved in 70% ethanol and mounted on slides in Berlese Fluid (Disney 2001). The holotypes are deposited in the University of Cambridge Museum of Zoology (UCZM).

Megaselia boguslawi n. sp.

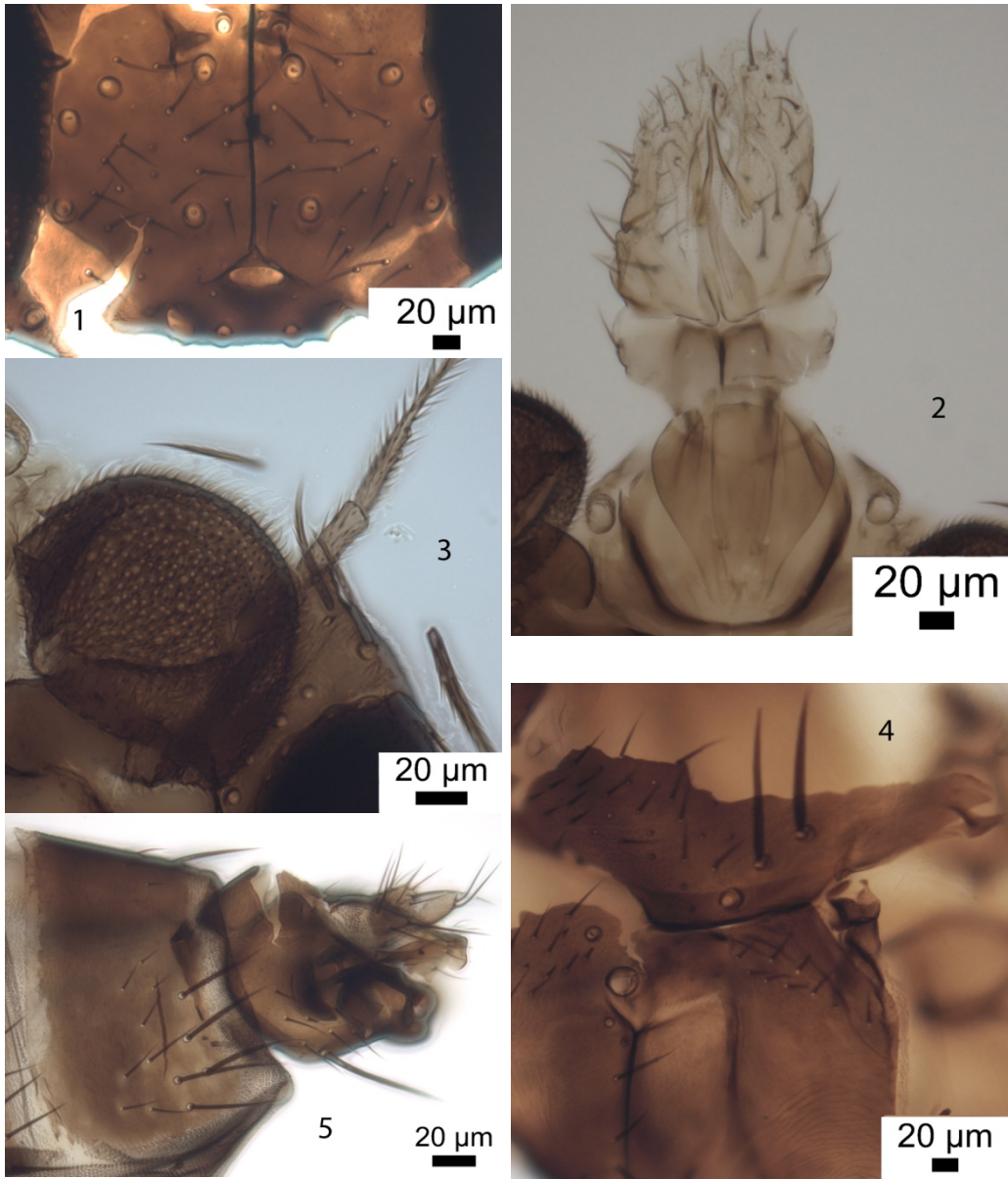
(Figs 1–10)

Although somewhat damaged, such as lacking the palps and only one leg being complete, it is sufficiently distinctive to allow recognition that it is new. In the key to the males of species of the British Isles (Disney 1989) it runs to couplet 126, where its hypopygium excludes both species. A dozen European species will run to the same couplet. Most are immediately distinguished by their hypopygia. The most similar is *M. rydali* Disney & Bøggild (2017), but the hypopygium differs in details, such as the longer cerci and shorter differentiated bristle on

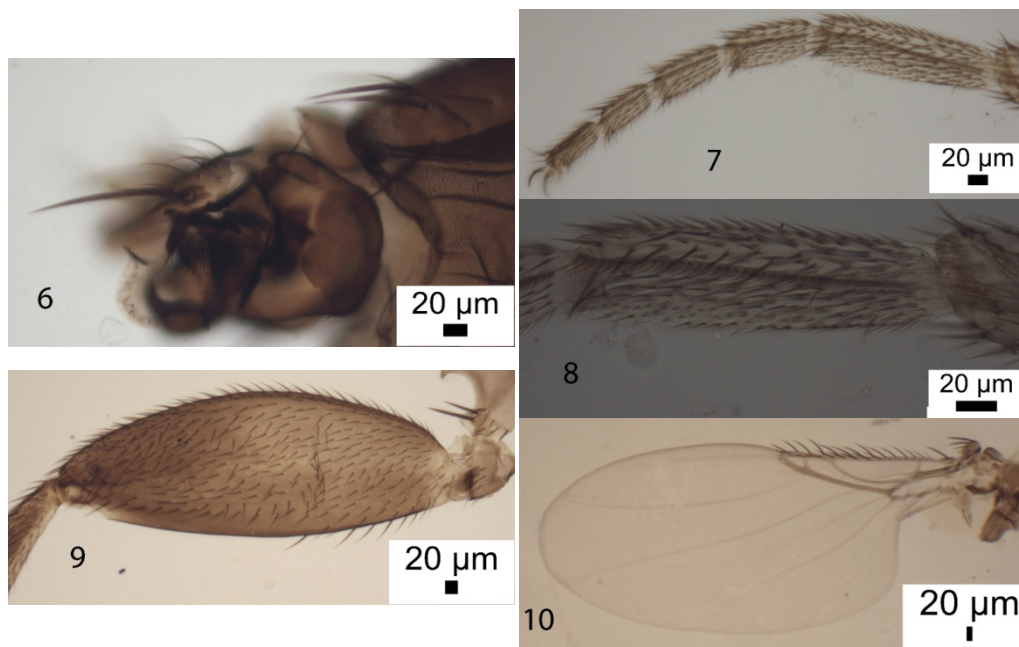
¹ Project: The first stages of succession of insects inhabiting pine forest after fire.

² Project: The influence of *Impatiens parviflora* on the species diversity of selected organisms and the forest environment of the Wigry National Park, supported by the Fund of the State Forests.

each side of the epandrium, apart from its costal index being 0.46. In the key to the Palearctic species of Abteilung V (Schmitz & Delage 1974) it runs to couplet 6, lead 1 to *M. divergens* (Malloch), a misidentification of *M. fenestralis* (Schmitz) which had been incorrectly synonymized with this species, whose hypopygium is clearly different. The hypopygium of *M. divergens* has only short hairs on the epandrium.



Figs 1–5. *Megaselia boguslawi* n. sp. male. 1 – frons (with bristles represented by their basal sockets only); 2 – proboscis; 3 – postpedicel; 4 – left notopleuron and mesopleuron of thorax; 5 – left face of hypopygium.



Figs 6–10. *Megaselia boguslawi* n. sp. male. 6 – hypandrium from below; 7 – front tarsus; 8 – front basitarsus; 9 – hind femur; 10 – wing.

Description. Male. Frons as in Fig. 1. Cheek with 4 bristles and jowl with 2 that are more robust. Postpedicels (Fig. 3) without SPS vesicles. Proboscis as Fig. 2. Thorax brown, with 3 notopleural bristles and no cleft in front of these, and mesopleuron with very short hairs (Fig. 4). Scutellum with an anterior pair of hairs and a posterior pair of bristles. Abdominal tergites brown with hairs mainly at or near hind margins of tergites and clearly longer and more robust at rear of T6 (Fig. 5). Venter gray and with relatively few hairs on segments 3-6. Hypopygium as Figs 5 and 6, the hypandrial processes being vestigial. Legs brown but not dark and the front legs more yellowish brown. Fore tarsus with posterodorsal hair palisades on segments 1–4 (Fig. 7) and the basitarsus with some hairs reduced to small spinules (Fig. 8). Dorsal hair palisade of mid tibia extends about half its length. Hind femur as Fig. 9. Hind tibia with about two dozen only moderately differentiated posterodorsal hairs, without anterodorsals, and spinules of apical combs simple. Wing (Fig. 10) 1.4 mm long. Costal index 0.38. Costal ratios 6.0 : 1.24 : 1. Costal cilia (of section 3) 0.08 mm long. Hair at base of vein 3 small. Axillary bristles lost but the outer of their 2 sockets clearly larger than that of the inner bristle. Sc not reaching R1. Haltere brown.

Material. Holotype male, central Poland, near Włocławek, pine forest that had been burnt in 2013, light trap, 13. May 2015, leg. M. Krzyżyński (CUMZ 28-57).

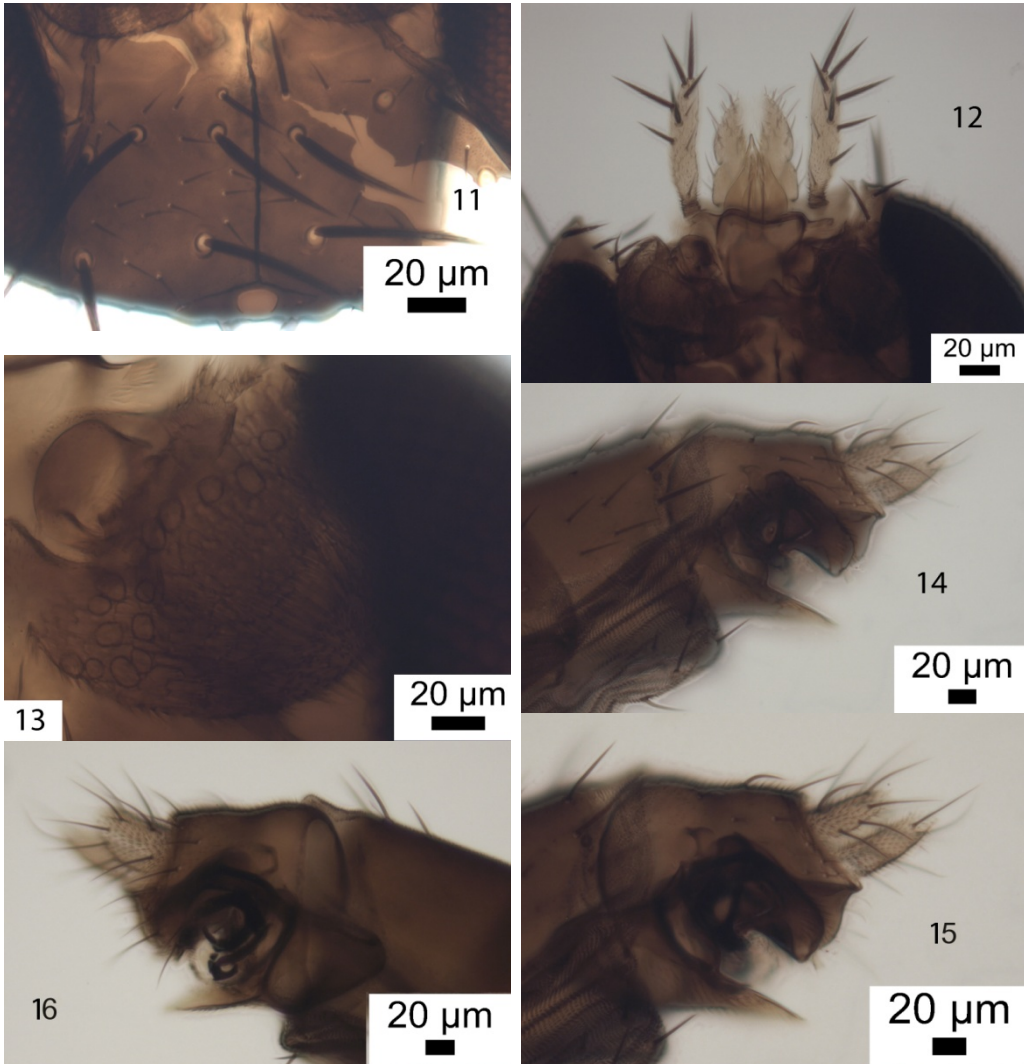
Etymology. Named after Bogusław Majewski, the father of Dr Ewa Durska.

Megaselia wigryensis n. sp.

(Figs 11–20)

In the key to the males of species of the British Isles (Disney, 1989) it runs to couplet 217, where neither option fits, but a note directs that in this case one proceeds to couplet 219. From there it runs to couplet 225, lead 1, to *M. badia* Schmitz, a species subsequently synonymized with *M. densior* Schmitz. It differs in having posterodorsal hair palisades on all five fore tarsal

segments and the dorsal hair palisade of the mid tibia extending about 0.9 times its length. Three subsequently added species, one being not recorded from the British Isles, run to the same couplet, but these three with P-D hair palisades on all five segments of the front tarsus; and one has spinose labella and one has a notopleural cleft.



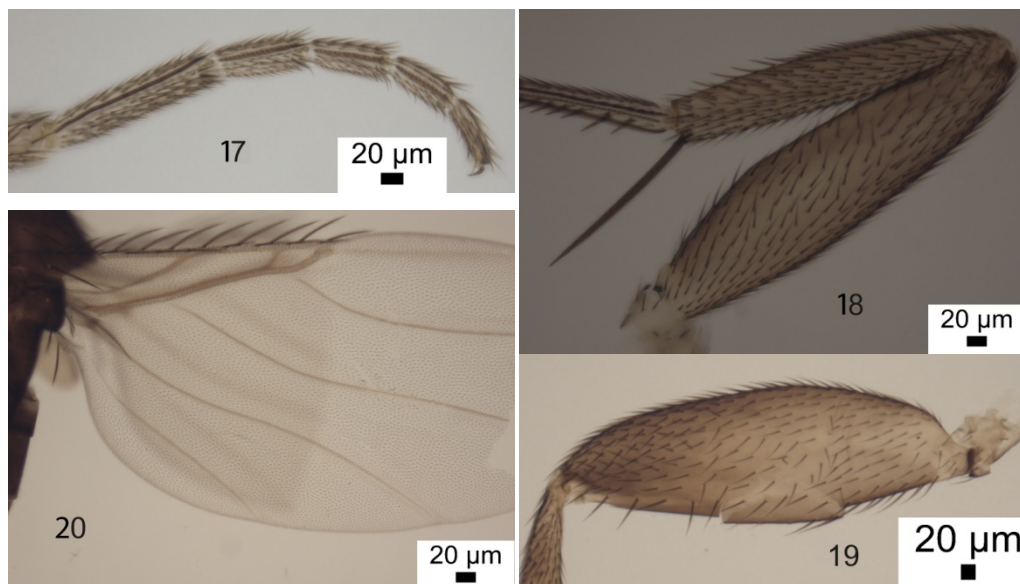
Figs 11–21. *Megaselia wigryensis* n. sp. male. 11 – frons; 12 – postpedicels, palps and proboscis; 13 – postpedicel; 14–16 – hypopygium.

Description. Male. Frons as Fig. 11, and with dense but very fine microtrichia. Cheek with at least 4 bristles and jowl with 2 that are longer and more robust. Postpedicels, palps and proboscis as Fig. 12, the postpedicels having SPS vesicles (Fig. 13). Thorax brown, with 2 notopleural bristles and no cleft in front of these. Mesopleuron bare. Scutellum with an anterior pair of small hairs and a posterior pair of bristles. Abdominal tergites brown with moderate hairs which are longer and more robust at rear of T6 (Fig. 14). Venter dark gray, and with hairs

on segments 3–6 (Fig. 14). Hypopygium as Figs 14–16. Legs light brown to yellowish brown. Fore tarsus as Fig. 17, with posterodorsal hair palisade on segments 1–4 and 5 longer than 4. Mid femur and tibia as Fig. 18. Hind femur as Fig. 19. Hind tibia with about 20 weakly differentiated posterodorsal hairs, without anterodorsals, and spinules of apical combs simple. Wings (Fig. 20) 1.22 mm long. Costal index 0.44–0.45. Costal ratios 3.07 : 2.12 : 1. Costal cilia (of section 3) 0.10 mm long. No hair at base of vein 3. With 3 axillary bristles, the outermost being 0.07 mm long. Sc not reaching R1. Haltere knob pale gray.

Material. Holotype male, north-eastern Poland: Wigry National Park, Barber trap, 26 Sep 2016, leg. E. Durska (CUMZ 28-56).

Etymology. Named after the type locality.



Figs 17–20. *Megaselia wigryensis* n. sp. male. 17 – front tarsus; 18 – mid femur and tibia; 19 – hind femur; 20 – basal half of wing

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STRESZCZENIE

[Dwa nowe dla nauki gatunki z rodzaju *Megaselia* Rondani (Diptera: Phoridae) wykazane z Polski]

W pracy przedstawiono opisy dwóch, nowych dla nauki gatunków z rodzaju *Megaselia*. Pierwszy z nich, *M. boguslawi* sp. n. został złowiony w 2015 roku za pomocą pułapki świetlnej na pożarzysku lasu sosnowego w okolicach Włocławka (centralna Polska). Drugi gatunek, *M. wigryensis* sp. n. złowiono w pułapkę Barbera w grądzie Wigierskiego Parku Narodowego (północno-wschodnia Polska). Oba gatunki reprezentowane są przez pojedyncze okazy samców.

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