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New Records of Three Leaf-rolling Sawflies of the Genus *Pamphilius* (Hymenoptera, Pamphiliidae) from Greece and Macedonia

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Abstract Two species of leaf-rolling sawfly, *Pamphilius ignymontiensis* Lacourt, 1973, and *P. marginatus* (Audinet-Serville, 1823), are newly recorded from Greece. *Pamphilius ignymontiensis* is known to occur in western and central Europe, and Croatia and Rumania are the southeastern-most localities so far recorded. *Pamphilius marginatus* is widely distributed in Europe, with southeastern records from Rumania, Macedonia, and Serbia. They are the second and third species of pamphiliid sawflies to be recorded from Greece. The record for *P. ignymontiensis* is based on a male specimen from Monodéndri and that for *P. marginatus* is based on a female specimen from Vikos Gorge, both localities in the Ioánnina province. The male Greek specimen of *P. ignymontiensis* differs from western European specimens in having more heavily punctured head and entirely black mesoscutellum and metascutellum. Another species, *Pamphilius sylvaticus* (Linnaeus, 1758), known to occur widely in Europe and Turkey, is newly recorded from Macedonia based on two male specimens from Mt. Galičica near Ohrid.

Key words: Hymenoptera, Pamphiliidae, *Pamphilius ignymontiensis*, *Pamphilius marginatus*, *Pamphilius sylvaticus*, Greece, Macedonia, new distribution record

Comparatively humid montane and subalpine regions of the southern Balkans provide a habitat for many sawfly species, which are otherwise known from more northern areas of Europe. There many of them obviously reach the southern limit of their distribution in southeastern Europe (see data in Blank, 1993). However, in the southern Balkans Hymenoptera have traditionally been collected mostly in the Mediterranean lowland. Therefore, the discovery of further new "southern-most" records from the mountains of this region is still much expected.

Leaf-rolling or web-spinning sawflies of the family Pamphiliidae are little known in the southern part of the Balkan peninsula. In Greece, only one species, *Pamphilius sylvaticus* (Linnaeus, 1758) has been recorded so far (Liston, 1995). We have recently examined a male and a female specimens of the genus *Pamphilius* from Greece. The male specimen belongs to the *alternans* subgroup of the *alternans* group (Shinohara, 1991) and we have identified it with *P. ignymontiensis* Lacourt, 1973, a species previously known to occur in western and central Europe. The Greek specimen differs from western European specimens of *P. ignymontiensis* in some characters as discussed below. The female specimen has been determined with *P. marginatus* (Audinet-Serville, 1823), which is widely distributed in Europe but has not been found in Greece. These two species are the second and third pamphiliid species to be recorded from Greece. We also give a new distribution record of *P. sylvaticus* from Macedonia in the following lines.

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Pamphilius ignymontiensis Lacourt, 1973

Greek specimen examined. 1♂ labeled "GR-Ioánnina, Monodéndri [39.88N 20.75E] 1200 m NN, 4-6.5.1993, Gelbschale [=yellow pan trap], leg. Röschmann" (in Deutsches Entomologisches Institut, Eberswalde).

Remarks. The Greek specimen disagrees with the diagnosis of *P. ignymontiensis* by Lacourt (1973) and two male paratypes of this species from the type locality in France in the punctuation of the head. The Greek specimen has much stronger and denser punctures on the head (compare Fig. 1A, B, with C, D). A closely related species, *P. aurantiacus* (Giraud, 1857) (7♂ from France, Germany, Hungary, and Slovenia examined), also has a distinctly punctate head, but in this species, the punctures are finer and denser on the dorsal part of the paraantennal fields (Fig. 1F) and there exists nearly an impunctate area just outside of the postocellar area anteriorly (Fig. 1E).

Another difference between the Greek and French specimens is the entirely black mesoscutellum and metascutellum in the Greek specimen. Shinohara (1991) used the presence or absence of the pale yellow mark on the mesoscutellum for separating *P. marginatus* (Serville, 1823) (absent) and *P. aurantiacus* plus *P. ignymontiensis* (present) in his key. In the couplet 4 in the key (p. 36), the Greek specimen agrees with *P. marginatus* in the black mesoscutellum while it agrees with *P. aurantiacus*/*P. ignymontiensis* in the orange-marked abdomen. The coloration of the mesoscutellum may be variable in the male of *P. ignymontiensis* and should be discounted as a distinguishing character. The Greek specimen differs from *P. marginatus* (3♂ from Czech Republic and Hungary examined) in having rather strongly swollen upper part of the frons and facial crests, the deep antennal furrows, the large lateral processes on the valviceps in the genitalia, and the orange-marked abdomen, all of them characteristic of *P. ignymontiensis* (and *P. aurantiacus*).

In other features, the Greek specimen generally agrees with Lacourt's diagnosis and the two paratypes of *P. ignymontiensis*. It is about 8.5 mm long, the numbers of the antennal segments are 20 (left) and 21 (right), the 5th abdominal tergum has a black area along the anterior margin, the dorsum of the abdomen has distinct microsculpture (though the median parts of the posterior segments are smooth), the posterior margin of the stigma is darkened, and the harpes in the genitalia has a black spot basally.

Obviously we need more material to understand the stability and taxonomic significance of the differences in the head microsculpture and the thorax coloration mentioned above. For the moment, however, we regard the Greek specimen as a dark-colored, heavily sculptured male of *P. ignymontiensis*.

Pamphilius ignymontiensis is an uncommon species associated with *Acer platanoides* and *A. campestre* (Lacourt, 1995). It is known to occur in western and central Europe (Liston, 1995), and Croatia (Konow, 1901–1905) and Rumania (Scobiola-Palade, 1968) are the southeastern-most localities so far recorded. This is the first distribution record of *P. ignymontiensis* from Greece.

Pamphilius marginatus (Audinet-Serville, 1823)

Greek specimen examined. 1♀ labeled "Greece N, [Epirus mountains, Ióannina prov.], Zagória, Vikos Gorge [ca. 39.95N 20.71E], 450 m [alt.], 3.5.[19]99, leg. Blank & Kutzscher, *Ostrya carpinifolia*" (in S. Blank collection).

Remarks. The Greek specimen bears two narrow pale yellow spots on the median lobe of the mesoscutum and a large pale yellow spot on the posterior half of the mesoscutellum. Such pale yellow spots on the mesonotum are some-

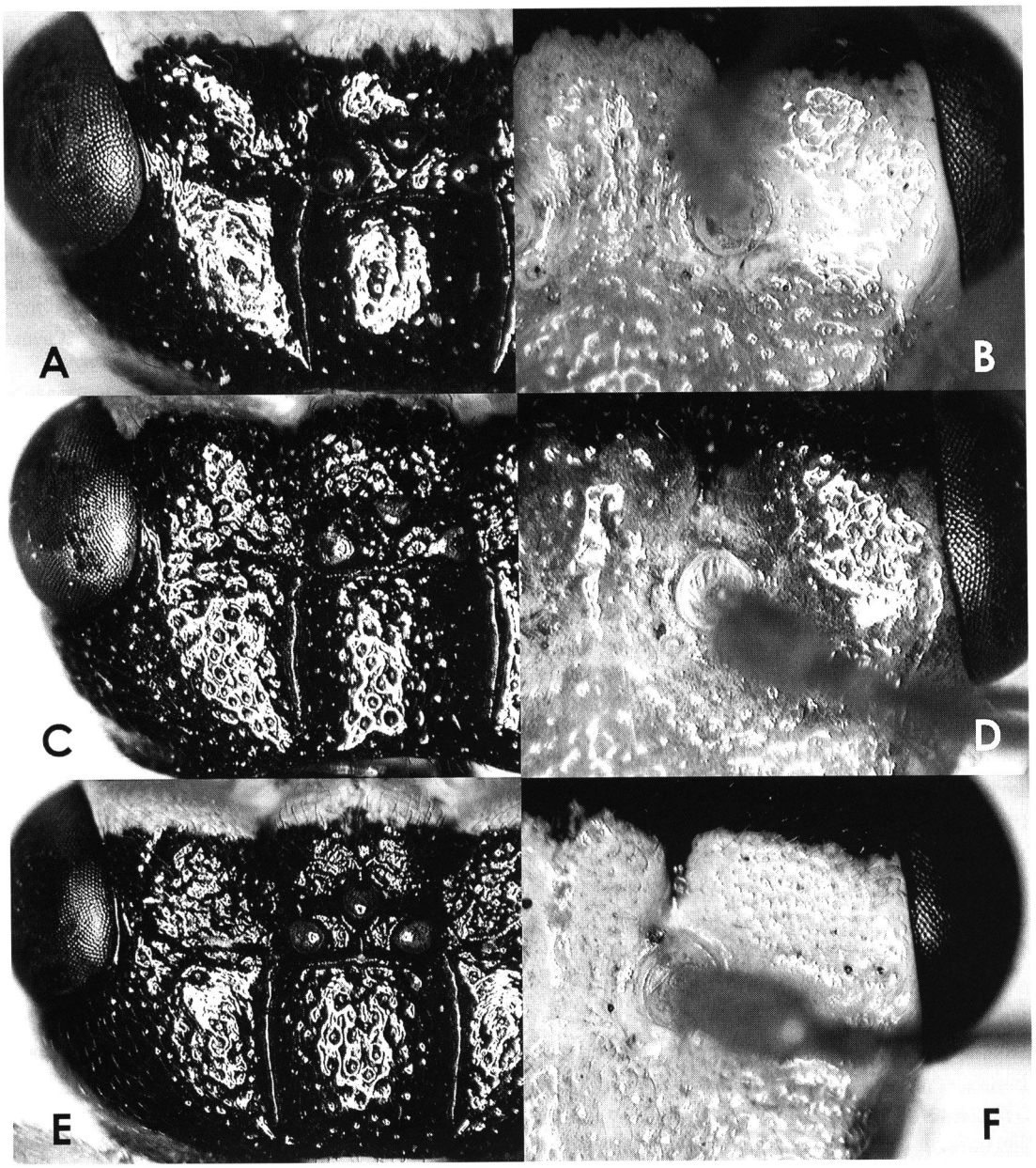

Fig. 1. *Pamphilius* spp., male, left upper part of head, dorsal view (A, C, E) and left frontal part of head, frontal view (B, D, F).——A, B, *P. ignymontiensis*, paratype, Montigny-lès-Cormeilles, France; C, D, *P. ignymontiensis*, Monodéndri, Greece; E, F, *P. aurantiacus*, Laško, Slovenia.

times present in the female of this species, though they are rather obscure (Konow, 1901–1905; Enslin, 1917; Achterberg & Aartsen, 1986). Otherwise the Greek specimen agrees with the material from more northern sites in Europe. This species is widely distributed in Europe, with southeastern records from Rumania (Precupeţu, 1959), Macedonia (Čingovski, 1971), and Serbia (Čingovski, 1982). This is the first record of *P. marginatus* from Greece.

The larva of *P. marginatus* is known to make a tight screw-roll on the leave of *Carpinus betulus*

and *Corylus avellana* (Stritt, 1937; Lorenz & Kraus, 1957). The Greek female was swept from bushes of *Ostrya carpinifolia*. All the three plant species belong to Corylaceae, and *Ostrya carpinifolia* is likely to be an additional larval host.

Pamphilius sylvaticus (Linnaeus, 1758)

Macedonian specimens examined. 2♂ labeled "Ohrid, Mt. Galičica [ca. 40.92N 20.83E], 1600 m alt., 3.6.1989, leg. A. Riedel" (in S. Blank collection).

Remarks. The Macedonian specimens run safely to *P. sylvaticus* in Achterberg & Aartsen's (1986) and Viitasaari's (2002) keys to the European Pamphiliidae. *Pamphilius sylvaticus* is widely distributed in Europe, including Bulgaria, Greece, Hungary, Rumania (Liston, 1995), Slovenia (Shinohara, 1985), and Croatia (Perović & Leiner, 1996) in the Balkans and the neighboring countries. It is also known from Turkey (Shinohara, 1997). This is the first distribution record of *P. sylvaticus* from Macedonia. From Macedonia, only three species of pamphiliid sawflies have been recorded so far (Čingovski, 1959, 1971).

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