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<< *Fauna of the Romanian protected areas - A special issue in memoriam of Acad.Dr.Doc. Petru M. Bănărescu* >>

First record of *Omyomymar* (Hymenoptera: Chalcidoidea: Mymaridae) from Europe, with description of a new species from Romania

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Abstract. *Omyomymar andriescui* sp. n. from Romania is described and illustrated. This is the first record of *Omyomymar* Schauff, 1983 in Europe. The taxonomic characters of this species, its habitat and distribution are detailed and commented. The key to the species of this genus is modified from Lin & Chiappini (1996), to include the new species.

Key words: *Omyomymar* Schauff, taxonomy, first record, new species, Romania.

Introduction

Omyomymar Schauff, a genus with an almost worldwide distribution (Lin et al., 2007) is represented by seven valid species (Lin & Chiappini, 1996). Ogloblin (1935) described two species from South America. Schauff (1983) described two species from North America and published the first key to world species, changing genus combination. Schauff (1984) published the first key to the Mymaridae genera that included *Omyomymar*. Lin & Chiappini (1996) described three species from China and published also a key to the world species. Huber (2009) recorded *Omyomymar* from Fiji. Manickavasagam et al. (2011) recorded *Omyomymar* from India. Viggiani (1988) described the male genitalia of *Omyomymar sp*. Morphological terms follow Yoshimoto (1990), Huber (1997, 2009), Lin et al. (2007) and Noyes (2013). Pricop (2013) illustrated an unidentified genus, identified now as *Omyomymar*. I found enough good morphological differences to justify the description of this new taxon. Members of *Omyomymar* Schauff are rarely collected in Romania. Present contributions to the Romanian Mymaridae have been published by Pricop (2011, 2012, 2013, 2014) and Pricop & Andriescu (2011).

Materials and methods

All six specimens were collected by the author from two different locations in North-Eastern part of Romania (Figs 1a, b, c), from Rarău-Giumalău Mountains, Suceava county (Fig. 1c) and Ceahlău Mountain, Neamt county (Fig. 1b). The specimens were collected using an entomological sweep net. All specimens are deposited in the in-

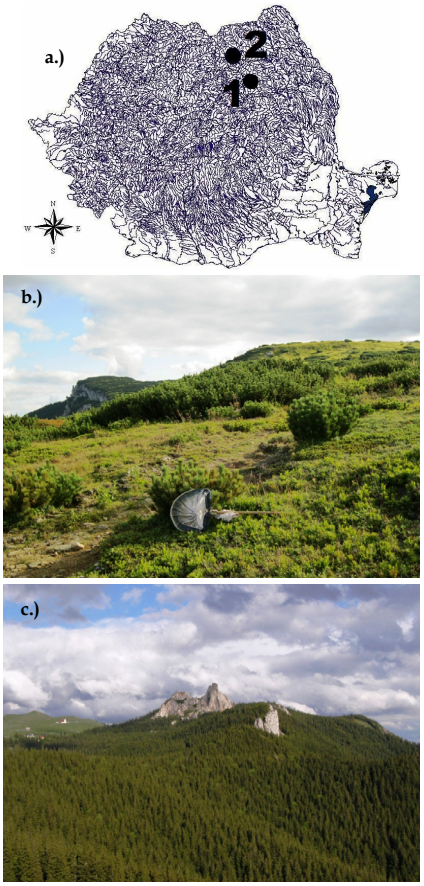

Figure 1. Species distribution and habitat of *Omyomymar andriescui* sp. n.: **a.)** Romania with the collecting sites (1-Ceahlău, 2-Rarau and Giumalău); **b.)** Lespezi, a sub-alpine area from Ceahlău National Park, dominated by *Pinus mugo*; **c.)** *Picea abies* forests from Rarău Mountain (original).

sect collection of the Department of Biology, "Alexandru Ioan Cuza" University of Iasi, Romania. A single paratype will be deposited in the collection of Natural History Museum of Iasi, Romania. All specimens are slide-mounted in Canada balm. Photographs were taken using a Canon digital camera attached to an IOR optical microscope. The map was made using ArcView GIS 3.1 software. Drawings were made by the author using a camera lucida. Some relative measurements are given. For the scanning electron microscopy we used Vega Tescan, an important electron microscope.

Abbreviations

F1-F6 = funicular articles; mps = multi porous plate sensillae (sensory ridges); µm = micrometer; UAIC – "Alexandru Ioan Cuza" University of Iasi, Romania.

Results and discussion

***Omyomymar andriescui* Pricop, sp. n.** (Figs 2, 3)

Type material: Holotype on slide: 1♀, 1.08.2010, Rarău, near "Piatra Zimbrului", Suceava county (Leg. E. Pricop), collected from mixed vegetation in the upper spruce forest (1400m elevation); Paratype: 1♀, 1.08.2010, Rarău, Suceava county (Leg. E. Pricop), collected from mixed vegetation in the upper spruce forest (1300m elevation); 3♀, 7.08.2010, Ceahlău, "Poliţa cu crini", Neamt county (Leg. E. Pricop), collected from mixed vegetation in the upper spruce forest (1600m elevation); 1♀, 7.08.2010, Ceahlău, "Lespezi", Neamt county (Leg. E. Pricop), collected from sub-alpine vegetation (1800m elevation); 1♀, 29.07.2014, Giumalău, collected from mixed vegetation in the upper spruce forest (1500m elevation); 2♀, 18.08.2014, Ceahlău, "Ocolaşu Mare", collected from sub-alpine vegetation (1800m elevation). Species morphology is presented in Figs 2a, b; 3a, b, c, d, e, f, g, h, i, j, k.

Description: Female holotype – body length = 630µm. Body color brown to light brown; head and mesosoma are dark brown, metasoma is light brown. Antennae and legs are light brown to yellow. Body not sclerotized, body sculpture barely noticeable. Head length about 110µm, almost globular in shape (Fig. 3d) with faint sculpture. Head about as wide as mesosoma. Eyes darker brown to black, ocelli brown. Mandibles reduced and small, maxillary and labial palps also reduced. Antennae with relatively long articles (Figs 2a, 3c). Scape ovoid, broad and with few setae. Radicle short and fused to scape (Fig 2a). Pedicel much longer than F1; F1 the shortest funicular article; F2, F3 and F4 almost of equal length and width, each about twice longer than F1; F2 to F5, each more than twice longer than broad, F5 the longest funicular article, F6 the broadest funicular article (Fig 2a, 3c). Clava length is greater than, or at most equal to, F1 to F3 length combined and also greater than F5 and F6 length combined. The suture line between the two segments of clava is strongly oblique (Figs 2a, 3c). Clava is 2.8 X as long as wide. Antennal ratio - scape: 30; pedicel: 11-12; F1: 7-8; F2: 10; F3: 9-10; F4: 10; F5: 12; F6: 9-10; Clava: 31. Clava with 6 mps. F1 to F6 without mps, F5 and F6 each with one spindle like sensillae (Fig. 21). Mesosoma lenght = 210µm, with faint sculpture (Fig. 3i). Mesosoma longer than wide (Figs 3f, g, h, i). In our specimens, posterior scutellum partially divided medially by a longitudinal sulcus (Figs 3i, j). Although the gaster is broadly attached to mesosoma, a fine lateral constriction can be observed between mesosoma and metasoma (Figs 3g, h). Mesophragma posteriorly truncate, slightly projecting into gaster, not reaching the second metasomal tergite (Fig. 3f). Wings are almost uniformly hyaline, with a tinge of brown to gray. Forewings are narrow and apically pointed, with a single line of setae on membrane beyond venation (Figs 2b, 3a). Forewing length/wide ratio vary from 7 to 7.6; marginal fringe long (Fig. 2b). Forewing fringe composed of 63 to 68 marginal cilia. Marginal cilia length exceeds the forewing blade's greatest width. Setae evenly scattered over apical half of forewing membrane (Figs 2b, 3a). Hind wings normally developed but narrow (Fig. 3b). Hind wings slightly shorter than forewings. Hind wings about 22 times longer than broad, marginal cilia twice to three times longer than hind wing blade's greatest width. Hind wing blade with one row of microtrichia beyond venation (Fig. 3b). Legs relatively long, short to normal developed tarsi (Fig. 3e),

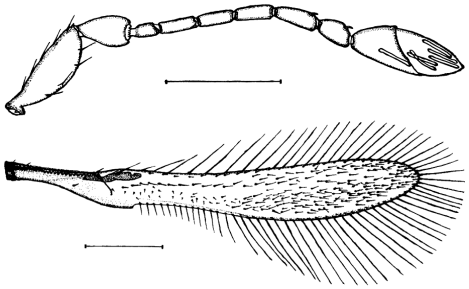

Figure 2. *Omyomymar andriescui* **sp. n.: a.)** female antenna; **b.)** forewing, scale = 100 µm (original).

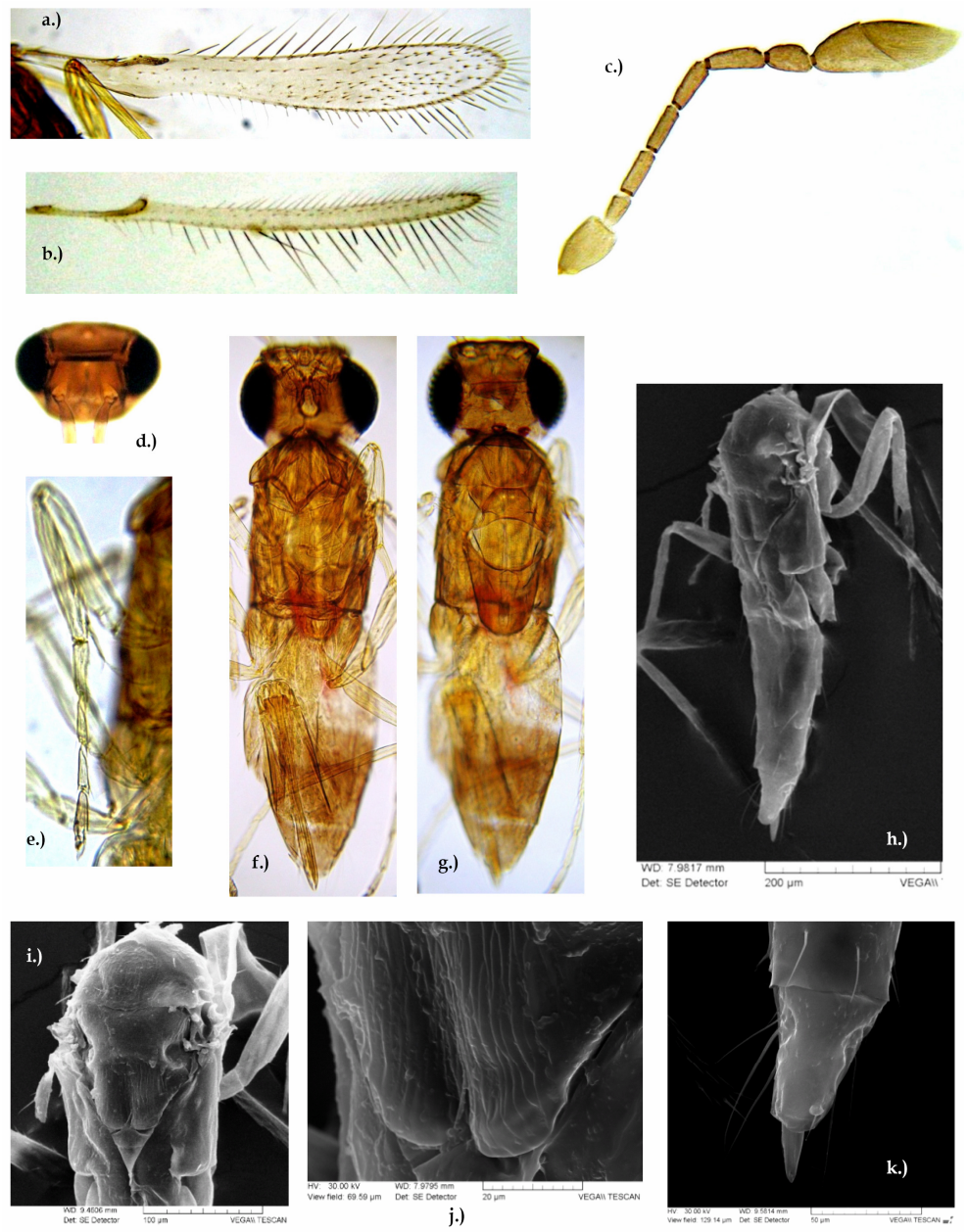

Figure 3. *Omyomymar andriescui* sp. n.: **a.)** fore wing; **b.)** hind wing; **c.)** female antenna; **d.)** head; **e.)** fore leg; **f.), g.), h.)** body; **i.)** mesosoma; **j.)** posterior scutellum; **k.)** tip of metasoma (original).

metatarsus slightly longer. Metasoma length = 310µm. Metasoma distinctly longer than mesosoma. Metasoma not sculptured and much longer than broad (Figs 3g, h). First three terga light brown. The ovipositor occupies about 80-90% from length of metasoma. Ovipositor does not start from the base of metasoma and is relatively short, in comparison to the ovipositor of previously described species. Ovipositor not overlapping mesophragma anteriorly. Ovipositor slightly exserted past tip of metasoma (Figs 3g, h, k). In our specimens, we observed vary little variations;

evident variation is in body size (body length vary from about 600 to 700µm). Body color also can vary from dark brown to light brown.

Diagnosis: *Omyomymar andriescui* sp. n. differs from all other described species of *Omyomymar* by the unique combination of characters presented in this diagnosis. In *O. andriescui* sp. n., F1 is the shortest funicular segment, distinctly shorter than the pedicel (Figs 2a, 3c); F5 is almost twice longer than F1; F6 longer than F1 but shorter than F5. Clava length is almost equal to F4 to F6 length combined (clava is usually only slightly shorter). Narrow forewings (Figs 2b, 3a), mean of forewing length/wide ratio = 7.3; the longest marginal cilia about 1.3X forewing blade's greatest width. Forewings uniformly densely setose in the apical part. One line of setae is present on forewing membrane. Ovipositor relatively short, ovipositor length/mid tibia length ratio = 1.4; tip of ovipositor slightly exerted, typical characters of *O. andriescui* sp. n. (Figs 3g, h, k). In all described species, with the exception of *Omyomymar breve* Lin & Chiappini and now *O. andriescui* sp. n., F1 is much longer than the pedicel. In *O. andriescui* sp. n., F2, F3, F4, F5 and F6 are relatively long in comparison to F2, F3, F4, F5 and F6 of *O. breve*, also the shape of all funicular articles differs between the two species. The antennae of *O. andriescui* sp. n. are more slender. From all described species, *Omyomymar andriescui* sp. n. resembles also in part to *Omyomymar grisselli* Schauff, 1983. The forewing morphology of *O. andriescui* sp. n. is most similar to the forewing morphology of *O. grisselli*. In our species F1 and F2 are relatively short, in comparisons to F1 and F2 of *O. grisselli*. In all *Omyomymar* species, with the exception of *O. andriescui* sp. n., the ovipositor is long and strongly exerted beyond the apex of metasoma. It is necessary to update the identification key of Lin & Chiappini (1996), because the specimens of *O. andriescui* sp. n. do not key out properly.

O. andriescui sp. n. may be distinguished by inserting the following couplet, 1, at the beginning of the Lin & Chiappini's identification key, which should read as follows:

1. Ovipositor at most only slightly exerted beyond apex of gaster (Figs 3g, h, k); F4-F6 taken together about as along as clava, F4-F6 at most only slightly longer than clava…….***O. andriescui* sp. n.**
- Ovipositor exerted considerably beyond apex of gaster; F4-F6 taken together not as long as clava, F4-F6 clearly much longer or much shorter than clava……..……...**2**
2. F4-F6 taken together clearly longer than clava, by at least 1/3 of the latter [the exerted part of ovipositor at least 1.3X metasomal length]……..……..***O. glabrum* Lin & Chiappini**
- F4-F6 taken together clearly shorter than clava……..……**3**

Note: All specimens of *Omyomymar andriescui* sp. n. were collected in the upper forests and subalpine vegetation from the protected mountain areas of Rarău-Giumalău and Ceahlău National Park (Figs 1a, b, c). Species habitat acording to NATURA 2000, identified from Donita et al. (2005): 9420 Alpine *Larix deciduas* and/or *Pinus cembra* forest; 4060 Alpine and Boreal heaths; 9410 Acidophilous *Picea* forests of the montane to alpine levels (*Vaccinio – Piceetea*).

Species distribution: North-Eastern Romania.

Hosts: Unknown.

Etymology: This species is named in honor of PhD Professor Ionel Andriescu.

Conclusions

Omyomymar Schauff is here reported for the first time in Europe. In Romania, *O. andriescui* sp. n. is rarely collected and belongs to the mountain ecosystems. *O. andriescui* sp. n. is currently only found in the upper spruce forests of Rarău-Giumalău mountains and also in the forests and protected mountain pine habitats of Ceahlău National Park, above 1300m elevation, in Eastern Carpathians. The species distribution sites are situated above the 45° N parallel.

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