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A new species, *Agathis berkei* sp. n., from Eastern Anatolia, Turkey (Hymenoptera, Braconidae, Agathidinae)

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Abstract: *Agathis berkei* sp. n. (Hym., Braconidae, Agathidinae) is described from Eastern Anatolia, Turkey. Morphological diagnostic characters of the new species are figured, and they are compared with those of the related species *Agathis fischeri* Zettel and Beyarslan, 1992.

Key words: Agathidinae, Braconidae, *Agathis, berkei*, new species, Malatya, Turkey

Doğu Anadolu Bölgesi, Türkiye' den yeni bir tür, *Agathis berkei* sp. n. (Hymenoptera, Braconidae, Agathidinae)

Özet: Doğu Anadolu Bölgesi Türkiye'den *Agathis berkei* sp. n. (Hym.: Braconidae, Agathidinae) tanımlanmıştır. Morfolojik diagnostik karakterlerin şekli çizilmiş ve yakın bir tür olan *Agathis fischeri* Zettel and Beyarslan, 1992 ile karşılaştırılmıştır.

Anahtar sözcükler: Agathidinae, Braconidae, *Agathis, berkei*, yeni tür, Malatya, Türkiye

Introduction

The Agathidinae is a moderately large subfamily of Braconidae with approximately 2000 species, most of which are not described. It has a worldwide distribution and members are found in most terrestrial habitats. Although all known species are koinobiont endoparasitoids of Lepidopterous larvae, their life history traits vary considerably (Sharkey, 2006).

Agathis Latreille, 1804, is the largest agathidin genus in the world, with 177 species listed in the latest

version of the world Ichneumonoida interactive catalogue (Yu et al., 2005). There are about 41 species of *Agathis* in the West Palaearctic and 37 species are known from Europe (Yu et al., 2005). Members of the genus have elongate mouthparts and genae. In *Agathis* specimens, the shape of the head in facial view is often an essential character for the separation of species (Simbolotti and van Achterberg, 1999).

As far as the fauna of Turkey is concerned, Agathidinae must be regarded as an insufficiently studied subfamily. Early studies of this genus were

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carried out by Zettel and Beyarslan (1992), who described a new *Agathis* species from Turkey. Afterwards, various authors made important contributions to the *Agathis* fauna. To date, 21 species of *Agathis* have been recorded from Turkey (Simbolotti and Achterberg, 1999; Cetin and Beyarslan, 2001; Beyarslan et al., 2002a, 2002b; Çetin Erdoğan and Beyarslan, 2004; Çetin Erdoğan et al., 2009).

During studies of the braconid fauna of Eastern Anatolia a new species, *Agathis berkei* sp. n., was recorded and described.

Materials and methods

The new species was collected by sweeping with an insect net at Akçadağ, Malatya province, Turkey, in fields on grass-type plants. The definitions and ratios follow Simbolotti and van Achterberg (1999). All illustrations and measurements were made using a Nikon SMZ-U stereomicroscope with a drawing tube.

Taxonomy

Agathis berkei sp. n. (Figures 1-8).

Description. Holotype (female). Length of body 6 mm, of forewing 5 mm.

Head (Figures 1-2): Head moderately elongate, distinctly tapering ventrally, width of head below eyes 1.3 times median height of face and clypeus combined, its length in frontal view 1.7 times maximum width of face; height of eye 1.3 times length of malar space; stemmaticum weakly prominent; antecellar area triangular and shallowly impressed, frons without median keel, flat; antenna 26 segments (Figure 3); galea medium sized, 3.5 times as long as wide, 0.85 times height of eye, 0.37 times height of head.

Mesosoma (Figures 4-5): 1.85 times as long as high; side of pronotum largely smooth; mesoscutum and scutellum smooth; notauli completely absent; scutellar sulcus distinctly crenulate; mesopleuron smooth; precoxal sulcus absent; propodeum with medio-longitudinal carinae.

Wings (Figure 6): Forewing; marginal cell medium sized; vein SR1 straight; r: 3-SR+SR1 = 3:33; second submarginal cell triangular; 2-R1 about as long as 1-R1. Hind wing; M+CU:1-M = 28:21.

Legs (Figure 7): Length of femur, tibia, and basitarsus of hind leg 3.2, 8, and 11 times their maximum width, respectively; length of inner and outer hind tibial spurs 0.27 and 0.23 times hind basitarsus, respectively; tarsal claws slender, with distinct lobe.

Metasoma (Figure 8): Length of first tergite 1.23 times its apical width, its surface smooth, distinctly impressed medio-anteriorly; length of second tergite equal to its basal width, smooth, with circular medio-basal swelling; remainder of metasoma smooth; ovipositor sheath 1.36 times length of forewing; 1.16 times body and 2.13 times metasoma.

Colour: Yellowish-brown; clypeus (yellowish) brown; remainder of head black; pterostigma, veins and hind femur brown; apical third of hind tibia slightly darker than pale brown remainder of tibia; wing membrane rather infusate.

Male and host unknown.

Material examined: Holotype (female): Malatya-Akçadağ (38°16'55"N, 38°02'52"E), about 1015 m a.s.l., in an area with *Robinia pseudoacacia* (Fabaceae), *Hordeum* sp. (Poaceae), *Scabiosa* sp. (Dipsacaceae), *Crepis* sp. (Asteraceae), species of Umbellifera, *Pinus nigra* plantation area, and orchard with *Prunus armeniaca* 02.06.2007, female, leg. Ö. Çetin Erdoğan. Type specimen of the new species is deposited in the Zoological Museum of Department of Biology, Trakya University (TUZM), Turkey TR-22.

Paratypes: 6 ♀♀, same data as holotype.

Etymology: The species is named after my dear son, who has brought immeasurable joy to my life.

Differential diagnosis: *Agathis berkei* sp. n. is similar to *A. fischeri* Zettel & Beyarslan, 1992, in having notauli completely absent, side of pronotum, mesoscutum, and scutellum smooth, and body almost entirely yellowish-brown.

The two species are distinguishable as follows:

Head moderately elongate, antenna with 26 segments; precoxal sulcus absent, propodeum with medio-longitudinal carinae.....*Agathis berkei* sp.n.

Head elongate, antenna with 22 segments, posterior half of precoxal sulcus present, propodeum nearly completely smooth, with only some punctures medially.....*Agathis fischeri* Zettel & Beyarslan, 1992

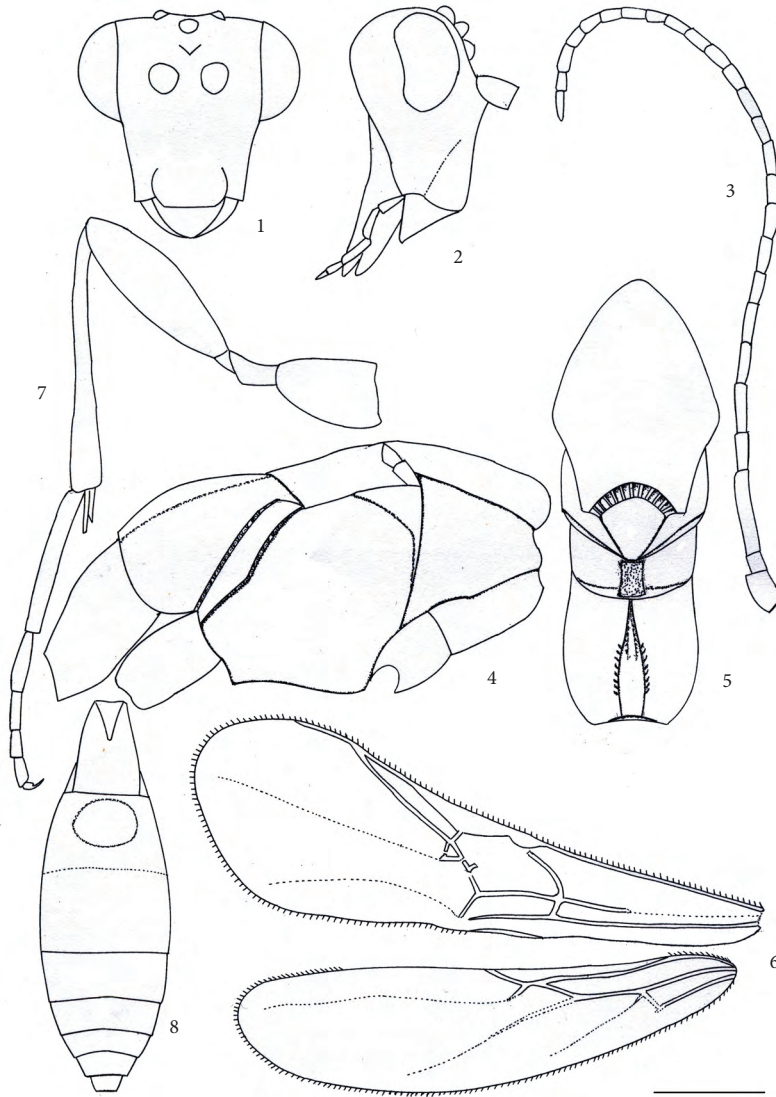


Figure 1-8. *Agathis berkei* sp. n. (female): 1 – head in frontal aspect; 2 – head in lateral aspect; 3 – antenna; 4 – mesosoma in lateral aspect; 5 – mesosoma in dorsal aspect; 6 – wings; 7 – hind leg; 8 – metasoma. Scale 1 mm (Figure 7), 0.9 mm (Figures 6, 8), 1.5 mm (Figures 4, 5), 1.5 mm (Figure 3), 1.7 mm (Figures 1, 2).

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References

Beyarslan, A., İnanç, F., Çetin, Ö. and Aydoğdu, M. 2002a. Braconiden von den türkischen Inseln Imbros und Tenedos (Hymenoptera, Braconidae, Agathidinae, Braconinae, Cheloninae, Microgastrinae). Entomofauna. 23: 173-188.

Beyarslan, A., İnanç, F., Çetin, Ö. and Aydoğdu, M. 2002b. Braconidae species of Turkish Aegean region: 285-290. In: Melika, G. & C. Thuróczy (ed.). Parasitic wasps: evolution, systematics, biodiversity and biological control. Köszeg.

- Çetin, Ö. and Beyarslan, A. 2001. The Agathidinae (Hymenoptera: Braconidae) fauna of the Marmara Region. *Turk. J. Zool.* 25: 257-268.
- Çetin Erdoğan, Ö. and Beyarslan, A. 2004. First record of *Agathis rubens* Tobias from Turkey (Hymenoptera: Braconidae: Agathidinae). *Acta Entomologica Slovenica*. 12: 75-76.
- Çetin Erdogan, O., van Achterberg, C. and Beyarslan, A. 2009. On the zoogeographical distribution of the genus *Agathis* Latreille, 1804 (Hymenoptera: Braconidae: Agathidinae) in Turkey. *Journal of the Entomological Research* 11: 17-25.
- Sharkey, M. 2006. Two new genera of Agathidinae (Hymenoptera: Braconidae) with a key to the genera of the New World. *Zootaxa*. 1185: 37-51.
- Simbolotti, G. and van Achterberg, C. 1999. Revision of the West Palearctic species of the genus *Agathis* Latreille (Hymenoptera: Braconidae). *Zoologische Verhandelingen Leiden*, 325: 1-167.
- Yu, D.S., Achterberg, C. van and Horstmann, K. 2005. World Ichneumonoidea 2004. Taxonomy, biology, Morphology and distribution (Braconidae). Taxapad 2005 (Scientific names for information management) Interactive catalogue on DVD/CDROM. Vancouver.
- Zettel, H. and Beyarslan, A. 1992. Über Agathidinae aus der Türkei (Hymenoptera: Braconidae). *Entomofauna* 13: 121-132.