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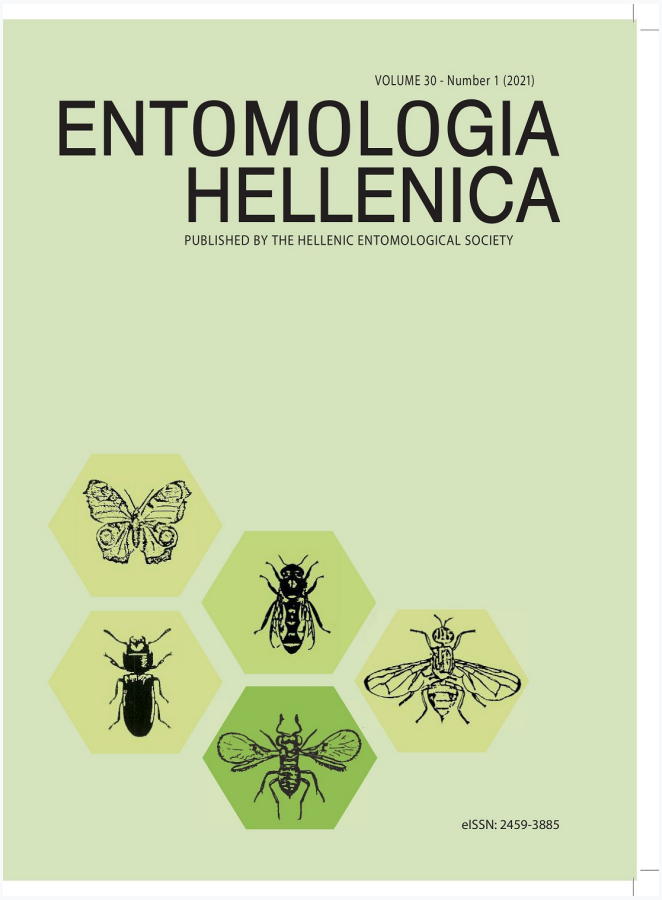

Megascolia (Regiscolia) bidens (Hymenoptera: Scoliidae), a new distributional record for Continental Greece

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Megascolia (*Regiscolia*) *bidens* (Hymenoptera: Scoliidae), a new distributional record for Continental Greece

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ABSTRACT

Megascolia (*Regiscolia*) *bidens* (Linnaeus, 1767) (Hymenoptera: Scoliidae), previously known to inhabit Dodecanese Islands, is recorded for the first time in the Saronic Gulf and Greek mainland. The species distribution and ecology are briefly discussed. A short species diagnosis is provided to assist further data collection.

KEY WORDS: Continental Greece; distribution; *Megascolia bidens*; new record.

Introduction

The Scoliidae fauna of Greece is represented by 20 species and subspecies, some of them exhibiting distributional gaps due to opportunistic material samplings (Osten 2002; Osten & Arens 2004; Osten 2004; Schedl 2010). Two dagger wasp species of the genus *Megascolia* Betrem, 1928 have been recorded from the country namely, *Megascolia* (*Regiscolia*) *maculata* (Drury, 1773) and *Megasciolia* (*Regiscolia*) *bidens* (Linnaeus, 1767) (Osten 2002; Osten & Arens 2004). *Megascolia maculata* is considered a common, easily recognizable and widely distributed species, while *M. bidens*, has been known to inhabit only Dodecanese Islands, situated in the South-eastern part of the Aegean Archipelago (Osten 2002).

The species' known distribution in the Mediterranean Basin includes Algeria, Egypt, Greece (Dodecanese Islands), Israel, Italy (including Sicily), Iran, Libya, Malta, Morocco, Portugal, Spain (including the Balearic Islands), and Tunisia (Guiglia 1940; Pagliano 1987; Osten 2000; Osten 2002; Baldock 2014; Samin et al. 2014; Turrisi et al. 2020; Al-Azab 2020).

Records of *M. bidens* from the Aegean part of Turkey (Tüzün & Bağriaçik 2000) are considered to be doubtful, as a re-examination of the material in question proved its misidentification with *M. maculata* (Özbek & Anlaş 2011). The species has also been collected twice from Southern France (Hamon et al. 1995) however, it seems not to hold established populations in the country as it has not been recorded since. An accidental introduction is hypothesized, but we cannot exclude the possibility of a small population still existent in the area. In addition, Samin et al. (2014) mentioned the presence of *M. bidens*

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from countries such as Asian Turkey, Georgia, Armenia, Azerbaijan, Lebanon, Russia, Syria, Jordan, Arabian Peninsula, and Iraq. These records have been deemed erroneous (Dr. Neveen Gadallah; pers. comm.). In this article, new distributional records for Greece are provided.

Materials and Methods

A single specimen from Salamis Island, situated in the Saronic Gulf of Attica Province, was collected and deposited at the Museum of Zoology, National and Kapodistrian University of Athens, Greece (ZMUA):

1♂ Salamis Isl., Lamprano [37.8929 °N 23.4258 °E], alt. 15 m, 5.iv.2018, coll. E. Koutsoukos (KCV); feeding on thistle flower (voucher code: ZMUA HYM 00000223) (Fig. 1).

FIG. 1. Male *Megascolia* (*Regiscolia*) *bidens* (Linnaeus, 1767), Salamis Isl., Lamprano, dorsal (a) and lateral (b) view.

Results

The specimen was identified as *M. bidens* using the identification key of Osten (2000). A thorough examination of the Entomological collection of ZMUA provided no further material. However, a photographic citizen science record was detected during a search in Social Media platforms. The female individual was observed in Aspropyrgos, Attica Province [38.06°N 23.59°E], 5.v.2020, in a radius of approximately 20 km from the first collection site. Despite the poor quality of the photographic material, the species could be easily identified based on its strikingly reddish antennae.

Discussion

A short species diagnosis is given in order to obtain new data to better understand distribution of M. bidens in Greece.

Female: Upper part of the frons and vertex reddish orange, without black median spot. Antenna reddish-orange, except scape and pedicel which are black. Scutellum sometimes marked with orange-red. Dorso-median area of propodeum with two protruding projections prolonged towards the rear. Hind tibial spurs fine and acute. T2 and T3 each with a pair of yellow spots, always separated. T1 with a small median tubercle not depressed in the centre. Pilosity of thorax and gaster black. Body length = 30-38 mm.

Male: Black head sometimes stained with yellow-orange in ocular sinus and behind eye. Antenna bright yellow, except scape and pedicel and sometimes part of the first flagellomere. Dorso-median area of propodeum with two projections prolonged towards the rear. Only T3 with two yellow spots. Pilosity of thorax and gaster black. Body length = 22-32 mm.

Given the proximity of Salamis Island to the Greek mainland, as well as the identification of individuals of opposite sex in the timeframe of two years, the presence of an established population in the area is presumed. In addition, the climatic profile of the study area coincides with that of the species' known distribution.

Megascolia bidens has been known to parasitize larvae of the Scarabaeoidea superfamily such as: *Oryctes nasicornis* (Linnaeus, 1758), *Lucanus cervus* (Linnaeus, 1758), *Polyphylla fullo* (Linnaeus, 1758) and *Phyllognathus excavatus* (Forster, 1771) (Vereecken & Carriere 2003), all being

present in Greece (Bezděk 2006; Krell & Bezděk 2006; Harvey et al. 2011). These findings constitute the first record of *M. bidens* for the Greek mainland and the Saronic Gulf, supplementing the known distribution of the species in Greece and thereby in Europe (Fig. 2).

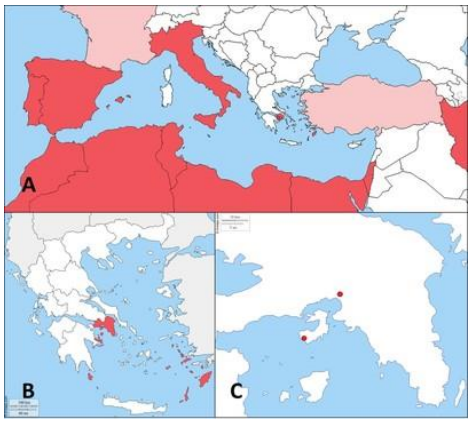

FIG. 2. Current distribution of *Megascolia* (*Regiscolia*) *bidens* (Linnaeus, 1767) in the Mediterranean Basin (a); Distribution in Greece: Attica and Dodecanese Provinces shaded red (b); Locality records from Attica Province: collected sample and observational record in red circles (c).

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References

Al-Azab, S.A. 2020. Survey and taxonomic notes on the hymenopterous insect fauna of the New Valley, Egypt. Part II. wasps. Egyptian Academic Journal of Biological Sciences 13(2): 141-148.

Baldock, D. 2014. A provisional list of the wasps and bees of Mallorca, Balearic Islands, Spain (Hymenoptera aculeata: Chrysidoidea, Scolioidea, Vespoidea, Apoidea). Entomofauna 35(16): 333-404.

Bezděk, A. 2006. Melolonthini. In: Löbl, I. and A. Smetana (Eds.). Catalogue of Palaearctic Coleoptera, Volume 3. Scarabaeoidea – Scirtoidea – Dascilloidea – Buprestoidea – Byrrhoidea. Apollo Books, Stenstrup, pp. 226–236.

Guiglia, D. 1940. Note sopra alcuni imenotteri aculeati della Libia (Scoliidae, Sphecidae). Annali del Museo Libico di Storia Naturale, Tripoli 2: 277-288.

Hamon, J., R. Fonfria, J. Bitsch, M. Tussac and I. Dufis. 1995. Inventaire et atlas provisoires des Hyménoptères Scoliidae de France métropolitaine. Muséum national d'Histoire naturelle, Paris, 53p.

Harvey, D.J., A.C. Cange, C. J. Hawes and M. Rink. 2011. Bionomics and distribution of the stag beetle, *Lucanus cervus* (L.) across Europe. Insect Conservation and Diversity 4: 23–38.

Krell, F.T. and A. Bezděk. 2006. Dynastinae. In: Löbl, I. & A. Smetana (Eds.). Catalogue of Palaearctic Coleoptera, Volume 3. Scarabaeoidea – Scirtoidea – Dascilloidea – Buprestoidea – Byrrhoidea. Apollo Books, Stenstrup, pp 358-367.

Osten, T. 2000. Die Scoliiden des Mittelmeer-Gebietes und angrenzender Regionen (Hymenoptera) Ein Bestimmungsschlüssel. Linzer biologische Beiträge 32(2): 537-593.

Osten, T. 2002. Beitrag zur Kenntnis der Scoliidenfauna von Israel (Hymenoptera, Scoliidae). Entomofauna 23(28): 337-352.

Osten, T. 2004. Zur Taxonomie von *Scolia boeberi* Klug 1805, *Scolia kasakhstanica* (Steinberg 1962) und *Scolia anatoliae* sp. nov. (Hymenoptera: Scoliidae). Entomologische Zeitschrift 114(5): 204-208.

Osten, T. and W. Arens. 2004. Beitrag zur Kenntnis der Scoliiden-Fauna Griechenlands (ohne Zypern) (Hymenoptera, Scoliidae). Entomofauna 25(20): 305-320.

Özbek, H. & S. Anlaş. 2011. Distribution of Scoliidae (Hymenoptera: Aculeata) of Turkey with their zoogeographic characterization. Türkiye Entomoloji Dergisi 35(4): 627-639.

Pagliano, G. 1987. Methochidae e Scoliidae italiani (Hymenoptera). Bollettino del Museo Civico di Storia Naturale di Venezia 37: 157-181.

Samin, N., N. Bağriaçik and N. Gadallah. 2014. A checklist of Iranian Scoliidae (Hymenoptera: Vespoidea). Munis Entomology & Zoology 9(2): 713-723.

Schedl, W. 2010. Die Dolchwespen der griechischen Insel Kreta (Hymenoptera: Scoliidae). Linzer biologische Beiträge 42(2): 1029-1036.

Turrisi, G. F., G. Altadonna, G., Lo Cascio, P., Nobile, V. & Selis, M. 2020. Contribution to the knowledge of Hymenoptera from the Aeolian Archipelago (Sicily), emphasizing Aculeata. Biodiversity Journal 11(3): 717–750.

Tüzün, A. and N. Bağriaçik. 2000. Some faunistic records on the Scoliidae (Insecta: Hymenoptera) species in Balıkesir, İzmir, Manisa and Muğla Provinces. Selçuk Üniversitesi Fen Edebiyat Fakültesi Fen Dergisi 17: 11-13.

Vereecken, N. and J. Carriere. 2003. Contribution à l'étude éthologique de la grande Scolie à front jaune *Megascolia maculata flavifrons* (F., 1775) (Hymenoptera, Scoliidae) en France méditerranéenne. Notes fauniques de Gembloux 53: 71-80.

Νέα καταγραφή της *Megascolia* (*Regiscolia*) *bidens* (Hymenoptera: Scoliidae) από την ηπειρωτική Ελλάδα

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ΠΕΡΙΛΗΨΗ

Το είδος *Megascolia* (*Regiscolia*) *bidens* (Linnaeus, 1767) (Hymenoptera: Scoliidae), προηγουμένως αναφερόμενο να εποικίζει τα Δωδεκάνησα, καταγράφεται για πρώτη φορά από τον Σαρωνικό Κόλπο και την ηπειρωτική Ελλάδα. Παρουσιάζονται περιληπτικά στοιχεία της οικολογίας και εξάπλωσης του είδους. Παρατίθεται μια συνοπτική διάγνωση για την αναγνώριση του είδους, ώστε να υποβοηθηθεί η περαιτέρω συλλογή δεδομένων.

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