



Notes on the occurrence of *Aesalus scarabaeoides scarabaeoides* (Panzer, 1794) in Greece (Coleoptera: Lucanidae)

Luca BARTOLOZZI^{1,a,*} & Marco ULIANA^{2,b}

¹Sistema Museale di Ateneo, Università degli Studi di Firenze, Museo di Storia Naturale, Sede "La Specola", Via Romana 17, 50125 Firenze, Italy

²Museo di Storia Naturale di Venezia G. Ligabue, Santa Croce 1730, 30135 Venezia, Italy
E-mail: ^al.bartolozzi54@gmail.com; ^bmarco.uliana@fmcvenezia.it

*Corresponding author

Summary. *Aesalus scarabaeoides scarabaeoides* (Panzer, 1794), a small species of stag beetles, is recorded for the first time from Thessaly, Greece. Remarks on the general distribution and biology of the species are given.

Riassunto. *Note sulla presenza di Aesalus scarabaeoides scarabaeoides* (Panzer, 1794) in Grecia (Coleoptera: Lucanidae). Il piccolo cervo volante *Aesalus scarabaeoides scarabaeoides* (Panzer, 1794) viene segnalato per la prima volta di Grecia, in Tessaglia. Vengono fornite anche note sulla distribuzione e biologia della specie.

Περίληψη. Παρατηρήσεις για την παρουσία του *Aesalus scarabaeoides scarabaeoides* (Panzer, 1794) στην Ελλάδα (Coleoptera: Lucanidae). Το μικρό σκαθάρι *Aesalus scarabaeoides scarabaeoides* (Panzer, 1794) καταγράφεται για πρώτη φορά από την Ελλάδα, στη Θεσσαλία. Παρέχονται επίσης λεπτομέρειες σχετικά με την κατανομή και τη βιολογία του είδους.

Key words. Thessaly, first record, stag beetle, *Aesalus*

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Introduction

The Lucanidae genus *Aesalus* Fabricius, 1801 and the closely related genera *Lucanobium* Howden & Lawrence, 1974, *Echinoaesalus* Zelenka, 1993, *Himaloaesalus* Huang & Chen, 2013, and *Trogellus* Paulsen, 2013 belong to the small tribe Aesalini Macleay, 1819, included in the subfamily Aesalinae Macleay, 1819. The species of *Aesalus* are distributed in Europe, Asia, and the Americas (PAULSEN, 2013, 2018; HUANG & CHEN, 2017). All the species are small or very small (4-19 mm), with convex dorsum, inconspicuous or absent sexual dimorphism, which make them sometimes hard to identify as members of the family Lucanidae.

In Europe, only two species are known, *Aesalus scarabaeoides scarabaeoides* (Panzer, 1794) with two subspecies from southern Italy (*Aesalus scarabaeoides meridionalis* Bartolozzi, 1989 and *Aesalus scarabaeoides siculus* Baviera, 2008), and *Aesalus ulanowskii* Ganglbauer, 1887, a predominantly Caucasian species which distribution in Europe is limited to southern (mountaneous) Crimea in Ukraine (TELNOV, 2025b).

The known distribution of *Aesalus scarabaeoides scarabaeoides* includes most of the European countries: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Ireland, Italy, Poland, Romania, European part of Russia, Serbia,

Slovakia, Spain, Sweden, Switzerland, and Ukraine (BARTOLOZZI *et al.*, 2016b). The species is generally not common and seems to become rarer towards southern Europe. During an entomological survey in Thessaly in Northern Greece in 2024, an Italian entomologist collected a specimen identified as *Aesalus scarabaeoides scarabaeoides*, which we had an opportunity to examine, and which is the subject of this note.

Material and methods

The specimen (Fig. 1) is a male, mounted on a card, with the following label: GREECE: Thessaly, about 4.5 km NNE Kalambaka along the road to Vlachava, lat. 39.732441°, long. 21.648905°, 660 m, 13.VI.2024, in oak forest, at UV light, L. Saltini legit (in the collection of the first author). Digital image was taken using an Olympus Stylus TG-6 Tough 12-megapixel digital camera in a “microscope mode” using an “internal focus stacking” mode. Lighting was achieved through a white plastic light-chamber as diffuser and two led spots. Identification was made consulting several taxonomic sources (e.g. FRANCISCOLO, 1997; MARTÍN-PIERA & LÓPEZ-COLÓN, 2000) and by comparing the specimen with the material of the same species collected in several European countries and deposited at the collections of the Natural History Museum of the University of Florence, Italy and in the private collection of the first author.

Results

This species was not mentioned for Greece by KLAUSNITZER & SPRECHER-UEBERSAX (2008), BARTOLOZZI *et al.* (2016a), in the last Catalogue of Palaearctic Coleoptera (BARTOLOZZI *et al.*, 2016b), in the European Red List of Saproxyllic Beetles (CALIX *et al.*, 2018), and in the Greek Red List of Threatened Species (NECCA, 2024). A freshly published revision of the saproxyllic beetle species of Greece (BOLANAKIS *et al.*, 2026) also does not list *Aesalus scarabaeoides scarabaeoides* among the Lucanidae recorded from the country. Therefore, our record appears to be the first evidence of the occurrence of the species in Greece (Fig. 2).

Thanks to the kindness of our colleague Alberto Ballerio, it has been possible to find a possibly additional record on the Greek Natura 2000 protected areas website, mentioning the occurrence of the species in the Oros Ossa (Mount Ossa) Natura 2000 site (<https://filotis.itia.ntua.gr/biotopes/c/GR1420007/>, accessed 5 April, 2026). The name of the species simply appears in a long list of taxa, without any information on bibliographic source, identification credits, detailed collecting data and depository of the preserved specimen(s). We tried to get in touch with the administrator of the website using the email address, but had no answer. We believe that the presence of the species in the Mount Ossa area should be considered as possible, but it requires further confirmation.

The biology of this species seems to make it particularly hard to find in nature with a relatively low number of quoted localities, but also rich local populations are reported in literature (e.g. CONTARINI & MINGAZZINI, 2013): these authors describe finding a population of more than one hundred individuals (adults and larvae of various stages of development) in a rotten fallen trunk of a wild cherry tree in an Apennine beech forest. In the old Sare beech and oak forest (located between France and Spain), *Aesalus scarabaeoides scarabaeoides* is reported to be rather abundant and develops in rotten trunks and stumps of various broadleaved trees, notably the wild cherry (VAN MEER, 1999; RECALTE *et al.*, 2006).

From the conservation point of view, the species was considered as NT (Near Threatened) in the European Red List of Saproxyllic Beetles (NIETO & ALEXANDER, 2010) and NE (Not Evaluated) in the IUCN paper on the Mediterranean saproxyllic beetles (GARCÍA *et al.*, 2018), but is now listed as VU (Vulnerable) in the last European regional assessment of the IUCN Red List of Threatened Species, due to: “rare and declining habitat type which is already fragmented and subject to

continuing significant decline”, the severely fragmented European regional population and “*very poor dispersal capacity*” (TELNOV, 2025a).

The fact that the examined Greek specimen has been obtained at UV light confirms that *Aesalus scarabaeoides scarabaeoides* has a moderate positive phototropism as already reported by ESPAÑOL & BELLES (1982). We have no information on the habitat of the species in the collecting site.

It is interesting to note that during the preparation of this paper we performed a search on the internet using Artificial Intelligence tool (Google AI Mode) obtaining, as a result, a series of hallucinated references reporting the occurrence of the species in Greece: none of the papers mentioned in the AI search results was actually quoting that species.



Fig. 1. *Aesalus scarabaeoides scarabaeoides* (Panzer, 1794), male, Greece: Thessaly (photo by G.F. Turrisi).



Fig. 2. *Aesalus scarabaeoides scarabaeoides* (Panzer, 1794), map with the collecting locality in Greece. The question mark indicates the doubtful quotation for Mount Ossa (see text).

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References

- BARTOLOZZI L., NORBIATO M. & CIANFERONI F., 2016a. A review of geographical distribution of the stag beetles in Mediterranean countries (Coleoptera: Lucanidae). *Fragmenta entomologica*, 48(2): 153-168.
- BARTOLOZZI L., SPRECHER-UEBERSAX E. & BEZDĚK A., 2016b. Family Lucanidae Latreille, 1804, pp. 58–84. In: Löbl I., Löbl D. (eds), *Catalogue of Palaearctic Coleoptera. Volume 3. Scarabaeoidea – Scirtoidea – Dascilloidea – Buprestoidea – Byrrhoidea*. Revised and updated Edition. *Brill*, Leiden, Boston, XXVIII + 983 pp.
- BOLANAKIS G., AVTIS D., NÉMETH T., KUNDRATA R., HÁVA J., KALTSIDIS A., MAKRI S M., MAROULIS L. & TRICHAS A., 2026. Saproxylous beetles (Insecta, Coleoptera) of Greece: A synthesis of diversity, biogeography and

- conservation challenges, with the first national checklist. *Frontiers of Biogeography*, 19, e177299 | DOI 10.21425/fob.19.177299
- CALIX M., ALEXANDER K.N.A., NIETO A., DODELIN B., SOLDATI F., TELNOV D., VAZQUEZ-ALBALATE X., ALEKSANDROWICZ O., AUDISIO P., ISTRATE P., JANSSON N., LEGAKIS A., LIBERTO A., MAKRI S., MERKL O., MUGERWA PETTERSON R., SCHLAGHAMERSKY J., BOLOGNA M.A., BRUSTEL H., BUSE J., NOVAK V. & PURCHART L., 2018. European Red List of Saproxylic Beetles. *IUCN*, Brussels, Belgium. <https://www.iucnredlist.org/resources/calix2018> (accessed 10 April 2026).
- CONTARINI E. & MINGAZZINI A., 2013. Nuovi ritrovamenti e importanti conferme per la coleotterofauna del Parco Nazionale delle Foreste Casentinesi, Monte Falterona e Campigna (Insecta Coleoptera Silphidae, Lucanidae, Geotrupidae, Melolonthidae, Cetoniidae, Buprestidae, Cerambycidae). *Quaderno di Studi e Notizie di Storia Naturale della Romagna*, 38: 33-48.
- ESPAÑOL F. & BELLES X., 1982. Noticia de la presencia de *Aesalus scarabaeoides* (Panzer) (Col. Lucanidae) en España y actualización de la clave de lucánidos ibéricos. *Boletín de la Estación Central de Ecología*, 11(22): 71-75.
- FRANCISCOLO M.E., 1997. Coleoptera Lucanidae. Fauna d'Italia, XXXV: Coleoptera Lucanidae. *Edizioni Calderini*, Bologna, 228 pp.
- GARCÍA N., NUMA C., BARTOLOZZI L., BRUSTEL H., BUSE J., NORBIATO M., RECALDE J.I., ZAPATA J.L., DODELIN B., ALCÁZAR E. BARRIOS V., VERDUGO A., AUDISIO P., MICÓ E., OTERO J.C., BAHILLO P., VIÑOLAS A., VALLADARES L., MÉNDEZ M., EL ANTRY S. & GALANTE E., 2018. The conservation status and distribution of Mediterranean saproxylic beetles. *IUCN*, Malaga, Spain, XII + 58 pp.
- HUANG H. & CHEN C.-C., 2017. Stag Beetles of China III. *Formosa Ecological Company*, Taiwan, 524 pp.
- KLAUSNITZER B. & SPRECHER-UEBERSAX E., 2008. Die Hirschkäfer oder Schröter. Lucanidae. *Die Neue Brehm-Bücherei*, 551, Hohenwarleben, 161 pp.
- MARTÍN-PIERA F. & LÓPEZ-COLÓN J.I., 2000. Coleoptera Scarabaeoidea I. Fauna Iberica, vol. 14. *Museo Nacional de Ciencias Naturales, CSIC*, Madrid, 526 pp.
- NECCA [NATURAL ENVIRONMENT AND CLIMATE CHANGE AGENCY], 2024. The Greek Red List of Threatened species. <https://redlist.necca.gov.gr/> (accessed 2 May 2026).
- NIETO A. & ALEXANDER K.N.A., 2010. European Red List of Saproxylic Beetles. *Publications Office of the European Union*, Luxembourg, VIII + 45 pp.
- PAULSEN M.J., 2013. A new genus for the neotropical species of *Aesalus* Fabricius, with descriptions of eight new species (Coleoptera: Lucanidae: Aesalinae). *Insecta Mundi*, 0325: 1-25.
- PAULSEN M.J., 2018. Generic changes in the stag beetle tribe Aesalini (Coleoptera: Lucanidae: Aesalinae) with the description of two new species. *Insecta Mundi*, 0666: 1-10.
- RECALTE J.I., UGARTE I., SAN MARTÍN A.F. & SALGUEIRA F., 2006. Hallazgo de *Aesalus scarabaeoides* (Panzer, 1794) en Álava (Coleoptera: Lucanidae). *Boletín de la Sociedad Entomológica Aragonesa*, 39: 400-401.
- TELNOV D. 2025a. *Aesalus scarabaeoides* (Europe assessment). The IUCN Red List of Threatened Species 2025: e.T157602A213073607. <https://dx.doi.org/10.2305/IUCN.UK.2025-2.RLTS.T157602A213073607.en>. (accessed 2 May, 2026).
- TELNOV D. 2025b. *Aesalus ulanowskii* (Europe assessment). The IUCN Red List of Threatened Species 2025: e.T229592278A229592415. <https://dx.doi.org/10.2305/IUCN.UK.2025-2.RLTS.T229592278A229592415.en> (accessed 2 May, 2026).
- VAN MEER C., 1999. Données entomologiques sur une très vieille forêt de feuillus: la forêt de Sare. *Bulletin de la Société linnéenne de Bordeaux*, 27(1): 1-17.

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