

Short scientific note

Submitted: May 27th, 2025 - Accepted: June 18th, 2025 - Published: June 30th, 2025
DOI: 10.13133/2284-4880/1795

First records of the false click beetle *Isorhipis marmottani* from Italy (Coleoptera: Eucnemidae)

Alessandro B. BISCACCIANTI^{1,*}, Enrica GIULIANO GRIMALDI²

¹ Laboratorio di Entomologia ed Ecologia Applicata, Department PAU, Mediterranean University of Reggio Calabria, Salita Melissari, I-89124 Reggio Calabria, Italy – alessandro.biscaccianti@unirc.it

² Via Lido Sacramento 39/3, I-96100 Siracusa, Italy – enricagiulianogrimaldi@gmail.com

* Corresponding author

Abstract

The rare central European beetle *Isorhipis marmottani* (Bonvouloir, 1871) is here reported for the first time from Italy (Emilia Romagna/Tuscany regions, Sasso Fratino Integral Nature Reserve). The currently known distribution, ecology, and biology, as well as the habitat of the species in the study area are briefly discussed.

Keywords: saproxylic beetles, Eucnemidae, Italy, new records, Sasso Fratino Reserve.

Introduction

Isorhipis Boisduval & Lacordaire, 1835 is a Holarctic genus of the tribe Melasini (Muona 2010), with seven species currently recognized for the Palearctic region, three of which occurring in Europe and only one, *I. melasoides* (Laporte de Castelnau, 1835), so far known from Italy (Muona 2007). The three European species of *Isorhipis*, namely *I. marmottani* (Bonvouloir, 1871), *I. melasoides*, and *I. nigriceps* (Mannerheim, 1823), are very similar to each other and often difficult to identify without examination of the male genitalia (Muona 1995). *Isorhipis marmottani* has never been reported from Italy so far.

The ancient beech forest of “Sasso Fratino”, where the species was discovered, is located in the Northern Tuscan-Emilian Apennines, close to the border area between the regions of Emilia Romagna (province of Forlì-Cesena) and Tuscany (province of Arezzo). It is the first Integral Nature Reserve established in Italy in 1959 (Bottacci 2009). It is currently managed by Carabinieri Biodiversity Department of Pratovecchio and has become part of the UNESCO World Heritage site “Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe” in 2017.

Materials and Methods

The Carabinieri Biodiversity Departments of Pratovecchio, Belluno and Verona, and Carabinieri National Centre for Biodiversity “Bosco Fontana”, started a monitoring project to investigate the saproxylic beetle community of Sasso Fratino Integral Nature Reserve with the support of the LIFE ESC360 project (LIFE17 ESC/IT/000001), in the framework of which several specimens of Eucnemidae were sampled.

The specimens here reported were collected using flight intercept window traps baited with 70% ethanol. The traps were exposed from April to October in 2021 and the contents were collected approximately every two weeks by volunteers of the LIFE ESC360 project (Dal Cortivo 2024).

Two males were dissected for a more accurate identification (Muona 1995): the genitalia of one of them were embedded in DMHF resin (Steedman 1958), mounted on a transparent acetate sheet, and pinned with the relevant specimen; those of the other male were preserved in glycerol in a microvial pinned with the relevant specimen.

Nomenclature of Eucnemidae follows Muona (2007); botanical nomenclature follows Bartolucci et al. (2018).



Figs 1-2 – Male (1) and female (2) of *Isorhipis marmottani* (Bonvouloir, 1871) (photos: courtesy of T. Németh).

Acronyms of repository collections:

ABB A.B. Biscaccianti's personal collection, Baschi, Italy.
CNCB Carabinieri National Centre for Biodiversity, Marmirolo, Italy.

Results

Isorhipis marmottani (Bonvouloir, 1871)

Material examined. Italy: Emilia-Romagna, Foreste Casentinesi, Monte Falterona, and Campigna National Park, Bagno di Romagna (Forlì-Cesena province), RNS Sasso Fratino, Poggio Scali, 43.84766°N, 11.78954°E, 1395 m, 16-30 Jun 2021, window trap AW7, 1 ♂ (ABB); **Emilia-Romagna**, Foreste Casentinesi, Monte Falterona, and Campigna National Park, Bagno di Romagna (Forlì-Cesena province), RNS Sasso Fratino, Poggio della Cornioleta, 43.84361°N, 11.83067°E, 820 m, 16-30 Jun 2021, window trap BW1, 1 ♂ (ABB); **Emilia-Romagna**, Foreste Casentinesi, Monte Falterona, and Campigna National Park, Bagno di Romagna (Forlì-Cesena province), RNS Sasso Fratino, Poggio della Cornioleta, 43.84338°N, 11.83039°E, 831 m, 16-30 Jun 2021, window trap BW2, 1 ♂ (CNCB); **Emilia-Romagna**, Foreste Casentinesi, Monte Falterona, and Campigna National Park, Bagno di Romagna (Forlì-Cesena province), RNS Sasso Fratino, Poggio della Cornioleta, 43.84210°N, 11.82833°E, 842 m, 16-30 Jun 2021, window trap BW5, 1 ♂ (ABB); **Emilia-Romagna**, *ibidem*, 30 Jun - 14 Jul 2021, window trap BW5, 1 ♀ (ABB).

Discussion

Isorhipis marmottani (Figs 1-2) exhibits a Centraleuropean chorotype (sensu Vigna Taglianti et al. 1999), extended westwards to central France and southwards to north-western Turkey and northern Caucasus (Muona 2007; Leseigneur 2014; Sürgüt & Varli 2023).

The ecology and biology of the three European species of *Isorhipis* appear substantially similar: they are strictly xylophagous and linked to dead hard wood in broad-leaved forests (Dorn 1940; Leseigneur, 1968; Leiler 1976 [but see Muona 1995]; Lucht 1985a, 1985b; Muona 1993, 1995, 2021; Van Meer 1999). The habitat of *I. marmottani* in the study area is represented by montane forests dominated by *Fagus sylvatica* L., with *Acer pseudoplatanus* L. and *Sorbus aucuparia* L. above 1300 m, referred to as Galeopsi-Fagetum association, or mixed beech and beech-fir forests with *Abies alba* Mill., *Acer* spp., *Carpinus betulus* L., *Fraxinus excelsior* L., *Tilia* spp., *Ulmus glabra* Huds., between 800 and 1300 m, referred to different alliances (Gonnelli et al. 2009). In the site of "Sasso Fratino", adults of the species were active from mid-June to mid-July.

It should be noted that in the study area *Isorhipis marmottani* unusually occurs simpatrically with nine other species of Eucnemidae: *Microrhagus lepidus* Rosenhauer, 1847, *M. pygmaeus* (Fabricius, 1792), *Hylis simonae* (Olexa, 1970), *I. melasoides*, *Melasis buprestoides* (Linnaeus, 1761), *Eucnemis capucina* Ahrens, 1812, *Dromaeolus barnabita* (A. Villa & G.B. Villa, 1837), and *Nematodes filum* (Fabricius, 1801) were found in the same traps together with *I. marmottani*, while *Xylophilus corticalis* (Paykull, 1800) was found in the beech forest of "Poggio Scali", like *I. marmottani*, but in a different trap. To our knowledge, no species of Eucnemidae have been previously reported for the Sasso Fratino Integral Nature Reserve (Cianferoni et al. 2009).

Acknowledgements – The authors thank the staff of the Carabinieri National Centre for Biodiversity "Bosco Fontana" and of the Carabinieri Biodiversity Department of Pratovecchio for providing the opportunity to study the specimens. Special thanks to Tamás Németh (Hungarian University of Agriculture and Life Sciences, Gödöllő, Hungary) for permitting the publication of his photographs of two living specimens of *I. marmottani*.

References

- Bartolucci F., Peruzzi L., Galasso G., Albano A., Alessandrini A., Ardenghi N.M.G., Astuti G., Bacchetta G., Ballelli S., Banfi E., Barberis G., Bernardo L., Bouvet D., Bovio M., Cecchi L., Di Pietro R., Domina G., Fascetti S., Fenu G., Festi F., Foggi B., Gallo L., Gottschlich G., Gubellini L., Iamónico D., Iberite M., Jiménez-Mejías P., Lattanzi E., Marchetti D., Martinetto E., Masin R.R., Medagli P., Passalacqua N.G., Peccenini S., Pennesi R., Pierini B., Poldini L., Prosser F., Raimondo F.M., Roma-Marzio F., Rosati L., Santangelo A., Scoppola A., Scortegagna S., Selvaggi A., Selvi F., Soldano A., Stinca A., Wagensommer R.P., Wilhelm T., Conti F. 2018. An updated checklist of the vascular flora native to Italy. *Plant Biosystems*, 152 (2): 179–303.
- Bottacci A. (ed.) 2009. La Riserva Naturale Integrale di Sasso Fratino: 1959-2009. 50 anni di conservazione della biodiversità. CFS/UTB Pratovecchio, 253 pp.
- Cianferoni F., Fabiano F., Mazza G., Rocchi S., Terzani F., Zinetti F. 2009. Gli Invertebrati della Riserva Naturale Integrale di Sasso Fratino. In: Bottacci A. (ed.), La Riserva Naturale Integrale di Sasso Fratino: 1959-2009. 50 anni di conservazione della biodiversità. CFS/UTB Pratovecchio, pp. 227–252.
- Dal Cortivo M. 2024. *Eidophelus caucasicus* (Lindemann, 1877) a bark beetle confirmed for the Italian fauna after almost 100 years (Coleoptera: Curculionidae, Scolytinae). *Fragmenta entomologica*, 56 (1): 99–102.
- Dorn K. 1940. Zur Kenntnis der Lebensweise einiger Eucnemiden-Arten (Coleopt.). *Mitteilungen aus der entomologische Gesellschaft zu Halle*, 18: 24–32.
- Gonnelli V., Bottacci A., Zoccola A. 2009. Secondo contributo alla conoscenza della flora della Riserva Naturale Integrale di Sasso Fratino (Parco Nazionale delle Foreste Casentinesi,

- Monte Falterona e Campigna). In: Bottacci A. (ed.), La Riserva Naturale Integrale di Sasso Fratino: 1959-2009. 50 anni di conservazione della biodiversità. CFS/UTB Pratovecchio, pp. 75–120.
- Leiler T.E. 1976. Zur Kenntnis der Entwicklungsstadien und der Lebensweise nord- und mitteleuropäischer Eucnemiden (Col.). Entomologische Blätter für Biologie und Systematik der Käfer, 72: 10–50.
- Leseigneur L. 1968. Description du mâle d'*Isorhipis Marmottani* Bonv. (Col. Melasidae). L'Entomologiste, 24 (4): 104–109.
- Leseigneur L. 2014. Eucnemidae Eschscholtz, 1829b. In: Tronquet M. (ed.) Catalogue des Coléoptères de France. Revue de l'Association Roussillonnaise d'Entomologie, 23 (suppl.): 420–422.
- Lucht W. 1985a. *Isorhipis marmottani* (Bonv.) neu für Deutschland (Col., Eucnemidae). Entomologische Blätter für Biologie und Systematik der Käfer, 81 (1-2): 91–94.
- Lucht W. 1985b. Beobachtungen und Untersuchungen an *Isorhipis melasoides* (CAST.) (Col., Eucnemidae). Mitteilungen des internationalen entomologischen Vereins, 10 (2): 39–43.
- Muona J. 1993. Review of the phylogeny, classification and biology of the family Eucnemidae (Coleoptera). Entomologica Scandinavica Supplements, 44: 1–133.
- Muona J. 1995. The European *Isorhipis* species (Coleoptera, Eucnemidae). Entomologische Blätter für Biologie und Systematik der Käfer, 91 (3): 159–164.
- Muona J. 2007. Family Eucnemidae Eschscholtz, 1829. In: Löbl I., Smetana A. (eds), Catalogue of Palearctic Coleoptera, 4. Elateroidea - Derodontoidea - Bostrichoidea - Lymexyloidea - Cleroidea. Apollo Books, Stenstrup, pp. 81–87.
- Muona J. 2010. 4.5. Eucnemidae Eschscholtz, 1829. In: Leschen R.A.B., Beutel R.G., Lawrence J.F., Ślipinski A. (eds), Handbook of Zoology. Coleoptera, Beetles. Volume 2: Morphology and Systematics (Elateroidea, Bostrichiformia, Cucujiformia partim). De Gruyter, Berlin, New York, pp. 61–69.
- Muona J. 2021. How do Vanhorniidae (Hymenoptera) parasitize Eucnemidae (Coleoptera)? Insecta Mundi, 0867: 1–10.
- Steedman H.F. 1958. Dimethyl Hydantoin Formaldehyde: a new water-soluble resin for use as a mounting medium. Quarterly Journal of Microscopical Science, 99 (4): 451–452.
- Sürgüt H., Varli S.V. 2023. Researches on determination of saproxylic beetles (Coleoptera) on old hollow broad-leaved tree species in Cataldag (Balıkesir-Bursa) in Western Türkiye. Biological Diversity and Conservation, 16 (2): 102–113.
- Van Meer C. 1999. *Isorhipis nigriceps* (Mannerheim) (Coleoptera, Eucnemidae): observations biologiques. Le Coléoptériste, 36: 91–92.
- Vigna Taglianti A., Audisio P.A., Biondi M., Bologna M.A., Carpaneto G.M., De Biase A., Fattorini S., Piattella E., Sindaco R., Venchi A., Zapparoli M. 1999. A proposal for a chorotype classification of the Near East fauna, in the framework of the Western Palearctic region. Biogeographia, (n.s.), 20: 31–59.