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## First record of *Galeruca (Emarhopa) rufa* for the Ibero-Balearic fauna with notes for its identification (Coleoptera: Chrysomelidae)

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**First record of *Galeruca (Emarhopa) rufa* for the Ibero-Balearic fauna with notes for its identification (Coleoptera: Chrysomelidae).** *Entomol. Probl.* 34(1-2): 139-141. – *Galeruca (Emarhopa) rufa* GERMAR, 1824 is reported for the first time from Spain at two localities in the island of Mallorca (Balearic Islands). Comparison of the Balearic specimens with others from different Mediterranean sources revealed no conspicuous differences in general habitus or genitalia. Male and female genitalia are figured.

**Key words:** Balearic Islands, *Galeruca rufa*, Iberian fauna, new record.

### Introduction

The leaf beetle subgenus *Emarhopa* WEISE, 1886 of *Galeruca* O. F. MÜLLER, 1764 is characterized by a combination of features, including moniliform antennae with shiny but densely pubescent apical joints, slender maxillary palpi, broad tibiae and fully developed hind wings (REITTER, 1903; LABOISSIÈRE, 1934; WARCHALOWSKI, 2003). *Galeruca (Emarhopa)* was believed to only include three species, *G. maculaticeps* PIC, 1920 from Syria, *G. chinensis* JACOBY, 1890 from China, and *G. rufa* GERMAR, 1824, the latter mainly distributed in the western Mediterranean area (WINKLER, 1930; LABOISSIÈRE, 1934). Subsequently, GRESSITT & KIMOTO (1963) transferred *G. chinensis* to the genus *Pyrreha*, while neither *G. maculaticeps* nor *G. rufa* has been subjected to further revision of their generic placement.

*Galeruca rufa* has been reported from Austria, Bulgaria, Croatia, Czech Republic, France, Hungary, Italy (reported with doubts from Sardinia and Sicily by BIONDI et al., 1995), Slovakia, Slovenia, Ukraine, the Alps, almost the whole of the Balkan Peninsula, the Danube basin up to the lower Volga basin in southern Russia, and probably Asian Turkey (REITTER, 1903; NETOLITZKY, 1912; LABOISSIÈRE, 1934; SAINTE-CLAIRE DEVILLE, 1937; MOHR, 1966; BOURDONNÉ & MALDÈS, 1995; GRUEV & TOMOV, 1998; VIG, 2003; WARCHALOWSKI, 1994, 2003). The westernmost reports for this taxon so far correspond to the study by BOURDONNÉ & MALDÈS (1995). These authors reported several collection sites for *G. rufa* from south and western-central France, in the Garonne and Rhône basins, disputing the idea suggested by TEMPÈRE (1927) and seconded by LABOISSIÈRE (1934), of an accidental introduction of this

species in France during the First World War. More recently, the host specificity of *G. rufa* on *Convolvulus arvensis* L. has stimulated its introduction into North America for use as a biological control agent against this invasive weed (ROSENTHAL & CARTER, 1977; ROSENTHAL, 1981).

Our recent and repeated captures of *G. rufa* in two different localities in Mallorca constitute the first record for this species and subgenus in the Ibero-Balearic fauna. This remarkable find, expanding the known range of this taxon to the south and west with added interest because of the insularity of the newly discovered populations, motivated our detailed analysis of genital structures to facilitate a more reliable identification of this species. Only in the case of the aedeagus had it been schematically illustrated before (WARCHALOWSKI, 1994).

### Material examined

Spain: Balearic Islands, Mallorca, Campus Universitat de les Illes Balears, 4/10/1997, 2♂♂, 1♀, J. Gómez-Zurita leg. and coll.; same, 1♂ 1/07/1998, 1♀ 28/07/1998, 1♀ 1/10/2002, 4♂♂, 3♀♀ 6/10/2002, 1♀ 1/10/2002, 3♂♂ 22/10/2002, 1♂ 19/11/2002, 1♀ 3/01/2003, 1♀ 4/06/2003, E. Petitpierre leg. and coll.; Spain: Balearic Islands, Mallorca, Palma de Mallorca, Es Vivero, 8/10/2002, 2 males and 3 females, A. Sacarés leg. and coll.

Other material – Greece: Corfu Island, G. C. Champion Coll., B. M. 1927-409, 2♂♂ (BMNH collection); Greece: Salonica, G. C. Champion Coll., B. M. 1927-409, 1♀ (BMNH collection); Italy: Rome, Andrewes Bequest, B. M. 1922-221, 1♀ (BMNH collection); Italy: Puglia, Gargano, Alveo di S. Egidio, 26/10/1950, 1♂, F. Gerini

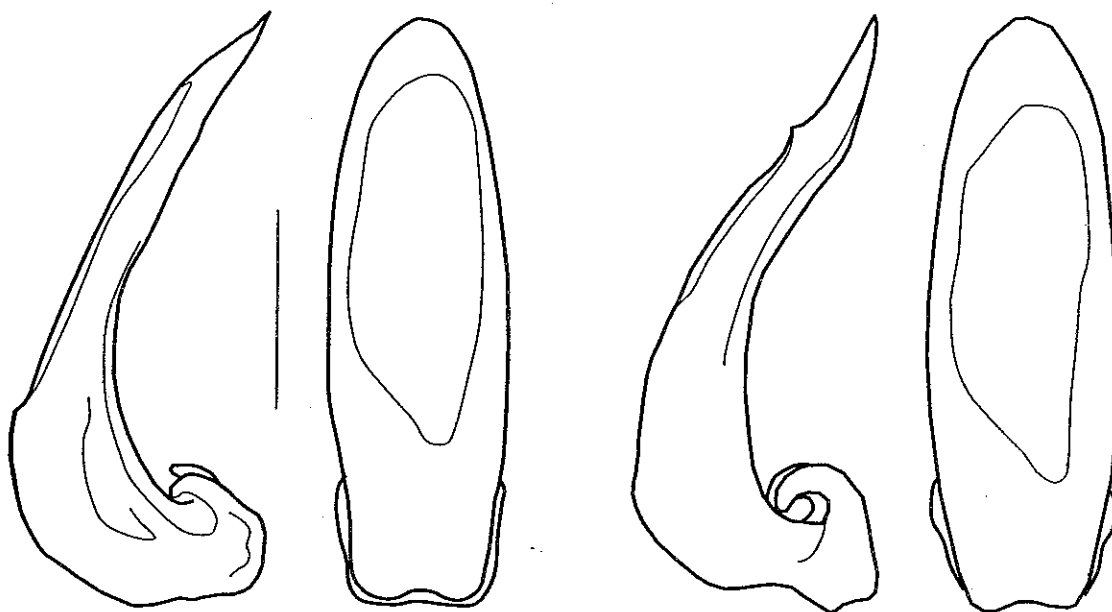


Fig. 1. Lateral and dorsal schematic views of the aedeagus of *Galeruca (Eumarhopa) rufa* GERMAR from: a) Mallorca Island, University of the Balearic Islands Campus (Spain); b) Corfu Island, Greece. Scale: 0.5 mm.

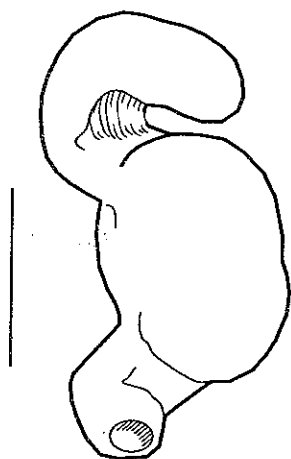


Fig. 2. Schematic representation of the spermatheca of *Galeruca (Eumarhopa) rufa* GERMAR drawn from the specimen collected in Rome, Italy. Scale: 0.2 mm.

leg. (P. Jolivet Coll.); Italy: S. Angelo - F. Mesima (Vibo Valentia), 24/05/1970, 1♂, Briganti leg. (E. Petitpierre Coll.); Serbia: Ćuprija, 1♀ (P. Jolivet Coll.); Slovakia: Filakovo, 05/1950, 1♂ (P. Jolivet Coll.).

## Results and discussion

Comparison of the *Eumarhopa* specimens collected in Mallorca (Balearic Islands, Spain) with several other collection specimens and the study of their aedeagus leave little doubt of their belonging to the species *G. rufa* GERMAR.

Small differences detected in the comparison of several male genitalia affect the degree of sclerotization and that of asymmetry of the apex of the aedeagus and its membranous apical orifice, as well as the curvature and disposition of basal apodema (Fig. 1). Our observations on the aedeagus of this species from several geographical origins differ from previous interpretations, such as those of WARCHALOWSKI (1994, 2003), where it is shown as a strongly asymmetric organ. The spermathecae of the Balearic specimens are largely similar to those of the other studied Mediterranean specimens and typical of species in the genus *Galeruca*, in having a dilated globose central part and a short and broad ductus, which is inserted obliquely into the base of the spermatheca (Fig. 2).

Although we have not observed the Balearic specimens of *G. rufa* feeding, the first record of this species in Mallorca in 1997 was done unexpectedly in a field with abundant *Convolvulus arvensis* while looking for *Cassida subferruginea* SCHRANK, 1776, a leaf beetle showing feeding specificity on this plant. This putative trophism of *G. rufa* on *Convolvulus*, if confirmed, would also agree with the well known feeding preference of this species in France, central Europe and Bulgaria (WARCHALOWSKI, 1994; BOURDONNÉ & MALDÈS, 1995; GRUEV & TOMOV, 1998).

TENENBAUM (1915), and later JOLIVET (1953) citing this author, reported the presence of the galerucine *Lochmaea crataegi* (FORSTER, 1771) for Mallorca and Menorca. This species, never since found in the islands or in local collections, could probably be attributed to a misidentification with *G. rufa*, which it resembles in size, rough shape, and reddish dorsal colour. Thus, the name of *L. crataegi* should be removed from the Balearic fauna.

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