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An updated catalogue of the Histeridae (Coleoptera) of Sardinia, with faunistic, zoogeographical, ecological and conservation remarks*

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Abstract

An updated geographical catalogue of the histerid fauna of Sardinia is given, compiling data from 74 public and private collections and records from 115 works (papers and monographs) published during the last two centuries. Seventy-four species are listed, reporting, for each one of them, collecting data (locality, date, collector/s, etc.), chorotype, Italian distribution, notes on ecology of the adults and possible additional comments. Forty-three species known from previous literature records but not included in the catalogue are listed, and the reasons for their exclusion are explained. The paper is completed by faunistic, zoogeographical, ecological and conservation remarks.

The number of Sardinian species listed in the present catalogue (74) is equal to 44.8% of the known Italian fauna (165), but it is much lower than the total number of taxa reported from Sardinia in the literature (117). Of these species, only 32 have been reported by all considered works, and the oldest list and the present one share only 35 species. There are several reasons for these differences: many taxa have been excluded because they were based on misidentifications, others because they were not present in any of the examined collections; on the other hand, a few species have been added during the last 60 years, because described as new or found for the first time in Sardinia. From 1980 to the present day, the number of recorded species seems to be almost unchanged (76 in 1980, 77 in 2005 and 74 today), despite the various exclusions and additions. This may signify that the histerid fauna of Sardinia is almost completely known and that few new findings can be expected in the future. Nevertheless, 10 taxa, corresponding to 13.6% of the total, are known from a single record, specifically: *Tribalus* (*Tribalus*) *minimus* (P. Rossi), *Platysoma* (*Cylister*) *elongatum elongatum* (Thunberg), *Hister unicolor unicolor* Linnaeus, *Merohister ariasi* (Marseul), *Atholus paganettii* (Bickhardt), *Paromalus* (*Paromalus*) *filum* Reitter, *Gnathoncus communis* (Marseul), *Gnathoncus nannetensis* (Marseul), *Saprinus* (*Microsaprinus*) *gomyi* Secq & Secq and *Exaesiopus grossipes grossipes* (Marseul). Future research on the histerid beetles in Sardinia should focus on these species and on those no longer recovered in the last two decades. Moreover, of the 74 listed species, one—*Hypocacculus* (*Nessus*) *puncticollis* (Küster)—was described based on Sardinian and Spanish specimens and 7—*Hister pustulosus* Gené, *Atholus debeauxi* (Moro), *Sardulus incrassatus* Magrini & Fancello, *S. sacerensis* Casale & Marcia, *S. spelaeus* Patrizi, *Gnathoncus cerberus* Auzat and *Hypocacculus* (*Hypocacculus*) *metallescens* (Erichson) – on Sardinian specimens, the first five being endemic or subendemic. The historical record of *Phelister haemorrhous* Marseul by Baudi di Selve is proved to be erroneous, and two specimens of an unidentified Neotropical *Epierus* Erichson are still housed under this name in his collection. *Phelister haemorrhous* has, in fact, never been collected in Sardinia, and the provenance ("Sardinia") of the two *Epierus* specimens is surely erroneous. The "not Sardinian endemic" status of *Gnathoncus cerberus* is confirmed, and new records from "Grotta di Frasassi" (Italy, Marches, Ancona) are given.

The chorological analysis shows that a large part of the species (48 = 64.9%) belongs to two groups: those widespread in the Holarctic region (31 = 41.9%) and those more or less widespread in the Mediterranean basin (17 = 23.0%). However, the most striking datum is the relatively high number of endemic and subendemic species (5 = 6.8%), represented by *Hister pustulosus* (present also in Sicily and Corsica), *Atholus debeauxi* (present also in Corsica), and *Sardulus incrassatus*, *S. sacerensis* and *S. spelaeus* (present only in Sardinia). However, when the analysis is carried out on the 22 most common and widespread taxa (based on the data reported in the catalogue), the number of "Mediterranean" species [i.e. those more or less widespread in the Mediterranean basin plus *Saprinus chalcites* (Illiger) and *Hister pustulosus*] is equal to the number of species widespread in the Holarctic region (9); this shows that the "Mediterranean" component of the Sardinian histerid fauna is stronger than suggested by the overall chorological analysis.

The analysis of the morpho-ecological groups shows that 37 species are saprophiles (50.0%), 12 psammophiles (16.2%), 10 dendrophiles (13.5%), 4 pholeophiles (5.4%), 3 endogeans (4.1%), and 1 myrmecophile (1.3%); the remaining 7 species are the so-called "micro-histerids" (9.5%).

The analysis of the dates for the last capture of each species shows that 55 species, i.e. 74.3% of the total, were last collected between 1990 and 2008. Probably, these species represent the extant and certain Sardinian histerid fauna; a number of them are rare, such as *Saprinus godet* (Brullé), *Atholus debeauxi*, *Merohister ariasi*, *Hister helluo* Truqui, *Teretrius fabricii* Mazur, *Hypocaccus pelleti* (Marseul), etc. Moreover, the analysis shows that 6 psammophilous species, from a total of 12, were last collected between 1973 and 1987; this loss of biodiversity could be real, caused by the destruction of sandy coastal habitats following an increase in tourism in those years, or apparent, due simply to their extreme rarity.

Key words: Coleoptera, Histeridae, Sardinia, catalogue, biogeography, ecology, taxonomy