

Roberto Rattu, Carlo Massarone

ISCHNODES SANGUINICOLLIS (PANZER, 1793)
NEW TO THE FAUNA OF MOROCCO AND NORTH AFRICA
(COLEOPTERA, ELATERIDAE, ELATERINAE)

Riassunto. *Ischnodes sanguinicollis* (Panzer, 1793), nuovo per la fauna del Marocco e del nord Africa (Coleoptera, Elateridae, Elaterinae). Gli autori segnalano il primo reperto per il Nord Africa di *Ischnodes sanguinicollis* (Panzer, 1793) (Coleoptera, Elateridae, Elaterinae), grazie a un esemplare rinvenuto in Marocco (Medio Atlante, regione di Fès-Meknès). La specie era precedentemente nota pressoché in tutta Europa, in Turchia, Iran, Siria, Caucaso, Siberia e Giappone.

Summary. *Ischnodes sanguinicollis* (Panzer, 1793) (Coleoptera, Elateridae, Elaterinae) is recorded for the first time for North Africa and Moroccan fauna from region of Fès-Meknès (Middle Atlas).

Keywords: *Ischnodes sanguinicollis*, distribution, North Africa, Morocco, new record.

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INTRODUCTION

Ischnodes sanguinicollis (Panzer, 1793) is a click-beetle living in natural, well-preserved forests. Its larvae develop in wood mould and frass in large tree hollows (PLATIA, 1994: 19) which are in close contact with the soil and often extend below ground level (IABOKLOFF, 1943: 134; LESEIGNEUR, 1972: 98; STOKLAND et al., 2012: 163). Details about the feeding habit of the larvae are still uncertain: they are saprophagous according to IABOKLOFF (1943: 134) and LESEIGNEUR (1972: 98) but predaceous according to PLATIA (1994: 281) and NÉMETH & MERKL (2009: 120), possibly upon larvae, pupae and adults of saproxylic Coleoptera or, according to STOKLAND et al. (2012: 163), upon larvae of Diptera developing in moist wood mould at the bottom of hollows.

According to records from literature, larvae of *I. sanguinicollis* develop within hollows of various broad-leaved tree species. Records from France are reported on hollow oak (MÉQUIGNON, 1916: 31), cork oak (SAINTE-CLAIRE DEVILLE, 1898: 86), poplar (CARRET, 1902: 27), chestnut (LECOMTE, 1924: 169-170), and common walnut (PIC, 1905: 200). Records for Spain are referred to species of *Quercus*, *Fraxinus*, *Castanea*, and *Fagus* by the PÉREZ-MORENO et al. (2012: 472) recent paper. Records from Hungary are reported on *Acer* sp., *Fraxinus excelsior*, *Quercus cerris*, *Quercus* sp., *Tilia* sp., (NÉMETH & MERKL, 2009), *Q. cerris*, *Q. petraea* (KOVÁCS et al., 2010), *A. campestre*, *A. platanoides*, *A. pseudoplatanus*, *Aesculus hippocastanum*, *Cerasus avium*, *Fagus sylvatica*, *Q. cerris*, *Q. petraea*, *Q. pubescens*, *Ulmus glabra* (KOVÁCS & NÉMETH, 2012).

In France, according to IABOKLOFF (1943: 134), the larvae of *I. sanguinicollis* occur together with the larvae of *Limoniscus violaceus* (P.W.J. Müller, 1821), another click-beetle species inhabiting hollow trees.

This association is reported from Spain according to MURRIA & MURRIA (2004: 293) and PÉREZ-MORENO et al. (2012: 471), from Hungary according to MERKL & MERTLIK (2005: 67), and from Czech Republic according to MERTLIK (2015: 72; 2017: 30). NÉMETH & MERKL (2009: 120), highlighting that in many cases *I. sanguinicollis* and *L. violaceus* share the same cavity, suggest that the larvae of the former may prey upon those of the latter.

The peculiar ecological niche of *I. sanguinicollis*, and namely its dependency upon forests with occurrence of hollow trees full with wood mould, granted this species being listed as Vulnerable in Italy (PLATIA et al., 2015) and Europe (NIETO & ALEXANDER, 2010).

Concerning its distribution, LESEIGNEUR (1972: 99) reported *I. sanguinicollis* for Caucasus, Asia Minor and in almost all European countries, except the boreal ones, and PLATIA (1994: 281) expanded its presence eastward the previous across Japan, Siberia, Caucasus, Asia Minor, Central Europe, Eastern Europe and Southern Europe. CATE (2007: 130) mentioned its presence in Azerbaijan, Eastern Europe (Moldavia, Poland, Czech Republic, Romania, Slovakia, Ukraine and Hungary), Central Europe (Austria, Germany, Switzerland, Slovenia), Northern Europe (Belgium, Denmark, Great Britain, Sweden), Southern Europe (Italy, France), in Balkan Peninsula (Bosnia and Herzegovina, Croatia, Greece) and Iberian Peninsula (Spain), Iran, Syria and Japan (in this country is also recorded *I. maiko* (SUZUKI, 1985) that CATE (l. c.) treated as a subspecies of *I. sanguinicollis*). Finally, it is reported from Turkey according to MERTLIK & PLATIA (2008: 32) and from Albania (NÉMETH et al., in press).

Is hereby discussed the recent finding of *I. sanguinicollis* for Morocco, which represents the first record for the country and the whole North Africa.



Figs. 1-2. Collecting site at Zawyate Moulay Abdessalam (1) and the single male specimen of *Ischnodes sanguinicollis* collected (body length 8.0 mm) (2).

RECORDS

Ischnodes sanguinicollis (Panzer, 1793)

Material examined. Morocco, Fès-Meknès, road P7048, 4.1 km 340° from Ifrane, loc. Zawyate Moulay Abdessalam, 1540 m (33°33'27.8"N; 05°07'33.0"W), 17.V.2017, 1 ♂ (leg., det., coll. R. Rattu).

The identification had been kindly confirmed by G. Platia and A. Liberto based on photo.

DISCUSSION

In accordance with the ecological requirements reported by literature, vegetation of the collecting site consists in a mature woodland dominated by holly oak (*Quercus ilex*) and by ash trees (*Fraxinus* sp.) growing along a slow-moving stream (fig. 1). The discussed specimen (fig. 2) has been found near an ash tree base.

The rarity of *I. sanguinicollis*, reported by several nineteenth-century entomologists (e. g. CANDÈZE, 1859: 495; BERTOLINI, 1891: 195) remarked also by its southernmost populations (PLATIA, 1994: 281; PÉREZ-

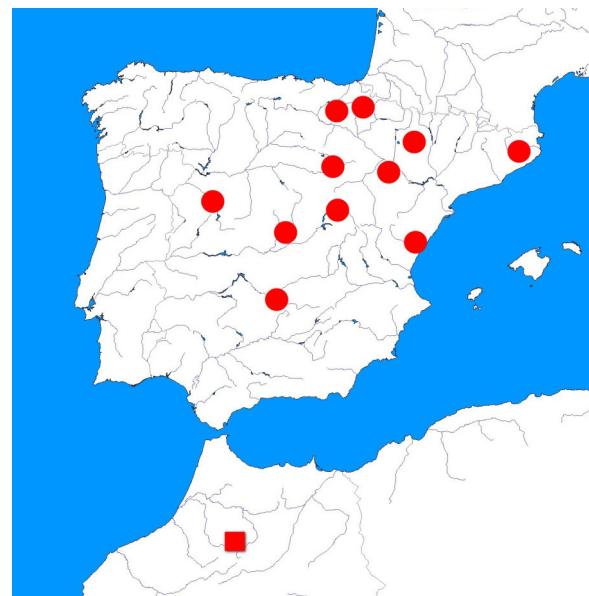


Fig. 3. Distribution of *I. sanguinicollis* in the Iberian Peninsula and Morocco. Square: new locality for Morocco and North Africa. Circles: localities, provinces or autonomous communities known from Peninsula Iberica (PÉREZ-MORENO et al., 2012; ZAPATA DE LA VEGA & SÁNCHEZ-RUIZ, 2012, 2013).

MORENO et al., 2012: 473), together with its peculiar habitat and ecology, account for the difficulty to observe this species lacking specific research in tree hollows. This may also explain why *I. sanguinicollis* has never been found in Morocco so far.

It should be noted that the province of Ifrane has been subjected to quite intensive entomological samplings, e. g. the field expeditions of M. Antoine and L. Kocher during the first half of the twentieth century. Even in current times this area is among the Moroccan most visited regions by coleopterists.

Given what above, we suppose that further investigations on Coleoptera of old tree hollows will expand the distribution of *I. sanguinicollis* in Morocco, presumably not only in the Middle Atlas

(where our observation took place, fig. 3), but also in other well-preserved forests hosting trees with near-ground hollows. *I. sanguinicollis* could be expected also in suitable forested areas of Algeria and Tunisia.

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INDIRIZZI DEGLI AUTORI

Roberto Rattu, via del Pozzetto 1, I-09126 Cagliari (CA), Italia; robertorattu@libero.it
 Carlo Massarone, vicolo del Frantoio 8, I-50060 San Godenzo (FI), Italia; carlo.massarone@gmail.com