

New data on the distribution and biology of *Eledonoprius armatus* (Panzer, 1799) (Coleoptera: Tenebrionidae)

Новые данные о распространении и биологии *Eledonoprius armatus* (Panzer, 1799) (Coleoptera: Tenebrionidae)

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КЛЮЧЕВЫЕ СЛОВА: новые данные, географическое распространение, биология, чернотелки, *Eledonoprius armatus*.

ABSTRACT: Data on the geographical distribution of the *Eledonoprius armatus* (Panzer, 1799) are provided. The species is recorded in the Caucasus and Crimea for the first time. The rarity and local distribution of *E. armatus* within its area is probably connected with the reduction of relict deciduous forests in Europa and high trophical specialization of this species.

РЕЗЮМЕ: Данные по географическому распространению *Eledonoprius armatus* (Panzer, 1799). На Кавказе и в Крыму вид отмечен впервые. Редкость *E. armatus* и локальность его находок по всему ареалу вероятно связаны с сокращением реликтовых лесов в Европе и с высокой трофической специализацией вида.

Introduction

The tenebrionid genus *Eledonoprius* Reitter, 1911 includes two species, namely, *E. armatus* (Panzer, 1799) and *E. serrifrons* (Reitter, 1890).

E. serrifrons is known mainly on the specimens from both type series and locality: ‘Kaukasus, Ordubad (Araxes Tal)’ [Reitter, 1890, 1891]. Holotype (♂) and paratype (♀) of the species are deposited in the collection of Hungarian Natural Histoire Museum with the label: ‘Kaukasus, Araxes Tal’, ‘Reitter coll.’. One specimen of *E. serrifrons* is deposited in the collection of Zoological Institute RAN, St-Petersburg (Russia): ‘Caucasus, M. lok., 94, K.G. Siversa coll.’. Other specimens of *E. serrifrons* and biology of this species are not known.

The second species of the genus — *E. armatus* — has been known mainly from Middle Europa, excluding British Islands [Brendell, 1975], reaching southern Sweden and Denmark. In all parts of its area the species

is rare; it was collected in small localities by restricted numbers of specimens.

In the spring of 1998, the fruiting bodies of *Inonotus cuticularis* (Bull.) Karst. infected by numerous larvae and beetles of *Eledonoprius armatus* were collected in southern Crimea. In addition, the new locality in the Caucasus for the species is found based on the collection of Zoological Museum, Moscow State University.

Occurrence of *Eledonoprius armatus* in the Caucasus and Crimea extends greatly the eastern border of the species' area.

Abbreviations: BNHM — British Natural History Museum, London; HNHM — Hungarian Natural History Museum, Budapest; MHNG — Muséum d'Histoire naturelle Genève, Switzerland; SMNS — Staatliches Museum für Naturkunde, Stuttgart, Germany; MNZHU — Museum für Naturkunde, Zentralinstitut der Humboldt-Universität zu Berlin, Germany; ZISP — Zoological Institute, St-Petersburg, Russia; ZMLU — Zoological Museum of the Lund University, Sweden; ZMMU — Zoological Museum of the Moscow State University, Russia.

Distribution data

Sweden: [Silfverberg, 1992]; Småland, Skåne [Catalogus Coleopterorum Sueciae, 1995]; Vadero, SK, S. Lundberg, 22.4.1968, 3 ex. (MNZHU); Scania, Hallands Väderöe, 13.08.1950 leg. B. Rapp, 2 ex; the same locality, 24.06.1951, leg. E. Wiren, 3 ex; same locality, 21.04.1968, leg. F. Olsson, 10 ex; same locality, 22.04.1968, leg. S. Lundberg, 1 ex; same locality, 24.05.1970, leg. A. Carlsson, 3 ex (all in ZMLU).

Denmark: [Silfverberg, 1992]; Lolland. Soeholt, July 1879, coll. Schlick, 1 ex; same locality, August 1899, 1 ex. (ZMLU).

Germany: Berlin [Seidlitz, 1891]; Glambeck, Uckermark, 15 ex. (MNZHU); Glambeck, Angermünde, 6.5.1928 (Coll. Delahon), 3 ex. (MNZHU); Sachsen, 1 ex. (ZISP).

Poland: Silesia [Seidlitz, 1891]; Pommern Misdroy, 2 ex. (MNZHU); Upper Silesia, Murovo, O/S. 31.10.26, 1 ex (MNZHU).

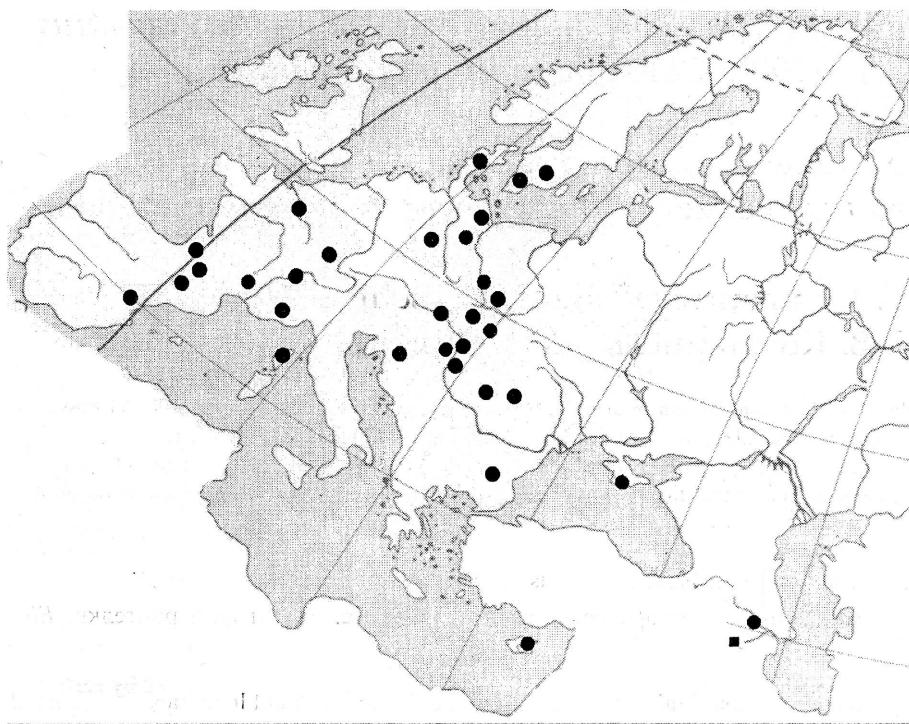


Fig. 1. Distribution of the species of the genus *Eledonoprius*. ● — *E. armatus*, ■ — *E. serrifrons*.

Рис. 1. Распространение видов рода *Eledonoprius*. ● — *E. armatus*, ■ — *E. serrifrons*.

France: Alsace, Var, Landes, Corse [Bonneau, 1988]; "Gallia merid.", 1 ex. (SMNS); "Gallia", Fry Coll., 1905, 1 ex. (BNHM); "Gallia", 1 ex. (ZISP); "Gallia", 1 ex. (Coll. Motschulsky) (ZMMU); "Landes", 2 ex. (MNZHUI); "Pau", 3 ex. (MHNG); Fontainebleau: Gros Fontainbleau, Le Tillais, Hauters de la Solle, 30.VII—9.X.1936, leg. A. Iablokov, 60 ex. [Iablokov, 1939].

Switzerland: Genève, La Plaine, 3 ex. (MHNG).

Austria: "Austria" (historical coll.), 6 ex. (MNZHUI); Wien, 1 ex. (coll. Motschulsky) (ZMMU); "Austria", 1 ex. (ZISP); "Austria", Sharp coll., 1905–100, 1 ex.; "Austria", F. Bates, 81–19, 2 ex.; "Austria", Mus Murray, Fry coll., 1900–313, 1 ex. (BNHM); Laxenburg bei Wien, 24.V.1986, leg. J. Reibnitz, 3 ex. (SMNS).

Czechia and Slovakia: Trencsén county, leg. J. Laczó, 1 ex.; Zvolen, leg. J. Roubal, 1 ex. (HNHM); Zvolen, 1 ex. (coll. Bogatchov) (ZMMU); "Riesengebirge", 5 ex. (MNZHUI).

Spain: pr. Castellón, Puerto de Aibola, Sierra de Espadán, Ahin, 1 ex.; pr. Castellón, mncp. Pina, Monte Cerdanya, 1 ex. [Español, 1966; 1985]; Pyrenees, Pascoo Coll. 93–60 (1893), 1 ex. (BNHM); Loret de mar, 17.09–6.10.1961, leg. T. Palm, 5 ex. ad + 10 ex. larvae (ZMLU).

Slovenia: Slavon, Brod, 10–14.7.1956 leg. T. Palm, 10 ex. (ZMLU).

Hungary: "Hungary", 1 ex. (ZMMU, coll. Motschulsky); "Hungary", 1 ex. (ZISP); Budapest, 5.V.1918, leg. Mihók, 9 ex.; Budapest, János-hegy, 9.V.1918, leg. H. Diener, 4 ex.; Somogy county, 2 ex.; Fejér county, Füle, 3.XII.1934, leg. J. Fodor, 4 ex.; Fejér county, Nadap, beneath bark of dry trees, 14.XI.1951, leg. Z. Kaszab, 1 ex.; Baranya county, Pécs, leg. F. Lichtneckert, 1 ex.; Baranya county, Pécs, leg. F. Ehmann, 1 ex.; Pest county, Budakeszi, VI.1898, leg. H. Diener, 3 ex.; Zala county, Zalaszánty, Tátika, from bracket fungus on beech, 13.IX.1953, leg. Z. Kaszab, 1 ex.; Komárom-Esztergom county, Dobogóko, 10.VI.1896, leg. H. Diener, 1 ex. (HNHM).

Romania: Transsylvania, leg. Fuss, 3 ex.; Baile Herculane, VII.1913, leg. V. Stiller, 1 ex.; Baile Herculane, 2 ex.; Mehadia, leg. J. Pável, 2 ex. (HNHM); Banat, Herkulesbad, Zucht 360, 28.2.1937, leg. Dorn, 2 ex.; Herculane, 4–22.5.1970, T. Palm, 1 ex. (ZMLU); Banat, Herkulesbad, Zucht 360, 28.2.1937, leg. Dorn, 83 ex. (MNZHUI).

Bulgaria: S.O. Bulgarien: Stranža planina, 7.1934, Dr. A. Pfeffer Igt. [Picka, 1987].

Cyprus: Kyrenia, 22.2–14.3.1962, leg. T. Palm, 4 ex. (ZMLU).

Ukraine: Southern Crimea, Alushta distr., loc. Vinogradny, in *Inonotus cuticularis* on beech log, 02.04.98, leg. D. Tschigel, 120 ex. ad. and numerus larvae.

Azerbaijan: Caucasus, Belokany, 07.33, 1 ex. (ZMMU, Bogatchev coll.).

Biology

The larvae were described by Schiødte [1878–79], the details were illustrated later by Korschefsky [1943]. Larvae are very similar to those of *Eledona agricola* (Herbst, 1783) and *Rhipidandrus crenipennis* (Motschulsky, 1858) [Kompantseva, 1996].

Beetles were primary registered on the fungus *Inonotus obliquus* (Pers.) Pil. [Iablokov, 1939]. In Crimea, breeding *E. armatus* were observed on the carpophores of *Inonotus cuticularis*. Larvae bored the trama and hymenophore of fruiting bodies, the late stages of larvae make the pupa beds in the trama. In the same brackets were bred the beetles of *Orchesia micans* (Panzer, 1794) (Melandryidae) and *Mycetophagus multipunctatus* Fabricius, 1792 (Mycetophagidae).

Discussion

Considering the geographic distribution of *E. armatus* (Fig. 1) it may be noticed that the area of the species seems to be drawn towards to those of the deciduous forests. Localities of *E. armatus* in southern Scandinavia are characterized by relict deciduous forests. Localities in the Caucasus and Crimea probably could be considered as refuges of the species area. Comparison of

the distribution of *Eledonoprius* with related genus *Eledona* Latreille, 1796 (*E. agricola*) has shown that the area of the former genus covers widely Middle Europa, whereas the latter's range embraces almost the whole Europa, Minor Asia, the Caucasus, and arises to Middle Asia [Kompantseva, 1994, Schawaller, 1998].

Host preferences of *Eledonoprius armatus* are probably related with the *Inonotus* species only. Observation on the tropical relationships of palaeartic Bolitophagini [Miyatake, 1964; Kompantseva, 1987; Setsuda, 1993] have shown that the only Japanese species of the tribe, namely *Bolitotrogus kurosonis* Miyatake, 1964 is also associated with *Inonotus* [Miyatake, 1964].

The rarity of *Eledonoprius armatus* is probably a result of two factors: restriction of territories of the old natural deciduous forests and high tropical specialization of the species.

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