



RESEARCH ARTICLE

***Eretes sticticus* (Coleoptera, Dytiscidae) - A new record for the Romanian fauna, and new data regarding the distribution of two rare species - *Acinopus ammophilus* (Coleoptera, Carabidae) and *Sphenoptera (Chilostetha) laportei* (Coleoptera, Buprestidae) in Dobrogea (Romania)**

Eugen Nitzu¹

¹ "Emile Racovitza" Institute of Speleology- Biology Section of the Romanian Academy, Calea 13 Septembrie No. 13, Sect. 5., Bucharest

Corresponding author: *Eugen Nitzu* (eunitu@yahoo.com)

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Abstract

The presence of *Eretes sticticus* in the Romanian fauna, unconfirmed until now, is for the first time accurately recorded and documented with photographs in this article. The presence of other two very rare and little-known species: *Acinopus (Osimum) ammophilus* and *Sphenoptera (Chilostetha) laportei* are reconfirmed for the Romanian fauna, in a different geographical area (North Dobrogea), other than that they were previously recorded last century.

Keywords

Eretes sticticus, *Acinopus ammophilus*, *Sphenoptera laportei*, new records, Romania, climate change.

Introduction.

The distribution range of *Eretes sticticus* (Linnaeus, 1767) was modified and disputed many times. Through time, the distribution of the species *Eretes sticticus* was a

subject of reinterpretations due to misidentification of some very similar species in morphology- “sibling species” (*lat. species geminatae*). For example, the distribution of *E.sticticus* was considered a “cosmopolitan–pan tropical” by Franciscolo (1979), while Miller (2002) commented for the distribution of this species: “*A species that has a particularly unusual distribution for a dytiscid. It occurs in the Old World from the Middle East throughout Africa north to Cyprus, including the Cape Verde and Canary Islands, and in the New World from Peru and the Galapagos Islands to the Virgin Islands north to California, Arizona and Texas, USA*”. For *Eretes sticticus* Nilsson (2003) presents a distribution circumscribed from the mild to warm climate areas surrounding the Mediterranean zone, Asia and oriental Africa (considering *Eretes griseus* synonym of *Eretes sticticus*).

In present, due to the systematic revision of genus *Eretes* carried out by Miller (2002), four currently species are recognised: *Eretes australis* (Erichson, 1842) from Australia, *E. explicitus* Miller, 2002 from central and southwestern North America, *E. griseus* (Fabricius, 1781) widely distributed in tropical and subtropical areas of the Old World and *E. sticticus* (Linnaeus, 1767) with a distribution confirmed in Africa, the Mediterranean, southwestern and Central Asia, and Central America (cf. Miller 2002). Recently, the presence of *E. sticticus* was spotted in Hungary, Czech Republic and Slovakia (Hájek et al. 2014; Hájek 2017).

Regarding the presence of *Eretes sticticus* in the Romanian fauna, this species was mentioned by Csiki (1946) for “Boksánbánya” - meaning Bocşa – the Romanian genuine name of locality, situated in the Caraş-Severin County, Romania. This old record was not taken into consideration by other authors who referred to the distribution of species in their subsequent studies (Franciscolo 1979; Nilsson 2003). Hájek et al (2014) published an article in which the species *E. sticticus* was recorded in Hungarian fauna for the first time. In the same paper, the authors attested the presence of *Eretes griseus* in one site from Romania-in Bocşa – based on the old specimens preserved in Hungarian Natural History Museum, Budapest. Citing from the mentioned article: “*Romania. 2 females ‘Súd Ungarn, Német Bogsan [= currently Romania, Caras-Severin Prov., Bocşa, ca. 45.3733N, 21.7092E], v.1907 / E. Merkl, Neu Bogsan’ (NMPC)*”. Hájek et al (2014) omitted to mention, or comment, the former record of Csiki (1946) for *Eretes* in Bocşa (=Boksánbánya/ Bogsan), considering that only *E. griseus* is present in the Romanian fauna. However, *E. griseus* has been synonymised with *E. sticticus* for more than a hundred years, until the revision of the genus (Miller, 2002). Now, after the recent recordings of *E. sticticus* in Hungary, Slovakia (Hájek et al. 2014) and in the Czech Republic (Hájek 2017), in this article we complete the information about the presence of *Eretes sticticus* in Europe, arguing the presence of this species in Romania.

Acinopus (Osimus) ammophilus Dejean, 1829 is a species with Turanico-European range (Albania, Armenia, Bulgaria, Greece, Georgia, Hungary, Italy, Macedonia, Moldova, Romania, South of Russia, Turkey, Ukraine, Serbia) (Magistretti 1965; Húrka 2003) and Croatia (Guéorguiev 2011). It is a very rare species in the Romanian fauna, reported in the past century only in Southern Dobrogea – Bugeac and Băneasa

(Săvulescu 1959), Iortmac and Esehioi (Săvulescu and Popescu-Gorj 1964; Negru and Roșca, 1967). After a long period of time from the mentioned recordings, we reconfirm the presence of this species in Dobrogea, and even more-for northern Dobrogea (including the Măcin Mountains), where this species was not recorded up to present.

Sphenoptera (Chilostetha) laportei Saunders, 1871 is a species known from the Meridional Russia, Czech Republic, Slovakia, Bulgaria, Hungary, Austria, Italy, France. In Romania, it was cited by Schaefer (1949), without any other precisely location data, and at Vadu (Constanța County -South Dobrogea) (06.25.2011-leg. Mancu) (Panin et al. 2015). Erroneously reported as “Absent” in Romania by Miguel A. Alonso-Zarazaga et al.-in “Fauna Europaea” database (<https://fauna-eu.org/> accessed at February, 02, 2022), here it is reconfirmed for the Romanian fauna.

Material and methods.

The material for the present study has been collected in the aestival period of 2021 from three different sites: Căndești (the Buzău County) – a site located in the Curvature Carpathians, and from two sites located in North Dobrogea (Troesmis and the Măcin Mountains). *Eretes sticticus* was collected at artificial light. *Acinopus (Osimum) ammophilus* (Coleoptera, Carabidae) and *Sphenoptera (Chilostetha) laportei* (Coleoptera, Buprestidae) were collected using Barber traps with acetic and butyric attractants, placed in field during five days. The specimens were preserved in ethanol 75% and examined at a “Discovery V8” Zeiss stereoscope with 8 to 85X magnification power, provided with an Olympus photo-camera. The specimens were glued on standard tags or stored in ethanol. From the *Eretes sticticus* specimen, the female genitalia was extracted for detailed studies and mounted in a *Sindeticon* transparent gel on standard transparent tag. The examined specimens (*Eretes sticticus* and *Sphenoptera laportei*) are preserved in the Zoological Collection of “Grigore Antipa” National Museum of Natural History of Bucharest and *Acinopus (Osimum) ammophilus* in the author’s collection.

Results and discussions

Eretes sticticus (Linnaeus, 1767)

(Figs 1–3)

Material examined: 1 ♀; August, 16, 2021, Căndești (Buzău County, Romania). Coordinates: 45°14'29.95" N; 26°41'53.88" E. Leg. et det. E. Nitzu.

Collected at light trap at 11 PM. The light trap was placed at the border of drainage channel, surrounded with reeds; the temperature was about 25°C, no wind.

Description: Body length: 16 mm; habitus (Fig. 1) – according to the described variation in extent of black maculation pattern observed by Miller (2002) for *E. sticticus*. The elytral apex protruded, sharply pointed (versus less pointed in *E. griseus*) (Fig. 2). The apices of gonocoxae broadly rounded, apical emargination of gonocoxae of female genitalia relatively narrow - according to diagnosis key following Miller (2002) (Fig. 3).

In conclusion, there are two species in the Romanian fauna: *Eretes griseus*-cited for Bocşa (Caraş-Severin County) (Hájek et al. 2014) and *Eretes sticticus* - reported in this article for Căndeşti (Buzău County). The recent spread of this vagile and thermophilic species, from the Mediterranean to central and eastern Europe, could be interpreted as a consequence of the recent climate change (Farágó et al. 2010; Hájek et al. 2014).



Figure 1. *Eretes sticticus*. Habitus of the female from Candesti (Romania) (L= 16 mm).

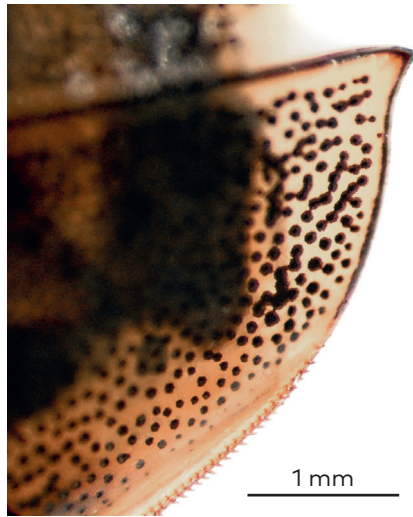


Figure 2. *Eretes sticticus*. The elytral apex of the female collected at Candesti.



Figure 3. *Eretes sticticus*. Female genitalia (Candesti, Romania).

***Acinopus (Osimus) ammophilus* Dejean, 1829**

Material examined: 2 ♂ and 1 ♀–July, 15, 2021, The ancient Fortress Troesmis (North Dobrogea, Romania); coordinates: 45°08'39.25" N; 28°11'53.22" E and 45°08'39" N; 28°11'41.40" E.; 1 ♂ (exoskeleton)–July, 16, 2021, Măcin Mt. (Țuțuiatu); coordinates: 45°12'31.2" N; 28°15'38.3" E., all, Leg. et det. E. Nitzu. First mention for North Dobrogea

Collected at Barber traps with attractant based on acetic fermentation.

A. (O.) ammophilus is a stepicolous, xero-thermophilous species (on sandy soils). It is a graminivorous, monophagous species (it feeds on seeds of *Medicago minima*) (Maccapani et al. 2018).

***Sphenoptera (Chilostetha) laportei* Saunders, 1871**

Material examined: 1 female–July, 15, 2021, The ancient Fortress Troesmis (North Dobrogea, Romania); coordinates: 45°08'32" N; 28°11'41.40"E. First mention for North Dobrogea.

Collected at Barber traps with attractant based on butyric fermentation.

S. (C.) laportei is a xero-thermophilous species, developing on *Dianthus* species (*D. armeria*, *D. attenuates*, *D. carthusianorum*, *D. caryophyllus*, *D. ciliates*, *D. granaticus*) (Panin et al., 2015).

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