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A new *Pedicia* (*Crunobia*) from Romania and other four species new to the country's fauna (Diptera: Pediciidae)

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Rezumat

O specie de *Pedicia* (*Crunobia*) nouă pentru ştiinţă şi patru specii noi pentru fauna României (Diptera: Pedicidae)

Pedicia (*Crunobia*) *apusenica* sp. n. este descrisă din aria protejată Padiş, Mţii. Apuseni, România. Specia este apropiată morfologic de *P.* (*C.*) *spinifera* STARÝ, 1974, descrisă din Bulgaria. Cele 4 specii de Pediciidae semnalate ca noi pentru fauna României sunt: *Ula* (*Ula*) *mixta* STARÝ, 1983, *Dicranota* (*Paradicranota*) *brevicornis* BERGROTH, 1891, *D.* (*P.*) *gracilipes* WAHLGREN, 1905 şi *D.* (*P.*) *martinovskyi* STARÝ, 1974. *D.* (*P.*) *securifera* SAVCHENKO, 1986 a fost sinonimizată cu *D.* (*P.*) *martinovskyi*. O listă a speciilor de Pedicidaea din fauna României este anexată în această lucrare.

Abstract

Pedicia (*Crunobia*) *apusenica* sp. n. is described from Padiş Protected Area, Apuseni Mts, Romania. The new species is closely related to *P.* (*C.*) *spinifera* STARÝ, 1974 described from Bulgaria. Four species of Pediciidae are recorded as new to the fauna of Romania, viz. *Ula* (*Ula*) *mixta* STARÝ, 1983, *Dicranota* (*Paradicranota*) *brevicornis* BERGROTH, 1891, *D.* (*P.*) *gracilipes* WAHLGREN, 1905 and *D.* (*P.*) *martinovskyi* STARÝ, 1974. *D.* (*P.*) *securifera* SAVCHENKO, 1986 is placed in synonymy with *D.* (*P.*) *martinovskyi*. A checklist is appended of Romanian species of the family Pediciidae.

Keywords: Pediciidae, new species, Romanian fauna

Introduction

Pediciidae were separated from the Limoniidae by STARÝ (1992), based on some significant external and genital characters. The most important diagnostic features, in the Pediciidae, are pubescent eyes and spurred tibiae, combined with a characteristic wing venation, with Sc_2 strongly retracted, and a four-branched media.

Fifty-nine European species were listed by SAVCHENKO et al. (1992), which should be emended to 57 due to two supposed synonymies tentatively mentioned therein. Subsequently, four additional species were described (STARÝ & KRZEMIŃSKI, 1993a, STARÝ, 1997, 1998), two others re-instated as valid (STARÝ, 1994), and one newly recorded in Europe (STARÝ & KRZEMIŃSKI, 1993b). Thus, at present, 64 Pediciidae species are known to occur in Europe. One of the above synonymies is officially established in this paper.

No synopsis of Romanian Pediciidae has yet been published. THALHAMMER (1900), in his study on Diptera of the Hungary, listed six species of Pediciidae from the present Romania. RIEDEL (1914) described *Nasiternella regia* from Braşov and added another species to the Romanian fauna. MOCZÁR (1952) reported on two additional species. His data were repeated by WEINBERG & ASTANEI (1979). Nine species were added by ERHAN-DINCĂ & CEIANU (1986) so that, at that time, the number of Romanian Pediciidae was raised to 19. SAVCHENKO et al. (1992) listed 9 additional species (including one subspecies), based on unpublished data of E. ERHAN-DINCĂ. Thus, altogether 28 Pediciidae species-group taxa have since been recorded from Romania. Yet the country's fauna still is inadequately known.

Material and methods

An extensive research of craneflies of Romania was started in 1998 by the first author, mostly along various mountainous streams in the Romanian Carpathians, with a single site situated in Transylvania. A total of 145 specimens were collected, belonging to 18 species of Pediciidae, in the following localities (see also Fig. 1):

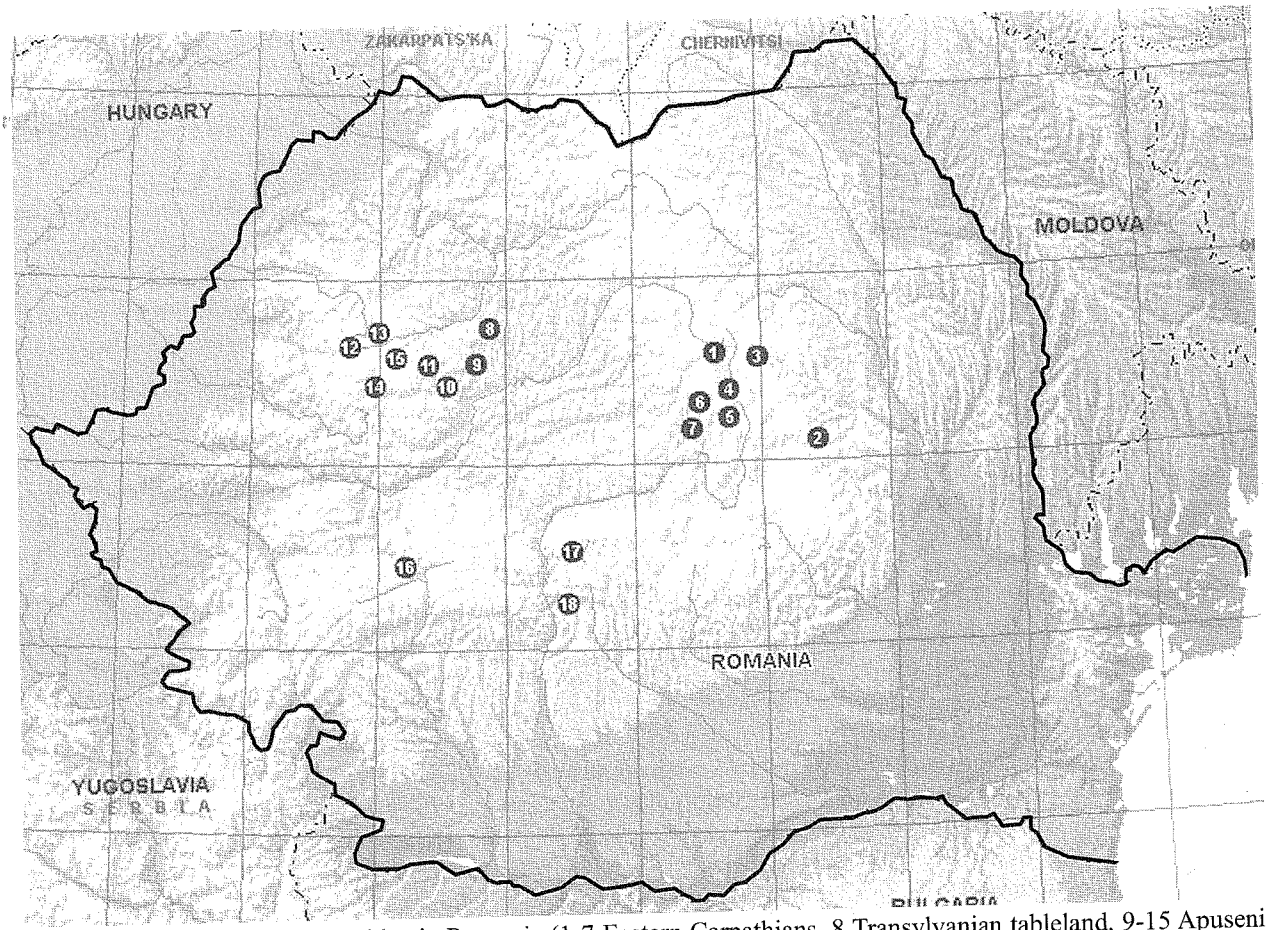

Fig. 1. Collecting sites of Pedicidae in Romania (1-7 Eastern Carpathians, 8 Transylvanian tableland, 9-15 Apuseni Mountains, 16-18 Southern Carpathians) (1-18, explications see in the text)

Eastern Carpathians:

1.Gheorgheni Depression, "După Luncă" peat bog near Voşlobeni, 720 m a.s.l. - 46°37'8,7" N 25°37'41,5" E.

2.Nemira Mountains, Oituz Valley near Oituz, 780 m a.s.l. - 46°6'17,5" N 26°25'50,7" E.

3.Hăghimaş Mountains, Gal Cut Valley near Bălan, 800 m a.s.l. - 46°34'24,1" N 25°48'15,0" E.

4.Ciuc Depression, Siculeni, 660 m a.s.l. - 46°23'32,8" N 25°47'27,0" E.

5.Harghita Mountains, "Luci peat bog", 1050 m a.s.l. - 46°16'20,9" N 25°40'15,1" E.

6.Harghita Mountains, Şicasău, 1000 m a.s.l. - 46°27'12,2" N 25°31'17,5" E.

7.Harghita Mountains, Corund, 540 m a.s.l. - 46°32'34,4" N 25°15'8,0" E.

Transylvania:

8.Vâlcele near Cluj-Napoca, 450 m a.s.l. - 46°42'37,8" N 23°42'30,3" E.

Apuseni Mountains:

9.Trascău Mountains, Cheile Turzii near Cheia, 520 m a.s.l. - 46°35'39,6" N 23°39'56,7" E.

10.Gilău Mountains, Muntele Băişorii, 1250 m a.s.l. - 46°31'22,9" N 23°25'45,7" E.

11.Gilău Mountains, Iara Valley near Valea Ierii, 800 m a.s.l. - 46°26'10,6" N 23°25'45,7" E.

12.Bihor Mountains, Padiş Protected Area, spring sector of the Someşul Cald River, near the "Cetatea Rădesei" Cave, 1320 m a.s.l. - 46°37'41,8" N 22°45'37,3" E.

13.Bihor Mountains, "Someşului Cald Gorge" Protected Area, spring sector of the Someşul Cald River, 1300 m a.s.l. - 46°37'41,8" N 22°45'37,3" E.

14.Bihor Mountains, Arieşeni, spring sector of the Arieş River, 1000 m a.s.l. - 46°21'29,0" N 22°55'46,6" E.

15.Bihor Mountains, Padiş Protected Area, "Casa de Piatra", 1000 m a.s.l. - 46°26'10,6" N 22°54'49,2" E.

Southern Carpathians:

16.Retezat Mountains, Pietrele, 1800 m a.s.l. - 45°25'50,0" N 22°59'50,3" E.

17.Făgăraş Mountains, Bâlea Lake, 2034 m a.s.l. - 45°37'37,5" N 24°38'9,3" E.

18.Cozia Mountains, Stânişoara, 700 m a.s.l. - 45°9'53,5" N 24°32'10,9" E.

Adult Pediciidae were collected using a

sweeping net. In addition, a light trap fitted with a halogen lamp was placed in the Iara Valley near Valea Ierii, Apuseni Mts. The material was preserved in 75 % ethanol; a few specimens were also mounted dry. For examination, male and female terminalia were cleared in a nearly boiling 10 % KOH solution for about five minutes. After rinsing with water and 70 % alcohol, the terminalia were transferred, for permanent storage, into micro-vials containing some glycerol. Examination of specimens and their terminalia was carried out with a stereomicroscope, using a magnification of up to 100 X. Drawings were made with the aid of a drawing tube attached to the microscope.

The keys by SAVCHENKO (1986) were used for identification. The adopted classification largely follows SAVCHENKO et al. (1992). All specimens were collected by the first author.

Description

Pedicia (*Crunobia*) *apusenica* sp. n.
(Figs 2-4)

Type material. – Holotype ♂: Romania, Apuseni Mts, Padiş Protected Area, 1 km west of Poiana Vărăşoaia, near the Cetatea Rădesii Cave, 1320 m, reocren spring, 21.VII. 1999, L. Ujvárosi leg. (in coll. Department of Zoology, Faculty of Biology and Geology, Cluj, Romania). Paratypes: 5 ♂♂, same data as for holotype; 1 ♂ in coll. H. de Jong, Zoological Museum of Amsterdam, the Netherlands; 3 ♂♂ in collection of first author; 1 ♂ in collection of second author. All specimens preserved in ethanol, the latter one dried from ethanol and pinned.

Male: Body length 13-14 mm, wing length 15 mm, antenna 4-5 mm.

Colour: Ground colour yellowish orange. Head uniformly light brown. Antenna with scape and pedicel light brown, flagellum almost uniformly yellowish. Palpus light brown. Dorsal and lateral parts of thorax yellowish orange. Prescutum yellow, with two brownish longitudinal lines. Wing venation yellowish brown. Pterostigma light brown, more or less distinct. Three darkenings present: at

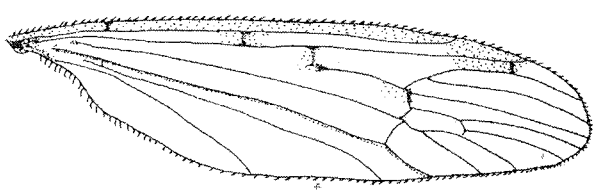

Fig. 2. Wing venation of *Pedicia apusenica* sp.n.

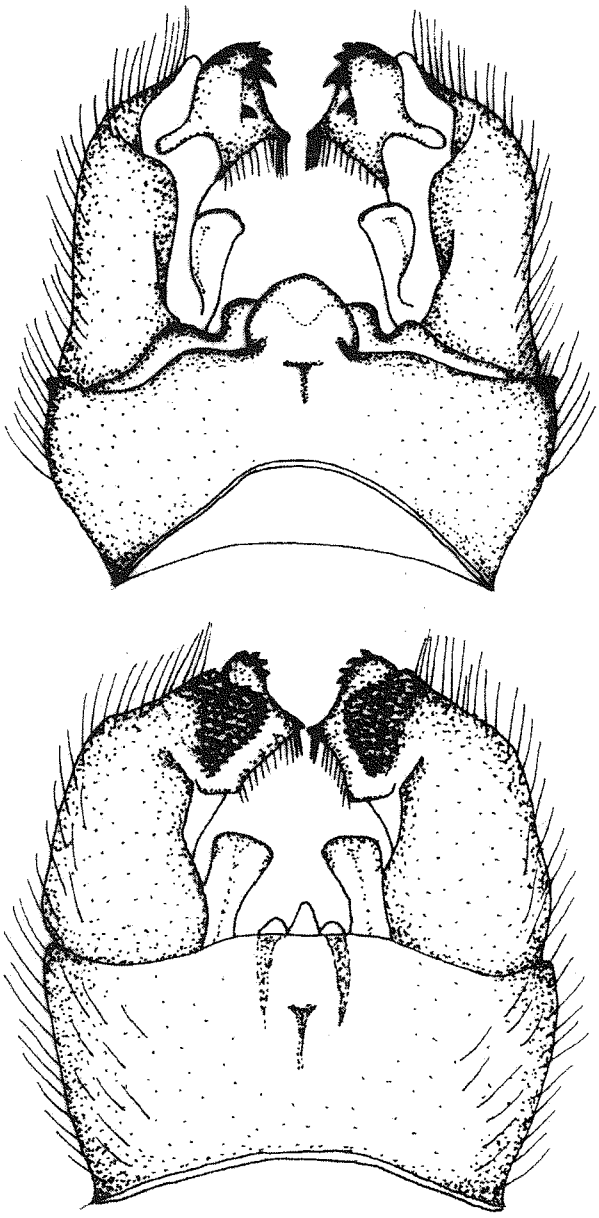

Fig. 3, 4. Male terminalia of Pedicia apusenica sp.n. (3 - dorsal; 4 - ventral).

Sc_2, at base of Rs and at fork of Rs (Fig. 2). Halter with yellowish stem and light brown knob. Legs yellowish brown, femora and tibiae darkened at extreme tip, tarsi largely brown. Abdomen yellowish orange at base, darkened towards tip, most so on last two segments. Median light brown longitudinal stripe apparent dorsally throughout abdomen.

Wing venation as in Fig. 2.

Male terminalia (Figs 3-4) considerably broad. Posterior margin of tergite 9 produced into rounded median lobe, about as long as broad. Gonocoxite stout, essentially cylindrical, truncate at distal end. Flat, spoon-like extension present at distal end of gonocoxite ventrally, directed inwardly, densely provided with short black spinules and partly over-

lapping gonostylus in ventral view. Gonostylus subterminal, inserted laterally at distal inner side of gonocoxite and including nearly right angle with long axis of the latter. Gonostylus generally quadrangular in dorsal or ventral views, with 7-8 strong black spines mostly situated at outer distal margin and with short slender projection at lower (caudal) margin distally. Interbase simple, broadened and rounded distally.

Female unknown.

Derivatio nominis: The name of the new species is derived from the name of the mountains where the new species was collected. The name is deemed to be and to be treated as a latinized adjective in nominative singular.

Discussion: *P.* (*C.*) *apusenica* sp. n. belongs to a group of species distinctive in that the gonostylus of the male terminalia is provided with several strong spines (other *Crunobia* species have only two such spines). In Europe, this group is represented by the following species: *Pedicia* (*Crunobia*) *lobifera* SAVCHENKO, 1986, *P.* (*C.*) *spinifera* STARÝ, 1974, *P.* (*C.*) *staryi* SAVCHENKO, 1978 and *P.* (*C.*) *straminea* (MEIGEN, 1838).

Except for *P.* (*C.*) *straminea* which is distinctive in having the distal part of the gonocoxite considerably extended to form a conspicuous outstanding lobe ventrally, the remaining species are similar to each other differing only in details on the gonocoxite and gonostylus. *P.* (*C.*) *apusenica* sp. n. is most closely related to *P.* (*C.*) *spinifera* sharing with it a general condition of the hypopygium, which is considerably broad, with the gonocoxite truncate distally and with the gonostylus situated laterally on the gonocoxite. The two species differ from each other in many details, especially in that the gonostylus is larger in the new species, differently shaped, with the projection at lower distal margin distinctly shorter. Moreover, the interbases are simple in *P.* (*C.*) *apusenica* sp. n., whereas they are provided with a spine in *P.* (*C.*) *spinifera* (cf. STARÝ, 1974).

Species new to the Romanian fauna

Ula (*Ula*) *mixta* STARÝ, 1983

Romania: Eastern Carpathians: Harghita Mts, "Luci peat-bog" (1050 m), 10.VI.2001, 1 ♂.

The species has been recorded from a few European countries only, viz. Czech Republic, Finland, Germany, Norway, Slovakia and Switzerland (SAVCHENKO et al., 1992; STARÝ & GEIGER, 1998; SALMELA, 2001a). [Here and under the following species, records from SAVCHENKO et al. (1992) are modified according to the present political frontiers, except for those from the former Yugoslavia.]

Dicranota (*Paradicranota*) *brevicornis* BERGROTH, 1891

Romania: Apuseni Mts: Gilău Mts, Iara Valley nr. Valea Ierii (800 m), 22.VII.2000, 1 ♂ (light trap).

Records of the species are available from the following countries: Austria, Bulgaria, Czech Republic, France, Germany, Italy, Poland, Slovakia, Switzerland, Yugoslavia; Ukraine (SAVCHENKO et al., 1992).

Dicranota (*Paradicranota*) *gracilipes* WAHLENGREN, 1905

Romania: Apuseni Mts: Gilău Mts, Iara Valley nr. Valea Ierii (800 m), 4.X.2000, 1 ♂ (light trap).

Records of the species are from the following countries: Austria, Belgium, Czech Republic, Denmark, Finland, France (Corsica), Germany, Great Britain, Italy, Norway, Poland, Slovakia, Sweden, Switzerland; Lithuania, Ukraine and European Russia (SAVCHENKO et al., 1992; PODENAS et al., 1997; PAKALNIŠKIS et al., 2000; SALMELA, 2001b).

Dicranota (*Paradicranota*) *martinovskyi* STARÝ, 1974

Dicranota (*Paradicranota*) *securifera* Savchenko, 1986, **syn. n.**

Romania: Apuseni Mts: Bihor Mts, spring sector of the Someşul Cald River in the "Someşului Cald Gorge" Protected Area (1300 m), 9.VI.1998, 2 ♂♂.

The above synonymy already was tentatively mentioned by SAVCHENKO et al. (1992). A thorough examination of specimens from various regions revealed that differences in shape of the interbases, as illustrated in relevant figures (cf. STARÝ, 1974, Figs 10-12; SAVCHENKO, 1986, Fig. 90/2), partly fall within variability of the species, partly they result from different view aspects. The synonymy is officially established herewith.

The species has only been recorded from

the following countries: Czech Republic, Poland, Slovakia; Ukraine (SAVCHENKO et al., 1992; WIEDEŃSKA, 1998).

A checklist of Pediciidae of Romania

Marks: □ - presence of a species is confirmed by us; ■ - new to the country's fauna; ? - doubtful record; (1...18) - number of a locality (cf. Fig. 1).

1. Dicranota (*Dicranota*) *bimaculata* (SCHUMMEL, 1829)
2. Dicranota (*Lucidia*) *lucidipennis* (EDWARDS, 1921)
3. Dicranota (*Paradicranota*) *brevicornis* BERGROTH, 1891■ (11)
4. Dicranota (*Paradicranota*) *brevitarsis* BERGROTH, 1891
5. Dicranota (*Paradicranota*) *candelisequa* STARÝ, 1981 □ (11, 17)
6. Dicranota (*Paradicranota*) *fuscipennis* LACKSCHEWITZ, 1940
7. Dicranota (*Paradicranota*) *gracilipes* WAHLGREN, 1905 ■ (11)
8. Dicranota (*Paradicranota*) *landrocki* CZIŽEK, 1931□ (11)
9. Dicranota (*Paradicranota*) *martinovskyi* STARÝ, 1974 ■ (13)
10. Dicranota (*Paradicranota*) *minuta* LACKSCHEWITZ, 1940
11. Dicranota (*Paradicranota*) *pallens* LACKSCHEWITZ, 1940 □ (12)
12. Dicranota (*Paradicranota*) *schistacea* LACKSCHEWITZ, 1940
13. Dicranota (*Paradicranota*) *simulans* LACKSCHEWITZ, 1940 □ (2, 11)
14. Dicranota (*Paradicranota*) *subtilis* LOEW, 1871 □ (18)
15. Nasiternella regia RIEDEL, 1914
16. Pedicia (*Amalopis*) *occulta* (MEIGEN, 1830) □ (16)
17. Pedicia (*Crunobia*) *littoralis* (MEIGEN, 1804) □ (4)
18. Pedicia (*Crunobia*) *apusenica* sp. n. (12)
19. Pedicia (*Crunobia*) *nielseni* (SLÍPKA, 1955)
20. Pedicia (*Crunobia*) *spinifera* STARÝ, 1974 ?
21. Pedicia (*Crunobia*) *straminea* (MEIGEN, 1838) □ (11)
22. Pedicia (*Crunobia*) *zernyi pallens* SAVCHENKO, 1978 □ (7, 13, 14, 15)
23. Pedicia (*Crunobia*) *zernyi zernyi* (LACKSCHEWITZ, 1940)
24. Pedicia (*Pedicia*) *rivosa* (LINNÉ, 1758) □ (3, 4, 11, 18)
25. Tricyphona (*Tricyphona*) *immaculata* (MEIGEN, 1804) □ (1, 5, 8, 9, 10, 11, 18)
26. Tricyphona (*Tricyphona*) *livida* MADARASSY, 1881
27. Tricyphona (*Tricyphona*) *pyrenaica* (VERRALL, 1888) ?
28. Tricyphona (*Tricyphona*) *schummeli* EDWARDS, 1921
29. Tricyphona (*Tricyphona*) *unicolor* (SCHUMMEL, 1829) □ (1, 6)
30. Ula (*Ula*) *bolitophila* Loew, 1869
31. Ula (*Ula*) *mixta* STARÝ, 1983 ■ (1, 11)
32. Ula (*Ula*) *mollissima* Haliday, 1833
33. Ula (*Ula*) *sylvatica* (MEIGEN, 1818) □ (5)

Actually, altogether 33 species (including one subspecies) are known to occur in Romania, which represent more than 50 % of European Pediciidae species. However, the number should increase in the future with further investigation.

Some records were confirmed by us, and the prepoderance of others appear highly probable. Records of two species should specially be mentioned:

P. (*C.*) *spinifera* was listed for Romania by SAVCHENKO et al. (1992), based on unpublished data provided by E. ERHAN-DINCĂ. The record may in fact represent *P.* (*C.*) *apusenica* sp. n. because the two species are closely related.

The identity of *T.* (*T.*) *pyrenaica* described from the Pyrenees by VERRALL (1888) remains in question. Still more questionable is the record from Romania (Retezat) by RIEDEL (1914). The species most probably belongs to *Pedicia* (*Amalopis*), and its conspecifity with *P.* (*A.*) *occulta* cannot be excluded.

A revision of the collection of E. ERHAN-DINCĂ, deposited in the "Grigore Antipa" Natural History Museum, Bucharest, Romania, is needed for future investigation.

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