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## Description of a new European *Anapausis* species of the *soluta*-group (Diptera, Scatopsidae)

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*Anapausis solmatina* sp. nov. (Diptera, Scatopsidae) is described and figured and the *soluta*-group of species is briefly discussed. The distribution of the new species is limited for the moment to Switzerland, the Czech Republic and Slovakia.

Keywords: *Anapausis*, Scatopsidae, new species, Europe.

### INTRODUCTION

In Europe the speciose genus *Anapausis* Enderlein, 1912 contains 24 described species (Haenni 2012) plus some still undescribed species. The *soluta*-group, as understood here, includes those species that are characterized by the tergite 8 of the male which is posteriorly produced into a pair of elongate processes and by the presence of a well developed 9<sup>th</sup> tergite in the female. Cook (1965) first segregated the three species presenting these characters (but without formally naming the group) in a dendrogram in his revision of the genus *Anapausis*. Additional species with the same characteristics were described by Haenni & Brunhes (1981) and Chandler (1999) who furthermore elevated to specific level a variety described by Duda (1928). The *soluta*-group includes thus seven Palaearctic species: *aratrix* Haenni & Brunhes, 1981, *dalmatina* Duda, 1928, *floricola* Chandler, 1999, *pollicata* Chandler, 1999, *rectinervis* Duda, 1928 and *soluta* (Loew, 1846), and a single Nearctic species, *cismarina* (McAtee, 1921).

An additional European species belonging to this group is described below on the basis of material collected in Switzerland, the Czech Republic and Slovakia.

The manuscript of this paper was in an early stage of development when the illness of Jaroslav Martinovský hindered him from continuing the study of Diptera and delayed our common project. This paper is dedicated to his memory.

### MATERIAL AND METHODS

All the material of this note is deposited in the collections of the Muséum d'histoire naturelle of Neuchâtel, MHNN (collection J.-P. Haenni and collection J. Martinovský), except for some paratypes deposited in the collection Gerhard Bächli, CGB, and for the specimen photographed in Fig. 1 which is deposited in the collections of the Slezské zemské Muzeum (Silesian Museum) Opava, SZM. Most of the material is dry preserved, a small part is preserved in alcohol. Some specimens have been cleared, dissected and slide-mounted for study of the genital structures. The nomenclature of morphological structures follows Haenni (1997).



Fig. 1. *Anapausis solmatina* sp. nov., ♀: Slovakia, Muránska planina NP (photograph Jindřich Roháček).

***Anapausis solmatina* sp. nov. (Figs 1–4)**

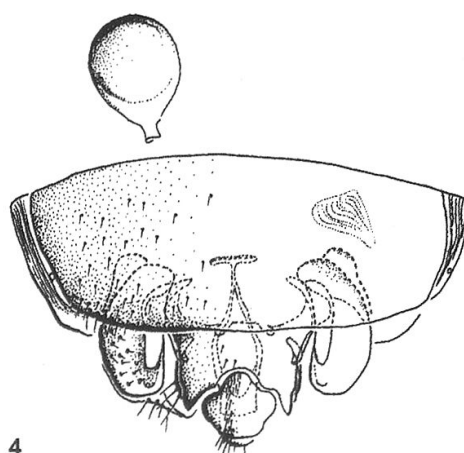
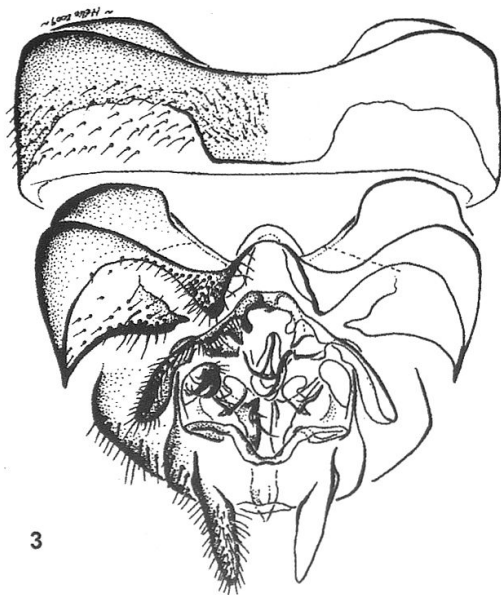
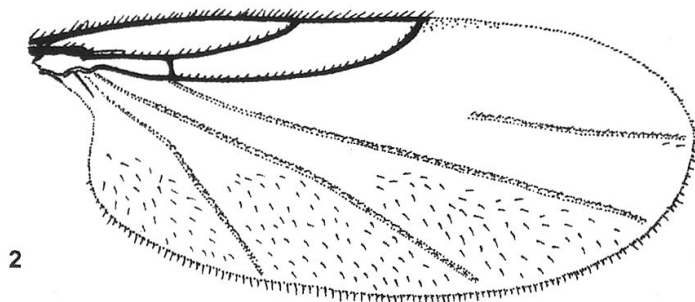
*Type-locality.* SWITZERLAND. Canton Fribourg: Charmey, Vallée du Gros-Mont.

*Material examined.* **Holotype** ♂, labelled: «SUISSE-FR: Charmey, Vallée du Gros-Mont, 953 m, 1.VIII.1979, J.-P. Haenni leg.», «S2924»; «*Anapausis solmatina* sp. nov. ♂, J.-P. Haenni 2014, Holotype». Holotype in good condition, slide mounted in coll. MHNN, Neuchâtel, Switzerland. — Paratypes: SWITZERLAND, same data as holotype, 6 ♀♀ (in alcohol, except 1 ♀ slide mounted); VS: Morgins, Vièze, 27.VII.2004, 24 ♂♂, 2 ♀♀, G. Bächli leg. MHNN / CGB; Morgins, Les Têtes, 28.VII.2004; 1 ♂, G. Bächli leg. MHNN (double mounted, glued on card). — Other material: CZECH REPUBLIC: Moravia, Branná u. Šum.[=near Šumperk], 27.VII.1972, 2 ♂♂, J. Martinovský leg.; same data, but 2.VIII.1972, 8 ♂♂, 6 ♀♀ (one pair in copula), all MHNN (coll. Martinovský); SLOVAKIA: Muránska planina NP, Stožky, 48°49'14" N / 19°56'07" E, 870 m, 26.VII.2012, 1 ♂, J. Roháček leg., SZM (Fig. 1).

*Diagnosis.* In the male the shape of the complex posterior emargination of sternite 6 (Fig. 3) closely resembles this structure in *A. soluta*, *A. dalmatina* and *A. floricola* but the anterior lobes are longer, triangular, reaching level of posterior lobes (less developed in other species, not triangular and never reaching level of posterior lobes). In the female the shape of tergite 8 (Fig. 4), with a deep V-shaped, undulated median posterior emargination to accommodate tergite 9, and the broadly rounded lateral lobes of sternite 8 are characteristic (all other species of the *soluta*-group have either a smoothly rounded, or square angled shallow posterior emargin-

ation, or no emargination at all, except for *A. dalmatina* which has the lateral lobes of sternite 8 differently shaped and shorter.

*Description.* Male. 2.1–2.6 mm long, shining black in general colour, covered with comparatively dense golden pilosity. Head jet black, shining, as high as long; antennae much longer than head, flagellum of 8 flagellomeres, with flagellomeres 1–3 as wide as long, 4–7 wider than long, last flagellomere elongate, nearly as long as the three preceding ones; palpi brown, oval elongate, obtusely acute apically, hardly shorter than labella. Thorax shining black with a pair of yellowish spots posterior to the insertion of wings. Spiracular sclerite elongate, nearly twice as long as high, with large posterior spiracular opening; an irregularly arranged row of about 12 supra-alar setae. Wing 2.4–2.8 mm long, hyaline; anterior veins yellowish brown, posterior veins translucent; numerous macrosetae present on membrane and on veins posteriorly to  $M_2$ , some scattered macrosetae posterior to  $M_1$ . Halteres brownish. Legs brownish-black, as usual in *Anapausis*. First tarsomere of all legs elongated, longer than the two following tarsomeres in anterior legs, about as long as the two following tarsomeres in median and posterior legs, bearing a somewhat



Figs 2-4. *Anapausis solmatina* sp. nov.: — Fig. 2. Wing of ♀. — Fig. 3. Terminalia of ♂, ventral view. — Fig. 4. Terminalia of ♀, dorsal view (3-4, drawings by Mathieu Rapp).



spiny setosity beneath. Abdomen as usual in genus, shining black dorsally, except for tergite 8 which is partly brownish; more brownish ventrally, except for sternite 5 which is medially darker, light brownish laterally along posterior margin; pre-genital sternites 5–7 modified (Fig. 3): sternite 5 with anterior margin shallowly emarginate medially, with a M-shaped zone of sclerotization, more strongly sclerotized in median portion, a pair of submedian lunula-like light areas of weak sclerotization laterally along posterior margin; sternite 6 deeply modified, with both anterior and posterior margins with a complex emargination, forming a narrow median, more heavily sclerotized, inverted U-shaped arch; the anterior paired lobes triangular, directed posteriorly, reaching level of lateral lobes; lateral lobes less sclerotized, finger-shaped apically; sternite 7 in shape of roof-like structure encompassing genital capsule. Sperm pump directly attached to genital complex, short, hardly reaching level of anterior margin of segment 7. Genital capsule very complex, as usual in genus (Fig. 3); parameres with anterior arm ending in a recurved acute point, the posterior arm a triangular, setae-bearing, apically smoothly rounded lobe; aedeagus sinuous at apex; sternite 10 reduced, weakly sclerotized, in shape of an inverted arch; tergite 8 bearing medially a pair of spiracular openings, posteriorly produced into a pair of elongate, long pilose, ventrally directed pointed processes, that are slightly recurved apically.

Female. 2.0–2.5 mm long, very similar to male, but head hardly longer than high, antennae shorter, though markedly longer than head. Wing (Fig. 2) 2.1–2.8 mm long. Terminalia (Fig. 4): tergite 8 brownish, with deep, undulated V-shaped median posterior emargination to accommodate tergite 9, lateral lobes acute; lateral lobes of sternite 8 strongly developed, rounded at both ends, elongate, posteriorly nearly reaching level of lateral lobes of tergite 8.

*Distribution.* The new species is only known till now from the mountainous ranges of Central Europe, the Alps (Switzerland), the Sudetes (Czech Republic) and the Slovak Ore Mountains (Slovakia).

*Ecology.* *A. solmatina* sp. nov. appears to be restricted to semi-open or forested areas of the mountainous and subalpine levels of vegetation, at altitudes ranging from 650 to about 1500 m. The known flight period extends over a limited period from mid July to beginning of August. In three of the five known localities the specimens of the new species were collected along brooks, either swept from vegetation, or on umbels of Apiaceae. In Branná, they were collected together with specimens of *Anapausis soluta* on umbels of *Aegopodium podagraria*.

*Etymology.* The name *solmatina*, treated as an adjective, is a contraction of the names *soluta* and *dalmatina*, two species of this group to which the new species is closely related.

## DISCUSSION

Swiss and Czech material of the new species has been misinterpreted for *soluta* by Haenni (1984: p.283) and Martinovský (1997: p.197), assuming that this species may present quite important intraspecific variation. However, Chandler (1999) demonstrated that several species had been confused under this name. The re-evaluation of the material of *A. soluta* led to the discovery of the new species. The genital characters in both male and female genitalia are constant in material from the whole range of *solmatina* sp. nov. and there is no doubt that it represents a good species.

Two or three further undescribed species of the *soluta*-group may be present in Europe, as the first author has seen scattered additional specimens that cannot be attributed clearly to any of the already described species. However, more material is needed before their status can be satisfactorily elucidated.

#### ACKNOWLEDGEMENTS

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