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IDENTITY OF TWO NEPTICULIDAE DESCRIBED BY A. CARADJA (LEPIDOPTERA)

by

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The two Nepticulidae, described by A. Caradja, are reexamined. The following synonymies are established: *Ectoedemia* (*Ectoedemia*) *rufifrontella* (Caradja, 1920) **comb. nov.** as senior synonym of *Nepticula nigrosparsella* Klimesch, 1940 (**syn. nov.**); *Ectoedemia* (*Fomoria*) *viridissimella* (Caradja, 1920) **comb. nov.** as senior synonym of *Nepticula nowakowskii* Toll, 1957 (**syn. nov.**). *E. viridissimella* is redescribed, and the genitalia are figured.

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Prince A. Caradja was a well known Rumanian microlepidopterist from the early decades of this century. Despite the large number of species described by him, he only described two species of Nepticulidae (Caradja, 1920), both from Europe: *Trifurcula rufifrontella* and *Nepticula viridissimella*. The descriptions of these species are very short and show so little detail that it is impossible to get an idea of their identity. Since the types were not available for study earlier, I was forced to list Caradja's species in my check-list (Van Nieukerken, 1986a) under names of unknown or doubtful status.

By courtesy of Dr. A. Popescu-Gorj of the Natural History Museum "Grigore Antipa", Bucarest (MINB), I have now been able to examine the types of these species.

Both appear to be senior synonyms of species currently listed under *Ectoedemia* and, surprisingly, the single *N. viridissimella* appears to represent the hitherto unknown male of the species known as *Ectoedemia nowakowskii* (Toll).

For more information on taxonomy of genus and family, and terminology used, the reader is referred to Van Nieukerken (1986b).

Ectoedemia (Ectoedemia) rufifrontella (Caradja) comb. nov.

Trifurcula rufifrontella Caradja, 1920: 161. Lectotype ♂ (selected by A. Popescu-Gorj, in litt.): [ITALY], Bolzano (Bozen), 12.v.[18]97 [coll. Von Hedemann]. Genitalia slide EJvN 2545 (MINB) [examined].

Nepticula nigrosparsella Klimesch, 1940: 91, pl. 14, figs 8, 9; pl. 15, figs. 10-12. Lectotype ♂ (designated by Van Nieuwerkerken, 1985: 51). [examined]. **Syn. nov.**

Ectoedemia (Ectoedemia) nigrosparsella; Van Nieuwerkerken, 1985: 51-52.

Caradja described *T. rufifrontella* on the basis of three specimens, of which I examined the specimen, which Popescu-Gorj (in litt.) selected as lectotype. It is identical with the species hitherto known as *Ectoedemia nigrosparsella*. The species was completely described and diagnosed under that name by me in 1985.

Ectoedemia (Fomoria) viridissimella (Caradja) comb. nov.

(figs. 1-6)

Nepticula viridissimella Caradja, 1920: 162. Holotype ♂, [AUSTRIA]: Gumpoldskirchen, Wien, 29.v.[18]93, [Coll. Von Hedemann], Genitalia slide EJvN 2546 (MINB) [examined].

Nepticula viridissima; Skala, 1939: 63 [subsequent incorrect spelling].

Nepticula nowakowskii Toll, 1957: 199-201, figs. 1-3. Holotype ♀, POLAND: Puszeza Kampinowska, Cybulice, 29.iv.1957 [c.l.], *Peucedanum cervaria* (leg. Nowakowski) (not found).

Syn. nov.

Nepticula nowakowskii; Borkowski, 1975: 504; Kasy, 1980: 47.

Ectoedemia (Fomoria) nowakowskii; Van Nieuwerkerken, 1986a: 17; 1986b: 84, fig. 125.

Male. — Forewing length 2.3 mm; wingspan 5.2 mm. Head: frontal tuft and collar fuscous grey; scape shining white, flagellum greyish brown; antenna with 51 segments. Thorax shining grey-bronze. Forewing: basal 4/9 grey, with metallic bronze greenish reflections, distal part purplish fuscous, with metallic silver fascia at 2/3 and a distal row of silver metallic scales, forming a cilia-line along grey terminal cilia. Hindwing grey, with costal bristles. Special scales absent. Legs metallic bronze (greenish). Abdomen with metallic greenish lustre; with pair of white anal tufts. Venation: generalized *Ectoedemia* pattern, Cu absent, Rs + M with four terminal branches (fig. 125 in Van Nieuwerkerken, 1986b).

Female. — Forewing length 2.4 mm; wingspan 5.4 mm. Frontal tuft yellowish orange, collar fuscous grey. Antenna with 40 segments. Further as male.

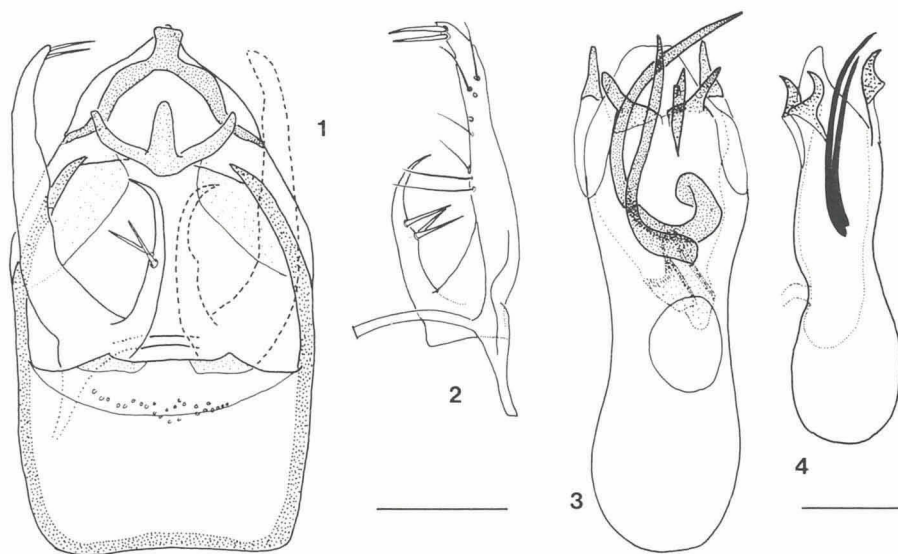
Male genitalia (figs. 1-4). — Capsule length 380 µm. Vinculum with large ventral plate, not bilobed; lateral arms with less sclerotized expansions.

Tegumen forming triangular pseuduncus. Uncus Y-shaped, with truncate central process. Gnathos of generalized nepticulid type. Valva length 250 μm ; extremely slender, basally with long spine-like inner process more than half length of valva, with 2-3 large setae. Transtilla with curved transverse bar; sublateral process present. Aedeagus 375 μm long; with dorsal and ventral pair of spine-like carinae; ventral pair tightly fused to valval process; vesica with two long, curved spine-like cornuti protruding from vesica at phallotreme, and a smaller straight cornutus with additional spines; cathrema distinctly folded.

Female genitalia (figs. 5, 6). — T8 a narrow band, with pronounced lateral corners, without setae or scales; anal papillae elongate, with 13 setae. Vestibulum strongly folded, strongly stained in chlorazol; with ventral sclerotization and some spines. Bursa elongate, with indistinct reticulate signa. Ductus spermathecae with 5 convolutions.

Biology. — Hostplant: *Peucedanum cervaria* (L.) Lapeyr. (Umbelliferae). Detailed description of mine provided by Toll (1957). Apparently univoltine, larvae in June, July, adults emerging probably in May (April indoors).

Distribution. — Only known from two localities in Poland (Toll, 1957; Borkowski, 1975) and Gumpoldskirchen in Austria. In the latter locality mines were recently found in the nature reserve "Glaslauterriegel" (Kasy,



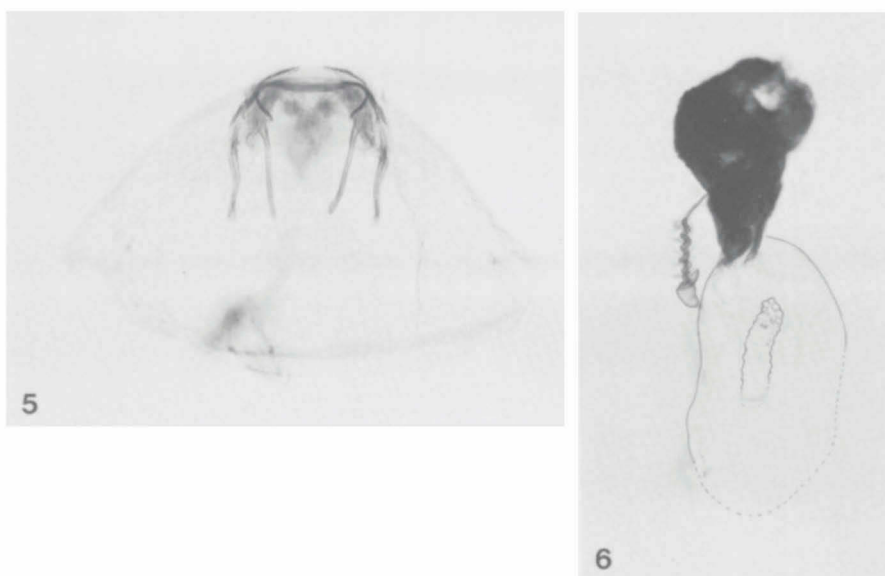
Figs. 1-4. Male genitalia of *Ectoedemia (Fomoria) viridissimella*, Holotype. 1, Ventral aspect, aedeagus removed; 2, Valva, ventral aspect; 3, Aedeagus, ventral aspect; 4, Aedeagus, lateral aspect (schematic). Scales: 0.1 mm, 1-3 on same scale.

1980). The species is apparently confined to open forest and heath on limestone, the typical biotope of its host.

Remarks. — This is a very distinctive species, which shows externally only superficial resemblance to some species of *Stigmella*, in the *aurella* species group, but they can easily be recognized by the different collar, with lamelliform scales.

N. viridissimella was described from a single male, *N. nowakowskii* from five females. The holotype of *nowakowskii* could not be located in Warszawa (A. Kedziorek, in litt.), but one paratype was available for study. The synonymy is based on the characteristic external features. The fact that the *viridissimella* type has been collected in a locality, where later mines of *nowakowskii* have been found (Kasy, 1980) further corroborates this synonymy. The single male of *nowakowskii*, collected by Borkowski (1975), unfortunately has lost its abdomen (Johansson, personal communication).

In the male genitalia *viridissimella* shows more resemblance to some South African species, placed in *Fomoria* (see Scoble, 1983), than to any other. This supports the placement in the present subgenus, previously based on females only (Van Nieuwerkerken, 1986b). Amongst the Palearctic representatives of



Figs. 5, 6. Female genitalia of *Ectoedemia (Fomoria) viridissimella*, Poland (paratype of *nowakowskii* Toll), dorsal aspect, slide VU 1486. 5, Terminalia; 6, Bursa copulatrix, some parts outlined.

this subgenus, *viridissimella* has a somewhat isolated position, both morphologically and in hostplant choice. The only other known Nepticulidae feeding on Umbelliferae (on *Bupleurum* spp.), are two species in *Trifurcula* (*Glaucolepis*) (Van Nieukerken, 1986a). It should, however, be remembered that monophyly of *Fomoria* has yet to be demonstrated (Van Nieukerken, 1986b).

Material examined. — Holotype ♂ (see above); 1♀ (paratype of *nowakowskii*), POLAND: Puszcza Kampinowska, Cybulice, 29.iv.1956, *Peucedanum cervaria* (Nowakowski) (Institute of the Polish Academy of Sciences, Krakow).

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