

On *Orchesella balcanica* Stach, 1960 and *Seira pillichi graeca* n. ssp., from Greece (Collembola, Entomobryidae)

by

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Recently two collecting trips to Greece were made by Amsterdam entomologists. The first one was carried out in 1962 by some members of the scientific staff of the entomological department of the Zoological Museum of Amsterdam; the second one was made by a team consisting of Messrs. L. H. M. BLOMMERS, D. GILLISSEN, A. VEERMAN, F. J. P. VELTMAN and J. C. J. VAN ZON. Two species of Entomobryidae collected during these excursions will be discussed here.

Orchesella balcanica Stach, 1960

Syn.: *Orchesella sylvatica* Nicolet, 1842 sensu IONESCO, 1915, *Annls scient. Univ. Jassy* 9: 484—486, textfig. 6, Pl. VI fig. 8.

Greece, Mount Olympos, Spilios Agapitos, 2100 m, 28.VII—5.VIII.1965. My collection number is 965002; 9 specimens.

This species was hitherto known from the mountain regions of Romania and Bulgaria, from altitudes ranging from 900—1500 m.

The pigmentation of the Greek material agrees rather well with the drawings of STACH, except that the anterior margin of abd. IV is rather poorly pigmented. In the drawing of IONESCO (1915) the anterior margin bears only a median black spot. But the pigmentation of *Orchesella* species is too variable to draw conclusions from these minor differences.

In the large material studied by STACH the pale fields in the center of abd. IV are "very rarely and incompletely" covered by the pigment, whereas three out of my nine specimens show this type of rather heavy pigmentation (fig. 1a, b, c).

Supplementary drawings of the foot of P₃ (fig. 1d) and of the labial chaetotaxy (fig. 1e) are given here.

The labial chaetotaxy shows 2 + 2 smooth setae in the basal region of the labium, and 9 + 9 (or 8 + 9) ciliated setae. To evaluate this character within the genus *Orchesella*, I studied the labium of *Orchesella villosa* (Geoffroy, 1762), from material from France, dép. Meurthe et Moselle. In this material the same 2 + 2 smooth setae were found, but about 14 + 14 ciliated ones.

Seira pillichi Stach, 1922, *graeca* n. ssp.

Greece, Epeiros, 3—6 km SE of Joannina, 8.X.1962. My collection number is 962035; 62 specimens. The holotype and some paratypes are mounted on slides; the material is preserved in the collection of the Zoological Museum, Amsterdam.

Length. 1.7 mm.

Measurements. Antennae 1230 μ . Head diagonal 490 μ . Thorax II 280 μ . Thorax III 130 μ . Abdomen III 180 μ . Abdomen IV 780 μ . Femur P₁ 310 μ . Tibiotarsus P₁ 340 μ . Unguis P₁ 54 μ . Unguiculus P₁ 32 μ . Tenent hair P₁ 43 μ . Femur P₃ 360 μ . Tibiotarsus P₃ 540 μ . Unguis P₃ 58 μ . Unguiculus P₃ 32 μ .

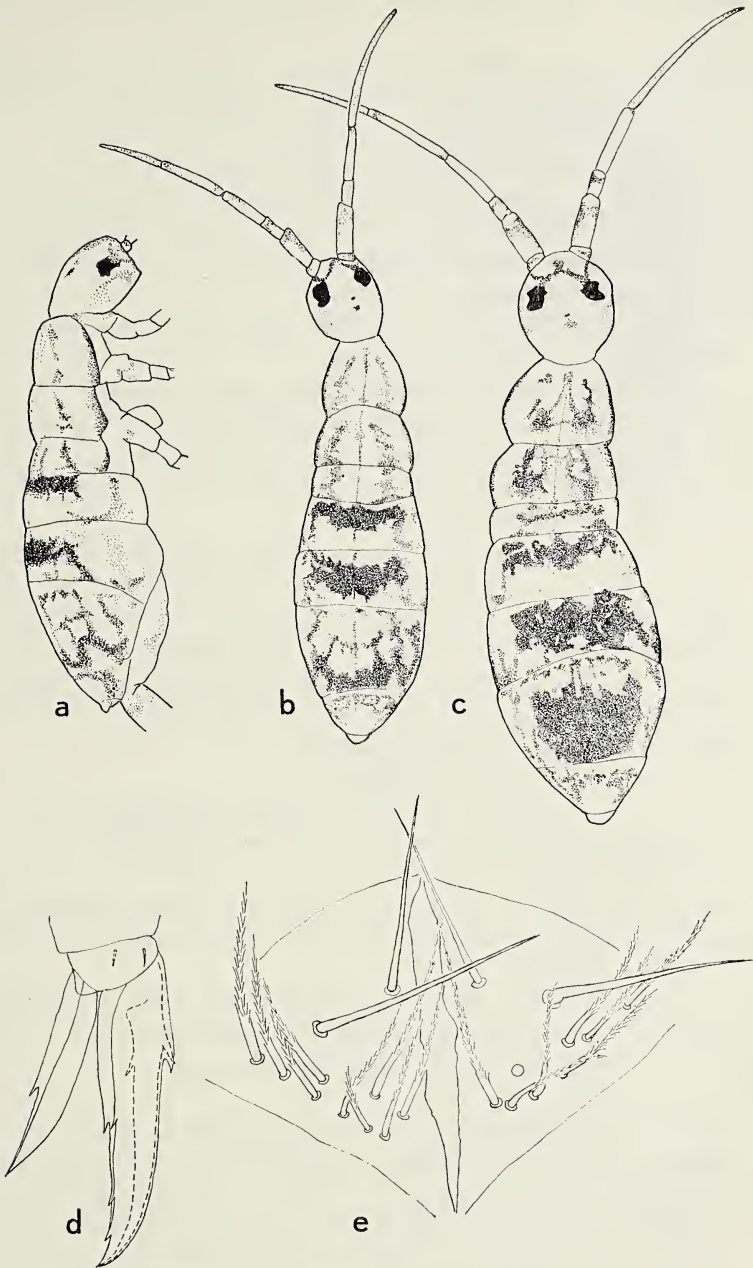


Fig. 1. *Orchesella balcanica* Stach: a: lateral aspect of body. b: dorsal aspect of body of another specimen. c: dorsal aspect of body of a heavily pigmented specimen. d: foot of Pa₃. e: labial chaetotaxy.

Tenent hair P_3 43 μ . Manubrium 490 μ . Dens 710 μ . Smooth part of dens 22 μ . Mucro 11 μ .

Place of proximal teeth (DD_1) and distal teeth (D_2 and D_3) on the internal lamella of the unguis in relation to its length (unguis = 100). $P_1 : DD_1 = 41$, $D_2 = 72$, $D_3 = 83$. $P_3 : DD_1 = 39$, $D_2 = 74$, $D_3 = 87$.

All measurements given above are from a dissected paratype.

Relative length of antennal segments (total length of antenna = 100) : ant. I : II : III : IV = 14.9 (12.9—16.9) : 23.9 (22.8—24.7) : 24.5 (22.8—26.5) : 36.7 (35.8—37.9). These last measurements are based on 7 specimens.

Antenna : thorax + abdomen = 45 : 63.

Habitus. Fig. 2a. Antennae moderately long, longer than half the body length. Mesothorax not strongly protruding.

Pigmentation. Fig. 2a. Brownish blue pigment dispersed all over the body, except for tibiotarsi, apical part of femora and distal half of dens, which are whitish. The body shows some small white spots, roundish or oval in shape. Pigmentation is especially heavy in the coxal region and on the hind margins of the body segments. Eye-patch black.

Chaetotaxy of body. Fig. 2b. Chaetotaxy composed of flexed setae; abd. II, III, IV with 2, 3, 3 pairs of lasiotriches. The lasiotriches on abd. II, III and the anterior one on abd. IV are surrounded at base by a circle of approximately 6 finely ciliated spinules. The two circles of the lateral lasiotriches on abd. III are fused and form an oval. In front of the median lasiothrix and the posterior one on abd. IV three and one spinules are found respectively. Th. III and abd. I, II, III, IV with a pair of pseudopore-like structures.

Retinaculum. As usual, quadridentate.

Ventral tube. Anterior face with a number of strong, ciliated setae; in lateral aspect there are some 15 small ciliated ones subapically.

Dorsal chaetotaxy of head. Fig. 2d.

Ventral chaetotaxy of head. Fig. 3a. In this drawing the implantations of the scales are also indicated. These show a rather nice symmetry.

Ocelli. 8 + 8. Fig. 2d.

Labial chaetotaxy. Fig. 3e. As usual in the family, the bases of the labial papillae bear 5 + 5 smooth setae. Furthermore there are 5 + 5 ciliated setae, and 4 + 4 long smooth ones. Labial papillae slender.

Labral papillae. Fig. 2e.

Antennae. Not subdivided; in the largest specimens ant. IV is faintly annulated. Antennae covered with ciliated setae, small on ant. IV, larger on ant. I, II, III; moreover small sensory hairs on ant. I, II, III and, especially, ant. IV; scales on ant. I, II and proximal half of ant. III. Apically on ant. IV a retractile papilla and a wart (fig. 3f). Ant. organ III consists of two sensillae, curved in the same direction (fig. 3g). Proximo-dorsally on ant. I three smooth spinelike setulae (fig. 3h).

Feet. In the largest specimens tibiotarsus P_3 is subdivided (relation proximal part : distal part = 44 : 16); tibiotarsus P_2 is also subdivided, but less distinctly. Scales are present on femora and tibiotarsi. All setae ciliated, except a smooth hair opposite to the tenent hair of P_3 . Some setae on tibiotarsi conspicuously strong.

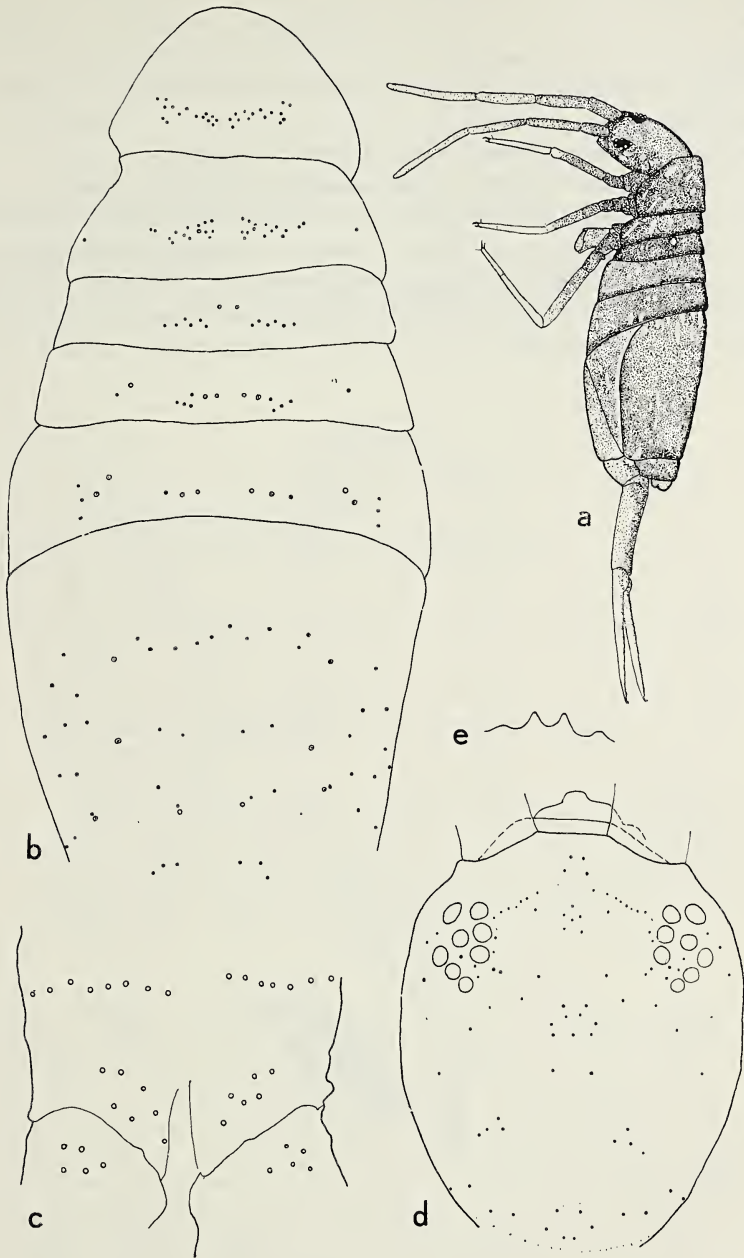


Fig. 2. *Seira pillichii graeca* n. ssp.: a: habitus. b: dorsal chaetotaxy of body (lasiotriches presented by a dot surrounded by a circle; pseudopore-like structures by a circle). c: dorsal chaetotaxy of manubrium—dens junction. d: dorsal chaetotaxy of head. e: labral papillae. (a after holotype, b-e paratypes).

Unguis slender, on the internal lamella a basal pair of teeth, and two distal teeth, all clearly visible. The lateral lamellae and the dorsal one each bear a distinct tooth.

Unguiculus of P_1 with three small teeth in the outer lamella (fig. 3c). The outer lamella of unguiculus of P_2 and P_3 seems to bear teeth also, but if present, they are very minute.

Clavate tenent hairs present, coarse, flattened, smooth.

Trochanteral organ. Approximately 20 fine erect hairs.

Furca. Anterior face of manubrium and dentes with scales; posterior face with slender ciliated hairs, no clubs or spines. Chaetotaxy of manubrium—dens junction as in fig. 2c. Mucro falciform, without a trace of a basal tooth (fig. 3b).

Scales. Ovaloid in shape, with a rounded apex and distinct striations, brownish (fig. 3d).

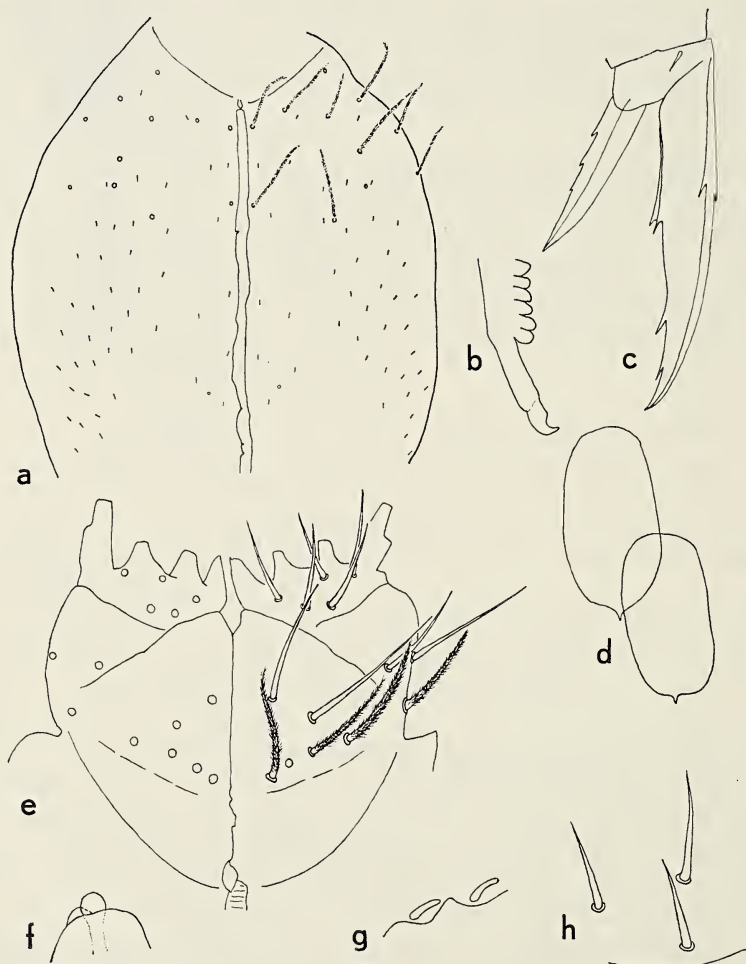


Fig. 3. *Seira pillichii graeca* n. ssp.: a: ventral chaetotaxy of head (implantations of scales indicated by short streaks). b: apex of dens. c: foot of P_1 . d: outline of scales. e: labial chaetotaxy. f: apex of ant. IV. g: ant. organ III. h: proximo-dorsal setulae on right ant. I. (a-h after paratypes).

Male genital tubercle. Not observed.

Intestine. Filled with pollen-grains.

Discussion. STACH described *S. pillichii* rather briefly and according to his description *pillichii* differs from my specimens by the relative length of its antennal segments: 10.6 : 20 : 27.2 : 42.4, by the absence of annulation of ant. IV and by its unpigmented femora. In my opinion these morphological differences, together with the geographical distance between the type-locality of *S. pillichii* (viz. Hungary, Kecskemét) and the western part of Greece justifies a separation of at least a subspecific nature.

GISIN & DA GAMA (1962) supposed strong, spiny setae on the tibiotarsi to be a secondary sexual character of the male. Unfortunately it was most difficult to determine the sex of my specimens. I am certain of only one specimen, which is a female.

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Polygonia c. album L. (Lep., Nymphalidae). In het zuidoosten van het land blijkt de vlinder gelukkig nog geen zeldzaamheid te zijn. De heer OTTENHEIJM schrijft me: „In midden-Limburg vrij gewoon. In september 1963 te Tegelen vijf stuks en één in oktober. In 1964 aldaar op 12 augustus een half volwassen rups en op 8 september een pas uitgekomen vlinder, die nog naast de lege pophuid zat. Te Steijl een exemplaar op 12.VII.

Te Lomm was *c. album* op 19 en 25 juli gewoon. Meer dan 10 vlinders vlogen om mij heen. Op hoog opgroeiende bramen vlogen ze af en aan. In augustus bloeiden er geen bramen meer en was er ook geen vlinder meer te zien. Rupsen waren er niet te vinden. Op dezelfde plaats vloog ook de zomergeneratie van *Araschnia levana* L. en is *Argynnis paphia* gevangen.

A. Cox vond de vlinder te Belfeld eveneens talrijk. Bij elkaar meer dan 40 exemplaren op verschillende data van beide generaties.”

Boven de grote rivieren is het de laatste jaren echter volkomen mis met de soort. Afgezien van de paar reeds vermelde vangsten in 1964 hoor ik uit dit gebied niets dan negatieve berichten.

Het spreekt wel haast vanzelf, dat de vlinder in 1965 ook in Limburg veel schaarser was. Ik ben benieuwd naar de ervaringen in 1966! — LPK.