

A new species of *Perittia* Stainton (Lepidoptera, Elachistidae) from Central Asia

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Abstract. *Perittia tectusella* sp. n. is described from Tajikistan (Central Asia). The external features, genitalia and wing venation of both sexes are described and figured in detail. The immature stages and life history outlined, drawings of egg and mines are given.

Samenvatting. Een nieuwe soort *Perittia* Stainton (Lepidoptera: Elachistidae) uit Centraal-Azië

Perittia tectusella sp. n. wordt beschreven uit Tadzjikistan (Centraal-Azië). De uiterlijke kenmerken, de genitalia en de vleugeladering van beide sexen worden in detail beschreven en afgebeeld. De primaire stadia en de biologie worden verklaard. Tekeningen van het ei en de bladmine worden afgebeeld.

Résumé. Une nouvelle espèce de *Perittia* Stainton (Lepidoptera: Elachistidae) d'Asie centrale

Perittia tectusella sp. n. est décrit du Tadjikistan (Asie centrale). La morphologie externe, les genitalia et la nervation des deux sexes sont décrits et figurés en détail. Les stades pré-imaginaux et la biologie sont discutés. L'œuf et les mines sont figurés.

Key words: Lepidoptera - Elachistidae - *Perittia tectusella* - new species - Central Asia - Tajikistan.

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Among several other Lepidoptera some *Lonicera* mining moths were collected during a few expeditions to Central Asia in 1990–1991. Provisionally, they were determined as *Perittia weberella* Whitebread, 1984, but a few morphological details caused some doubts about the correctness of such determination. A couple of this species was submitted to Mr. S. Whitebread to clear up this point. After the check with the type material of *P. weberella* he considered the specimens from Central Asia to be a different species. The terminology of external features and genitalia follows that of Traugott-Olsen & Nielsen (1977). The spelling of locality names follows the Times Atlas of the World (concise edition, 1994). The type material of this new species is deposited in the collection of Vilnius Pedagogical University (VPU).

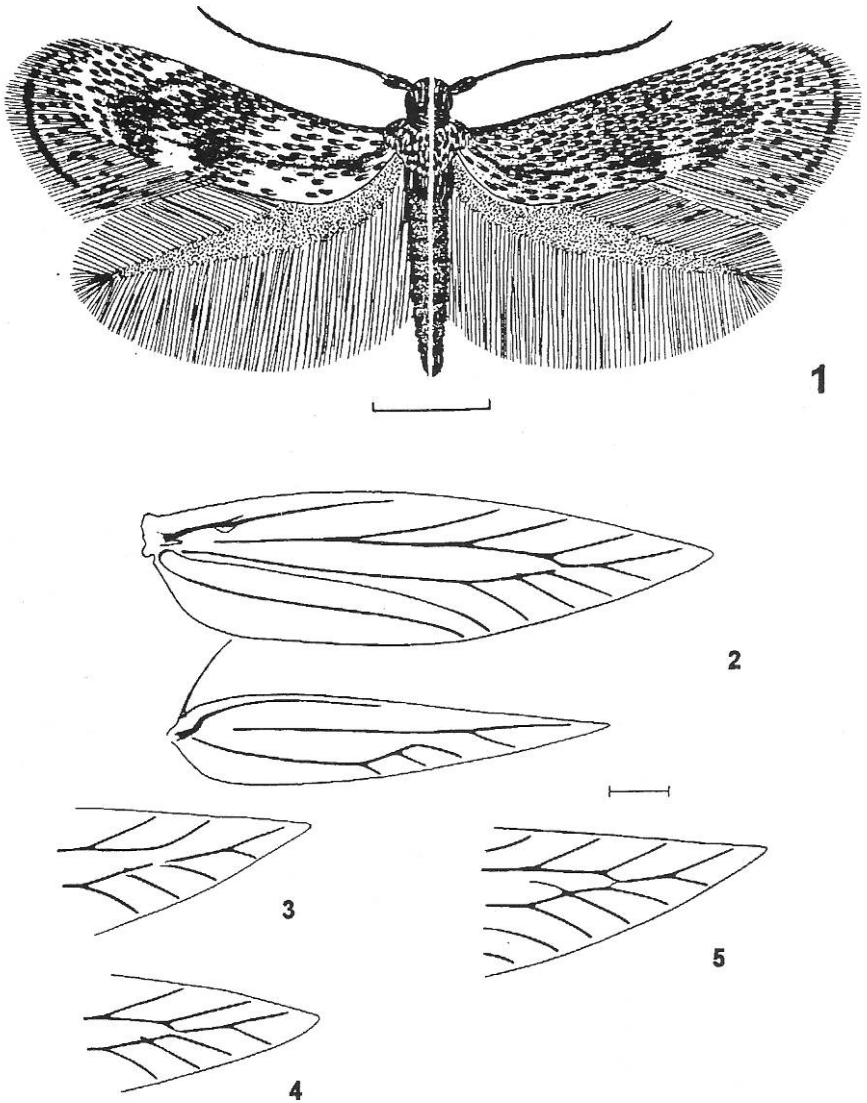
Description of *Perittia tectusella* sp. n.

Type material. Holotype: ♂, Tajikistan, 150 km NE Dushanbe, Dashti Gurk, 2000 m; larva on *Lonicera korolkowii* Stapf. 13.VII.1991, ex. p. 01.VIII.1991, N4234, leg. V. Sruoga (VPU). Paratypes: 8♂, 4♀, same data as holotype; 4♂, 10♀, same locality, larvae on *L. korolkowii*, 14.VII.1991, ex. p. 30.VII-03.VIII.1991, N4233; 2♀, Tajikistan, NW of Nurek, Zardolu, 06.VIII.1990; 1♂, 1♀, same locality, 01.VII.1991; 1♀, Tajikistan, Dushanbe, 16.VIII.1990; 3♂, 1♀, same locality, larvae on *Lonicera* sp. 16.VIII.1990, ex. p. 05.IX.1990, N4227, leg. V. Sruoga (VPU).

Description

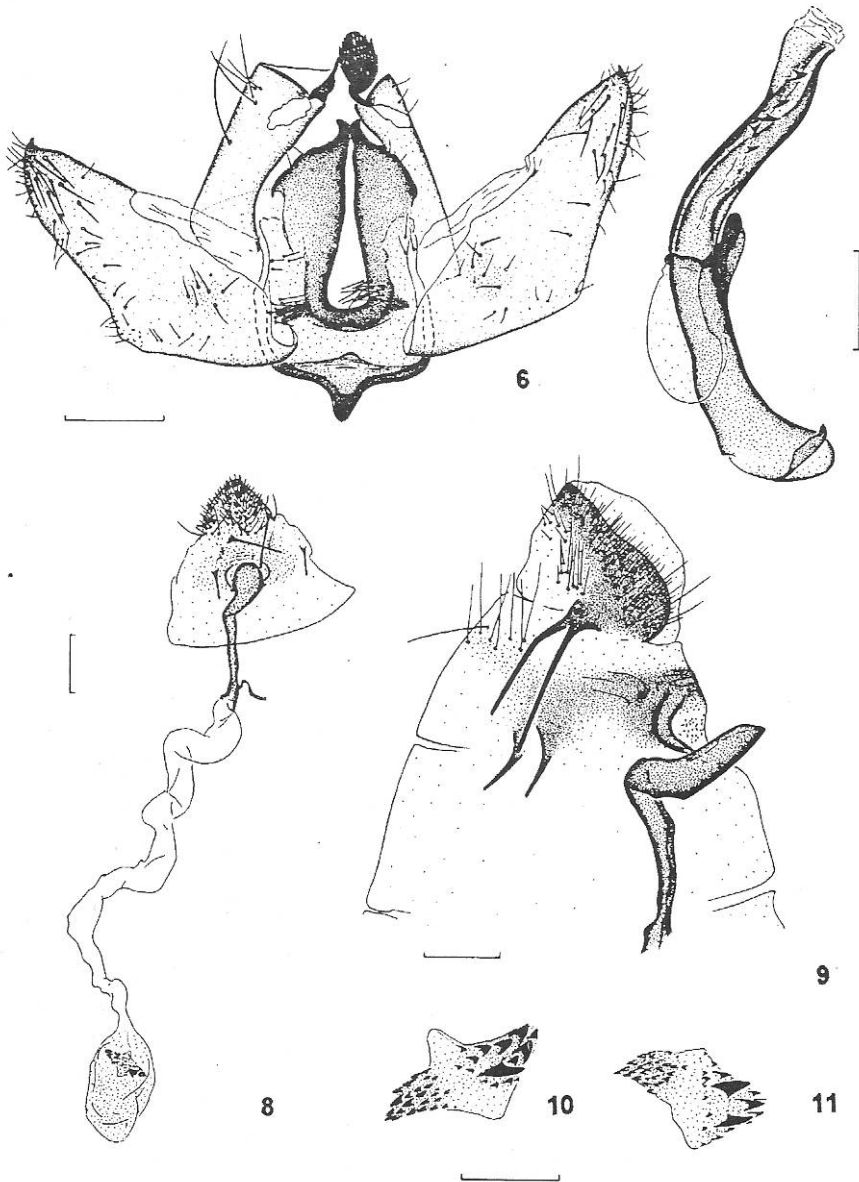
Male (fig. 1). Forewing length 2.7–3.5 mm; wingspan 6.1–7.7 mm. Head: frons and neck tufts whitish, slightly mottled by brownish grey tips of some scales; labial palpi short and almost straightly drooped, equal in length to the width of the head, white from the upperside and brownish grey from the underside, apices white; antennal scape brownish grey from the upperside, apical margin and underside white, pecten and flagellum brownish grey, annulation almost invisible. Thorax and tegulae brownish grey, slightly mottled by light basal parts of scales, posterior margins of tegulae white. Forewing dark greyish brown, finely mottled by whitish basal parts of scales. Two blurred whitish spots are near the dorsum: the first is larger, situated at approximately 1/3 from the base of wing, and reaching about the middle of the width of the wing; the second – just beyond the middle, smaller than the first, reaching the fold. Cilia line dark

grey-brown, cilia whitish from apex to the middle of termen beyond cilia line. Forewing often rather light in basal part because of dark scales easy losing. Hindwing light brownish grey, cilia similar. Abdomen dark brown, underside slightly lighter, each segment is ringed posteriorly by whitish scales with some metallic shine.



Figs. 1-5. *Perittia tectusella* sp. n.:

1 - Male (right) and female (left), scale 1 mm; 2 - Wing venation, male, Paratype, prep. no. VS 84; 3 - Apical part of the forewing, male, Holotype, prep. no. VS 52; 4 - Apical part of the forewing, male, Paratype, prep. no. VS 85; 5 - Apical part of the forewing, female, Paratype, prep. no. VS 142; scale 0.3 mm.



Figs. 6-11. *Perittia tecusella* sp. n.:

6 - Male genitalia, aedeagus removed, Holotype, prep. no. VS 139; 7 - Aedeagus of the Holotype; scale 0.1 mm; 8 - Female genitalia, Paratype, prep. no. VS 128, scale 0.2 mm; 9 - Female genitalia without bursa, lateral view, Paratype, prep. no. VS 9, scale 0.1 mm; 10 - Signum enlarged, prep. no. VS 128; 11 - Signum enlarged, prep. no. VS 143; scale 0.1 mm.

Female (fig. 1, left side). Similar to the male but slightly larger, spots on forewing more distinct and white, antennae distinctly annulated by blackish brown and whitish scales.

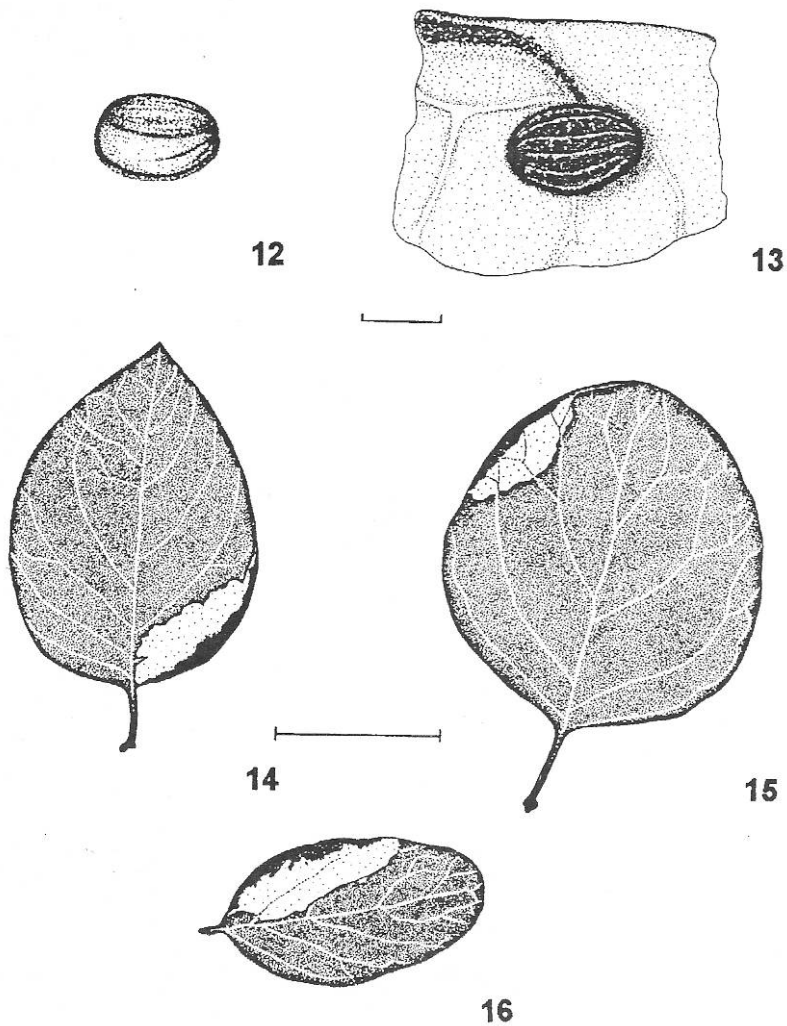
Venation (figs. 2-5). In forewing of male Sc is with a small spur from base of retinaculum. Distance from R_1 to R_2 slightly longer than from R_2 to R_3 . R_3 arise near the apex of the cell. R_4 and R_5 confluent, M_1 arise before the middle of R_4+5 . Base of M_2 is closer to apex than R_3 , M_3 absent. Distance from M_2 to CuA_1 slightly shorter than CuA_1 to CuA_2 . A short portion of medial vein present near the base of CuA_1 . Occasionally it is rather long (fig. 5). Cell often is open in the apical part. In hindwing $Sc+R_1$ almost reaching the middle of the wing. Discal vein from M_2 to CuA_1 sometimes very weak, nearly absent.

Male genitalia (figs. 6, 7). Uncus lobes not developed, socius with a few minute setae. Tegumen widened basally, gnathos oval, attached to tegumen by two strongly sclerotized bands. Vinculum is narrow, proximal margin strongly sclerotized, saccus short, triangular-shaped. Valva relatively short and broad, tapering after the middle to the small apical thorn. Costa almost straight, with small indentation near the middle, well sclerotized from indentation to apex only, otherwise weak. Sacculus strongly convex before the middle. A small bulge with a few long setae is situated on the inner surface of valva near the base. Juxta lobes are very large and strongly sclerotized, the widest beyond the middle, apices hook-shaped, the indentation between lobes is very deep and wide. Two small lateral processes are at the base of juxta. Anellus with two distinct tufts of long setae near the base of juxta. Aedeagus strongly sclerotized, longer than valva and strongly bent in the middle, medially with linguliform extension, basal part with two wide lobes. A row of about 6-9 cornuti in distal part.

Female genitalia (figs. 8-11). Papillae anales short, more sclerotized ventrally. Apophyses posteriores almost twice as long as apophyses anteriores. Ostium oval, lateral margins strongly sclerotized, with a small group of minute spines on dorsal wall. Antrum wide and sclerotized, weakly bent, posteriorly comes into a well-sclerotized longitudinal process over the ostium. This "shield" is quite distinct when viewed laterally (fig. 9). Anteriorly antrum slightly narrowed and turns at 180° before leading into colliculum. Colliculum long, with strongly sclerotized, almost parallel sides. Ductus bursae rather long and wide, membranous. Corpus bursae copulatrix with minute internal spines. Signum asymmetrical, triangularly widening in the middle, with a few large and some smaller thorns in one end and numerous but small in another end. Signum slightly varying, moreover it may look different due to a different position in the slide (figs. 10, 11).

Immature stages. Egg (figs. 12, 13) elongately oval, with 6 not very distinct longitudinal ribs. It is about 0.33 mm in length and 0.22 mm in width, laid on underside of a leaf of *Lonicera korolkowii* Stapf., always very close to the margin (fig. 13) in various parts of a leaf. The egg is transparent when cleaned from excrement. Larva with red spots on each segment. Emergenced larva starts mine a narrow gallery towards nearest margin of the leaf, when it is reached, turns along the margin. Later mine abruptly widens into a large blotch. Excrement in mine deposited near the lateral margin (figs. 14-16). Sometimes larva turns back beyond the narrow gallery and forming blotch, in that case blotch merges together with earlier track (fig. 16). Pupa light reddish brown in white cocoon, about 3 mm long.

Life history. In the type localities larvae were found in abundance from mid June to mid August. In glass dish larvae pupated in a white silken cocoon on the surface of leaves or rarely inside the mine. Pupation was not observed in nature. Adults emerged after about 17-20 days after larvae were collected, i. e. from late July to early September.



Figs. 12-16. *Perittia tectusella* sp. n.:

12 - Egg, cleaned from excrement; 13 - Egg on the leaf; scale 0.2 mm; 14-16. Leaf mines on *Lonicera korolkowii*, scale 10 mm.

Distribution. Known from the type localities only, mountain areas of Tajikistan and Dushanbe city.

Discussion. The new species, mostly similar to *P. weberella* Whitebread and *P. sibirica* Sinev, is difficult to recognise by external characters. In the male genitalia the new species differs from *P. weberella* by its strongly bent aedeagus with 6-9 cornuti,

whereas the aedeagus of *P. weberella* is almost straight and has 17 cornuti. The sacculus of *P. tectusella* sp. n. is convex, bent closer to the base of the valva; a prominent process on the inner surface of the valva near the base is absent, only a small bulge is present. It differs from *P. sibirica* mainly by the shape of the valva. In the female genitalia *P. tectusella* sp. n. obviously differs from all congeners by the peculiar posterior process of the ventral wall of the antrum, which is located over the ostium.

Veins R_3 and M_2 in the new species arise closer to the cell apex than in *P. weberella* and *P. sibirica*. Perhaps this character does not serve for identification because of some variability in wing venation.

There are also some differences in the biology of the three species concerned. The host plant of *P. tectusella* sp. n. is *L. korolkowii* which is distributed in Central Asia only. *P. weberella* feeds on *L. xylosteum* (Whitebread 1984) and *P. sibirica* on *L. tatarica* (Sinev 1992). Both these *Lonicera* species are not naturally present in Tajikistan. However, some mines of *P. tectusella* sp. n. were collected on another, undetermined species of *Lonicera* in Dushanbe city. Possibly *L. xylosteum* or *L. tatarica* are among the about 60 introduced *Lonicera* species in Tajikistan, though they are not listed as such among the main 9 introduced *Lonicera* species in the flora of Tajikistan (Kinzikaev 1988). According to Whitebread (1984) the larva of *P. weberella* starts to mine well away from the margin of the leaf, occasionally against the midrib. The new species always starts to mine very close to a leaf margin. The species mentioned above have an allopatric distribution as well: *P. weberella* occurs in Switzerland, *P. sibirica* in Russian Siberia (Irkutsk) and *P. tectusella* in Tajikistan.

Note. The records of *Perittia weberella* in Puplesiene, 1993a, b; 1994; Lukhtanov & Puplesiene, 1996 are based on misidentifications of *P. tectusella* sp. n.

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