

# A review of the genus *Metanarsia* Staudinger, 1871 (Gelechiidae)

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**Abstract.** All known species of the Palaearctic genus *Metanarsia* Staudinger, 1871 are reviewed. Ten species are recognized, of which two are described as new: *M. piskunovi* sp. n. and *M. dahurica* sp. n. Four synonymies are established: *Parametanarsia* Gerasimov, 1930 syn. n. and *Epiparasia* Rebel, 1914 syn. rev. are synonymised with *Metanarsia* Staudinger, 1871; *Metanarsia gobica* Lvovsky & Piskunov, 1989 syn. n. with *M. alpithodes* (Meyrick, 1891), and *Epidola halmyrops* Meyrick, 1926 syn. n. with *M. incertella* (Herrich-Schäffer, 1861). Descriptions and a key to all species are supplied with illustrations of the adults, male and female genitalia (when known), and their relationships within the genus are briefly discussed. An improved diagnosis of the genus is given and its relationships with allied gelechiid genera are discussed.

**K e y w o r d s .** Lepidoptera, Gelechiidae, *Metanarsia*, taxonomic review, Palaearctic region.

## Introduction

The genus *Metanarsia* comprises ten species which all occur in the Palaearctic region. The most valuable contributions to the systematics of this genus were made by Piskunov and co-authors (Emelyanov & Piskunov 1982; Piskunov 1988, 1990; Lvovsky & Piskunov 1989). These authors refined the definition of the genus, reviewed all species, illustrated their male genitalia, and described new taxa. More recently, the identity of *Metanarsia* and *Epiparasia* Rebel, 1914 was discussed, further new species were described, and new generic- and species-group name synonymies proposed (Huemer et al. 1996; Ponomarenko 2000).

Notwithstanding a relatively large number of publications, our knowledge of *Metanarsia* is in many respects far from complete. For example, the larval host-plant relationships are unknown. Also, the females of many species remain undescribed, which leads to problems in establishing a clear generic diagnosis and in the generic assignment of some species.

In the course of my studies, two undescribed species and two hitherto unknown females were discovered as well as a first host-plant record for *Metanarsia*. These new data encouraged me to carry out a review of the genus with the aim to describe the new taxa and to provide detailed descriptions and a key for all species, accompanied by illustrations of the adults and genitalia of both sexes (when known). This review is also intended to provide an improved diagnosis of the genus *Metanarsia* based on morphological characters of the adults.

## Abbreviations

- BMNH The Natural History Museum, London, U. K.  
DEI Deutsches Entomologisches Institut, Müncheberg, Germany  
MHNG Muséum d'histoire naturelle, Geneva, Switzerland  
MTD Museum für Tierkunde, Dresden, Germany

SIZK	Schmalhausen Institute of Zoology, Ukrainian Academy of Sciences, Kiev, Ukraine
TLMF	Tiroler Landesmuseum Ferdinandeum, Innsbruck, Austria
ZIN	Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia
ZMHB	Zoologisches Museum der Humboldt-Universität, Berlin, Germany
ZMKU	Zoological Museum, Kiev National Taras Shevchenko University, Kiev, Ukraine
ZMUC	Zoological Museum, University of Copenhagen, Denmark
ZMUH	Zoological Museum, University of Helsinki, Finland

## ***Metanarsia* Staudinger, 1871**

*Metanarsia* Staudinger, 1871: 314. Type-species: *Metanarsia modesta* Staudinger, 1871: 314, by monotypy.

*Calyptritis* Meyrick, 1891: 56. Type-species: *Calyptritis alphitodes* Meyrick, 1891: 56, by monotypy. Synonymized by Ponomarenko 2000: 222.

*Epiparasia* Rebel, 1914: 276. Type-species: *Epiparasia longivittella* Rebel, 1914: 276, pl. 4 fig. 12, by monotypy. **Syn. rev.** Piskunov 1990: 95 (syn.). Huemer et al. 1996: 341 (gen.).

*Parametanarsia* Gerasimov, 1930: 33 (as subgenus of *Metanarsia*). Type-species: *Metanarsia (Parametanarsia) junctivittella* Christoph, 1885: 161, pl. 8 fig. 11, by original designation and monotypy. **Syn. n.**

**Diagnosis.** Adults small to medium sized with forewing length of 5.0–13.0 mm.

Head smooth-scaled. Labial palpus variable in shape: segments 2 and 3 usually straight, but recurved in *M. incertella* (Herrich-Schäffer, 1861) and *M. alphitodes* (Meyrick, 1891); segment 2 broad, densely covered with long scales usually exceeding length and width of segment 3; segment 3 normally very short, covered partially or almost entirely with long scales of segment 2. Scape with pecten of numerous long hair-like scales or with dense brush of short scales (*M. partilella* (Christoph, 1887)), other antennal segments simple. Haustellum reduced or very short, covered by labial palpus, but sometimes well developed (*M. alphitodes*, *M. piskunovi* sp. n.).

**Thorax.** Forewing usually relatively broad or elongated (*M. junctivittella*), sometimes slightly concave before apex (*M. partilella*), but mostly gradually tapered towards apex; unicolorous greyish-cream, reddish-brown, yellow, etc., or with more or less developed fasciae or longitudinal patches and spots; fringe very long; venation (Fig. 1) with Sc to about middle of costa;  $R_1$  from one-third of cell,  $R_2$  from three-quarters of cell,  $R_3$  and  $R_4$  from corner of cell,  $R_4$  and  $R_5$  on common stalk or  $R_4$  reduced whereas  $R_3$  and  $R_5$  arise from corner of cell (*M. junctivittella*),  $R_5$  to costa before apex; cell narrow; CuP absent; 1A+2A forked at base. Hindwing grey, normally with distinctly excavated termen; venation with  $R_1$  anastomosed with  $M_1$  near base,  $Rs$  and  $M_1$  with long common stalk,  $R_5$  to costa near apex,  $M_1$ – $M_3$  to termen,  $M_3$  free, not connate  $CuA_1$ , 1A–2A indistinct. Frenulum of male simple, retinaculum a membranous hook under Sc near base. Frenulum of female consisting mainly of two acanthae which may be fused (*M. dahurica* sp. n., *M. junctivittella*), divided only at base (*M. modesta*), or completely separated (*M. alphitodes*, *M. piskunovi* sp. n.); frenulum of *M. incertella* with three fused acanthae, and that of *M. partilella* consisting of four to five acanthae slightly divided at base. Retinaculum a row of raised scales at base of Sc and along R. Foretibia with epiphysis, midtibia with two spurs, and hindtibia with four spurs.

**A b d o m e n .** Sternite VIII normally weakly sclerotized, usually as long as wide or longer than wide (Fig. 28), but in *M. partilella* more than three times wider than long. Female segment VII about twice length of other abdominal segments, weakly narrowed posteriorly. Sternite II of both sexes with pair of venulae with distinct apodemes (Fig. 29).

**Male genitalia.** Uncus broad, lateral margins usually densely covered with hair-like setae, apex sometimes with deep medial depression. Gnathos weakly sclerotized, membranous, flattened dorsoventrally, usually long and slender, often spoon-like distally, weakly curved; sometimes broad, sucker-like (*M. partilella*), or reduced and indistinct (*M. alphitodes*). Tegumen broad and short, trapezoid. Valva divided at base into cucullus and sacculus. Cucullus slender, slightly longer or as long as uncus, finger-like, often narrowed at base, apex weakly broadened and rounded, densely covered with short setae. Sacculus normally broad, distinctly shorter than cucullus, with one lateral and three or four apical teeth, sometimes covered with short dense setae (*M. alphitodes*) or simple, slender, without modifications (*M. partilella*); inner margin of sacculus with emargination near base. Valvae connected at base by well developed broad medial processes. Vinculum narrow, band-like, posterior margin with paired sub-oval lobes or with narrow triangular processes with delicate membranous connection to apex of aedeagus. Saccus short, broadly rounded, triangular or sub-rectangular (*M. partilella*). Aedeagus normally short, about as long as sacculus, usually bifurcated at base, apex rounded with one or two (*M. junctivittella*) small teeth on one side whereas opposite side is membranous; aedeagus of *M. partilella* very long, not bifurcated basally.

**Female genitalia.** Papillae anales broad, apically narrowed, sub-triangular, sparsely covered with short setae, except those of *M. partilella* densely covered with very long, hair-like setae. Apophyses posteriores relatively short, slightly curved; apophyses anteriores about three-quarters length of apophyses posteriores, shorter than segment VIII. Segment VIII mainly membranous, sclerotized only laterally and anteriorly, its anterior margin narrow, band-shaped. Ostium bursae on ventral membranous surface of sternite VIII. Ductus bursae short, membranous, evenly broadened towards corpus bursae. Corpus bursae very long, semioval, indistinctly separated from ductus bursae. Ductus and corpus bursae of *M. partilella* extremely short. Signum absent.

**Relationships.** *Metanarsia* is considered a member of Gelechiinae on the basis of the presence of a pair of venulae, terminating in distinct apodemes on abdominal sternum II. Within Gelechiinae *Metanarsia* resembles *Chrysoesthia* Hübner, 1825 in the male genitalia (shape of aedeagus, shape of valva, membranous gnathos), and *Chrysoesthia* and *Coloptilia* Fletcher, 1940 in the female genitalia (segment VIII sclerotized anterolaterally, papilla anales sub-triangular). *Metanarsia* differs reliably from the above genera in the absence of a signum on the bursae in the female genitalia. These three genera are traditionally considered members of Apatetrini–Anomologini (Karsholt & Riedl 1996: 104), although the classification of these two tribes needs special revision.

*Metanarsia* is a diverse gelechiid genus for which the external and genital characters vary extensively. The monophyly of *Metanarsia* is not very clear and was previously established by such presumed autapomorphies as a very short ductus bursae in combination with an extremely long corpus bursae without signum. Other diagnostic

characters of *Metanarsia* are present in related genera also (see above). The most isolated position within the genus is occupied by *M. partilella* which is characterized by a dense brush of short scales on the scape, a sucker-like gnathos, hairy papillae anales, and an extremely short ductus and corpus bursae in the female genitalia. The male genitalia of this species are characterized by a unique valva which is not entirely divided into a cucullus and sacculus, as well as by a long and basally simple (not bifurcated) aedeagus. *M. incertella* is another species for which the assignment to *Metanarsia* is disputable. Piskunov (1990: 95) synonymized *Epiparasia* with *Metanarsia*, but his opinion was not accepted by subsequent authors (Huemer et al. 1996: 341), who considered *Epiparasia* as a separate genus on the basis of the strongly recurved labial palpus and the clearly separated ductus bursae in the female genitalia. Ponomarenko (2000: 222) followed Piskunov's view and treated *Epiparasia* as a junior synonym of *Metanarsia* mentioning that the shape of the labial palpus is quite variable within the genus. Gerasimov (1930: 33) established the new subgenus *Parametanarsia* for *M. junctivittella* on the basis of the female frenulum which is represented by fused acanthae, in contrast to those of *M. modesta* which are basally separated. It was also mentioned that *Parametanarsia* is characterized by the elongated forewing and its special venation ( $R_3$  and  $R_5$  from end of cell,  $R_4$  reduced). As follows from a review of the external and genital characters of *Metanarsia* the female frenulum, wing venation, and shape of labial palpus are quite variable within the genus and probably reflect individual adaptations of species. So using such characters for establishing new taxa seems to me quite dubious and I treat *Parametanarsia* syn. n. and *Epiparasia* syn. rev. as junior subjective synonyms of *Metanarsia* Staudinger, 1871. All other *Metanarsia* species are homogeneous both in exterior and in genital characters, except for *M. alphitodes*, which is characterized by its setose apex of the sacculus.

In general the establishment of new taxa of the genus group within such a small genus as *Metanarsia* for some species (*M. incertella* or *M. partilella*) which differ only in some characters seems to be inappropriate at least at the present stage, while a global revision of Apatetini–Anomologini is still in need. For preliminary definitions of relationships within the genus the most sensible solution seems to call for the grouping of the species in the following species groups:

### ***Metanarsia modesta*-group**

*modesta* Staudinger, 1871

*modesta kurdistanella* Amsel, 1959

*onzella* Christoph, 1887

*kosakewitshi* Piskunov, 1990

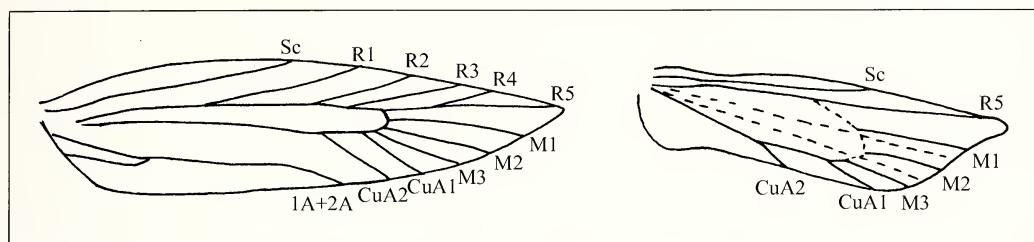
*dahurica* sp. n.

*scythiella* Ponomarenko, 2000

*piskunovi* sp. n.

### ***Metanarsia junctivittella*-group**

*junctivittella* Christoph, 1885



**Fig. 1.** *Metanarsia modesta*, ♂, wing venation.

### *Metanarsia alphitodes*-group

*alphitodes* (Meyrick, 1891)

*gobica* Lvovsky & Piskunov, 1989, **syn. n.**

### *Metanarsia incertella*-group

*incertella* (Herrich-Schäffer, 1861)

*longivitella* Rebel, 1914

*halmyropis* Meyrick, 1926, **syn. n.**

### *Metanarsia partilella*-group

*partilella* (Christoph, 1887)

**Life history.** *Nitraria* sp. (Nitrariaceae) was recorded as a host plant for *M. alphitodes*, but the host plant relationships of other species of *Metanarsia* remain unknown. Adults fly from April to September and most species are probably univoltine. Many species are nocturnal and easily attracted to light.

**Distribution.** The majority of the species inhabit steppes, deserts, and semideserts of the Palaearctic region. The largest number of species occurs in the arid regions of Central Asia. Most of the species are considered localised (*M. scythiella*, *M. kosakewitshi*, *M. piskunovi* sp. n.), whereas such species as *M. modesta*, *M. alphitodes*, and *M. incertella* are widely distributed.

### Key to the species of *Metanarsia* based on external characters

1. Labial palpus recurved, segment 2 slender ..... 2
- Labial palpus straight, segment 2 broad ..... 3
2. Labial palpus long, strongly curved; forewing uniformly yellowish-cream or with brown longitudinal lines; haustellum reduced; forewing length 8.0–13.0 mm ..... *M. incertella*
- Labial palpus slightly recurved; forewing with brown transversal fascia; haustellum well developed; forewing length 5.0–7.0 mm ..... *M. alphitodes*
3. Labial palpus very long, straight, segment 2 covered with very long setae; forewing dark yellow with brown longitudinal line or uniformly yellowish-cream ..... *M. junctivittella*
- Labial palpus short, segment 2 covered with relatively short setae ..... 4
4. Forewing primarily yellow, without lines ..... 5
- Forewing cream, grey, or reddish-brown ..... 6

5. Forewing bright yellow, with reddish-pink costal margin, without spots; haustellum reduced; forewing length 11.5 mm ..... *M. scythiella*  
 – Forewing uniformly yellowish-cream, pale, with two small brown spot in middle and at two-thirds length; haustellum well developed; forewing length 10.0–11.0 mm ..... *M. piskunovi* sp. n.  
 6. Forewing reddish-brown ..... 7  
 – Forewing grey or cream ..... 8  
 7. Forewing uniformly reddish-brown ..... *M. kosakewitschi*  
 – Forewing reddish-brown, more contrasting, with distinct brown oblique transversal fascia from one-third of posterior margin to half width ..... *M. dahurica* sp. n.  
 8. Forewing primarily grey without yellow patches ..... 9  
 – Forewing cream with yellow patches and diffuse yellowish-brown spots ..... *M. onzella*  
 9. Forewing whitish-grey, without white fasciae; forewing length 6.0–10.0 mm; scape with pecten ..... *M. modesta*  
 – Forewing grey with distinct white fasciae; forewing length 10.0–11.0 mm; scape with dense brush of short scales ..... *M. partilella*

### Key to the species of *Metanarsia* based on male genitalia

1. Sacculus without apical teeth ..... 2  
 – Sacculus with apical teeth ..... 3  
 2. Sacculus apically densely covered with short setae ..... *M. alphitodes*  
 – Sacculus without apical setae; aedeagus very long, gnathos sucker-like ..... *M. partilella*  
 3. Aedeagus with one teeth before apex, shorter than cucullus ..... 4  
 – Aedeagus with two teeth before apex, about as long or slightly longer than cucullus ..... *M. junctivittella*  
 4. Saccus relatively long; uncus with small apical depression; gnathos long and slender ..... 5  
 – Saccus very short, broadly rounded; uncus with deep apical depression; gnathos short, triangular ..... *M. incertella*  
 5. Vinculum lobes long and narrow ..... *M. onzella*  
 – Vinculum lobes short and broad, rounded apically ..... 6  
 6. Aedeagus longer than sacculus, distal part about as wide as basal part ..... 7  
 – Aedeagus about length of sacculus, basal part twice width of distal part ..... 8  
 7. Sacculus with deep depression at outer margin, apical teeth large ..... *M. kosakewitschi*  
 – Sacculus without deep depression at outer margin, apical teeth small ..... *M. dahurica* sp. n.  
 8. Saccus short; cucullus distinctly narrowed at base ..... 9  
 – Saccus long; cucullus not narrowed at base ..... *M. modesta*  
 9. Cucullus very short and broad; sacculus with two large apical teeth ..... *M. piskunovi* sp. n.  
 – Cucullus longer, slender; sacculus with four small apical teeth ..... *M. scythiella*

A key to the female genitalia is not provided because females are only known in seven out of ten species.



**Figs. 2–9.** Adults of *Metanarsia*. **2.** *M. modesta* ♂, Turkmenistan, wingspan 18 mm. **3.** *M. onzella* ♂, Turkmenistan, wingspan 16 mm. **4.** *M. kosakewitshi* ♂, holotype, Kazakhstan, wingspan 23 mm. **5.** *M. dahurica* sp. n., holotype ♂, Russia: Chitinskaja obl., wingspan 21 mm. **6.** *M. scythiella* ♂, paratype, Russia: Tuva, wingspan 25.5 mm. **7.** *M. piskunovi* sp. n., holotype ♀, Mongolia, wingspan 24.5 mm. **8.** *M. junctivittella* ♂, Turkmenistan, wingspan 16 mm. **9.** *M. junctivittella* ♂, Uzbekistan, wingspan 17 mm.

## Species review

### The *Metanarsia modesta*-group

Labial palpus relatively short, segment 2 much longer and broader than segment 3; aedeagus not exceeding length of cucullus; sacculus with apical teeth; gnathos long, slender.

### *Metanarsia modesta* Staudinger, 1871

Figs. 2, 18, 30, 48

*Metanarsia modesta* Staudinger, 1871: 315. – Christoph 1885: 161, pl. 8 fig. 10.

*Metanarsia (M.) modesta kurdistanella* Amsel, 1959: 66, pl. 10 fig. 12, pl. 7 fig. 5 – Piskunov 1990: 96.

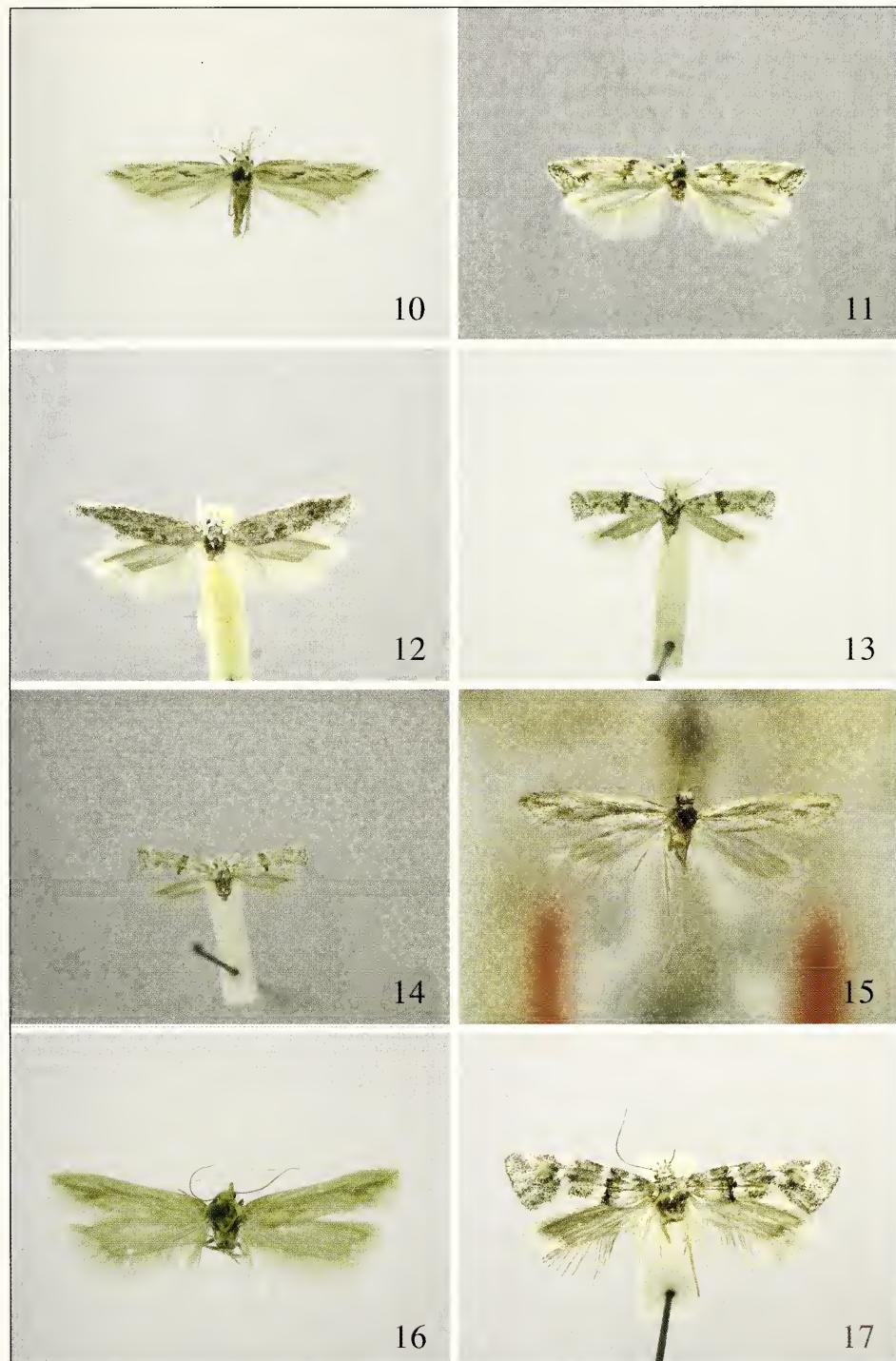
**M a t e r i a l.** Lectotype ♂ (designated here) with labels: handwritten “Sarepta Ch.” (black ink on green paper), printed “LECTOTYPE” (round, blue-edged BMNH label), printed “Origin.” (on pink paper), printed “Lectotype ♂, *Metanarsia modesta*, Stgr., teste K. Sattler, 1986”, printed “ex coll. STAUIDINGER” (on white paper) (ZMHB). – **Ukraine:** 6♂, 2♀, zap-k Kamennye Mogily, 30.vi–5.vii.1999, Bidzilya leg. (gen. prep. 46/03, 47/03); 2♂, zap-k Khomotovskaja step’, 15, 19.v.1996, Bidzilya leg.; 2♂, Prov. Kherson, Vessolajola Bokovenjka (prope stat. Dolinskaja), 15.vi.1930, lum., Obraztsov leg.; 2♂, Khersonskaja obl., Askania Nova, step’, 19.vii.1981, Nesterov leg. (gen. prep. 7/03); 3♂, Nikolaev, 13.vi, 7.vii.1934, Obraztsov leg.; ♂, okr. Zaporozhija, Rybkhoz, 27.vi.1991, svet, Zhakov leg.; 2♂, Krim, Karadag, 23.vii.1924, light, Djakonov leg. (all ZMKU). **Russia:** 2♂, Rostov a/Don, 1, 2.vii.1929, Shtshegolev leg., coll. L. Sheljuzhko; 5♂, Saratoff, 29.vi.1896, coll. Krulikovsky; ♂, Casan, vi.[19]04, coll. Krulikovsky (all ZMKU). **Armenia:** 3♂, mts. Daralagez (Armenia), pag. Azizbekov (Pashalu), ca. 1650 m alt., (lum.), 19, 25.vii.1938, L. Sheljuzhko et N. Pavlitzkaja leg. Mus. Zool. Univers. Kijev (ZMKU). **Kazakhstan:** ♂, Uigursky r-n, 15 km NW Tchundzha, k.[ordon] Jasenevaja roshcha, na svet, 21.v.1991, Ustjuzhanin leg. (ZMKU). **Turkmenistan:** ♂, Aidere, 850 m, W Kopetdag, 1.vi.1986, Falkovitsh leg. (ZIN).

**Redescription.** Length of forewing 6.0–10.0 mm. Head, thorax, and tegulae with light grey, brown-tipped scales. Segment 2 of labial palpus very broad, densely covered with grey, brown-tipped scales, with dorsal surface and apex cream; segment 3 about one-fifth length of segment 2, almost entirely covered with scales of segment 2, at angle of about 120 degrees from segment 2. Scape dark brown with dense pecten of long hair-like scales, other antennal segments brown with white rings. Forewing light grey mottled with brown scales, with two-four indistinct spots along longitudinal axis of wing. Hindwing light grey.

**Male genitalia.** Uncus broad, with distinct apical depression. Cucullus finger-like, expanded apically, apex rounded, covered with short setae. Sacculus broad, with three or four small apical teeth and with deep emargination at inner margin, about half length of cucullus. Vinculum lobes broad, rounded. Saccus long, pointed apically. Aedeagus short, about length of sacculus, basal part bifurcated, strongly sclerotized, about twice width of distal part.

**Female genitalia.** Papillae anales sparsely covered with long setae. Apophyses posteriores about twice length of apophyses anteriores. Sternite VIII laterally broadly sclerotized, anterior margin narrow. Ductus bursae short. Corpus bursae long, evenly expanded proximally.

**Variation.** The forewing colour varies extensively from cream to grey brown and dark spots may merge to form short dashes; the male genitalia vary in the number of apical teeth of the sacculus and in the shape of the cucullus; there is some slight variation in the degree of sclerotization of sternite VIII in the female genitalia.



Figs. 10–17. Adults of *Metanarsia*: 10. *M. junctivittella* ♂, Uzbekistan, wingspan 19 mm. 11. *M. alphitodes* ♂ Algeria, wingspan 15 mm. 12. *M. alphitodes* ♂, Turkmenistan, wingspan 14 mm. 13. *M. alphitodes* ♀, Uzbekistan, wingspan 12 mm. 14. *M. alphitodes* ♂, Mongolia, wingspan 11.5 mm. 15. *Epidola halmyropis* ♂, holotype, W Kazakhstan (Indersky), wingspan 12 mm. 16. *M. incertella* ♂, Mongolia, wingspan 23 mm. 17. *M. partilella* ♂, Turkmenistan, wingspan 22 mm.

**Remarks.** *M. modesta* is easily recognizable externally by the cream forewing without prominent fasciae. The male genitalia resemble those of *M. dahurica* sp. n. but differ reliably in the shorter aedeagus, pointed saccus, and the shape of the sacculus; they differ from those of *M. schyiella* in the sacculus not being narrowed at base and the longer saccus. The female genitalia resemble those of *M. piskunovi* sp. n. and *M. alphitodes* but differ in the shape and the smaller size of the ductus and corpus bursae. Subspecies *M. m. kurdistanella* differs in the lighter fringe of the forewing as well as longer and narrower cucullus in the male genitalia. This subspecies should probably be considered a junior subjective synonym of *M. modesta*, but to clearly establish this presumed synonymy the type specimens of *M. m. kurdistanella* would have to be checked.

**Life history.** Adults fly from early May to late July; there is also a record ( $\sigma$ , 50 km NE Erzerum, 1600 m, 17.ix.1993, leg. Fibiger, ZMUC; Karsholt, pers. comm.) in September. Moths inhabit steppes up to about 1650 m in mountains (Turkey, Armenia).

**Distribution.** Ukraine; Armenia; Turkmenistan; Russia: South and East of European part; SE Kazakhstan. This species was also recorded from South Italy (Karsholt & Huemer 1995: 2), Romania, North Kazakhstan, South of Krasnojarskiy kray of Russia (Caradja 1920: 116), Uzbekistan (Gerasimov 1930: 33), Turkey, NE Iran (O. Karsholt, pers. comm.), Iraq (Amsel 1959: 66). A record from Mongolia (Emeljanov & Piskunov, 1982: 389, figs. 45, 46) must be referred to *M. piskunovi* sp. n.

### *Metanarsia onzella* Christoph, 1887

Figs. 3, 19, 31

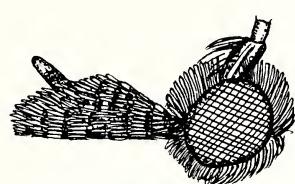
*Metanarsia onzella* Christoph, 1887b: 120, pl. 5 fig. 13 [adult].

*Metanarsia (Metanarsia) onzella* Christoph, 1887 – Piskunov 1988: 365, figs. 10–12 [male genitalia].

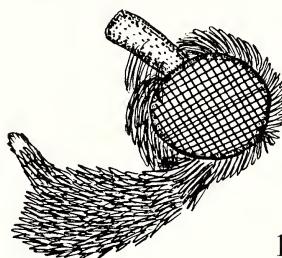
**Material.** Holotype  $\sigma$  (by monotypy) with labels: handwritten “Nuchur,  $\sigma$  (recto) 11.6.[18]82 Chr. 305 Onzella Orig. (verso)”, green paper circle, printed “39” (on white paper), printed “Coll. Vel.[ikogo] Kn.[jazja] Nikolaja Mikhailovicha” (on white paper in Cyrillic characters), printed “Holotype  $\sigma$ , *Metanarsia onzella* Christoph, teste K. Sattler, 1978” (on white paper), handwritten (Piskunov) “ $\sigma$ , *Metanarsia onzella* Christoph, 1887, Piskunov det., 1981” (on white paper), handwritten (Piskunov) “Holotypus” (on red paper) (ZIN). **Kazakhstan:** 3 $\sigma$ , YuV Kazakhstan, dolina reki Tcharyn, 15 km Z Tchundzha, Jasenevaja roshcha, 24.vi.1990, light, I. Kostjuk leg. (gen. prep. 29/03) (ZMKU). **Uzbekistan:**  $\sigma$ , Ajakguzhumdy, 40 km O Dzhingil’dy, Kyzylkum, 4.vi.1969, M. Falkovitsh (ZIN). **Turkmenistan:** 3 $\sigma$ , Aidere, 850 m, W Kopetdag, 1, 2, 4.vi.1986, M. Falkovitsh (ZIN).

**Redescription.** Length of forewing 7.5–8.0 mm. Head, thorax, and tegulae covered with yellowish-grey, brown-tipped scales. Segment 2 of labial palpus straight, broad, expanded towards apex, densely covered with long brown scales, apex cream, about four times length of segment 3; segment 3 short, brown, with white apex, at angle of about 120 degrees from segment 3. Scape yellowish-brown with pecten of numerous long hair-like scales, other antennal segments brown with white rings. Forewing costal, posterior, and subapical areas with yellow patches, middle near posterior margin with diffuse yellowish-brown spot, outer margin dark grey. Hindwing grey.

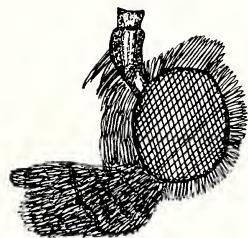
**Male genitalia.** Uncus long and slender, with small apical depression. Cucullus relatively broad, finger-like, apex covered with short setae. Sacculus about two-thirds length of cucullus, with one lateral and three large apical teeth. Vinculum lobes long



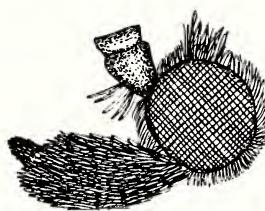
18



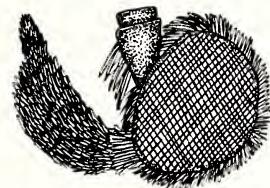
19



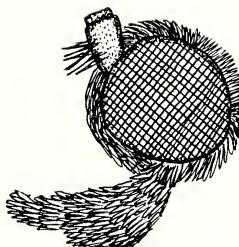
20



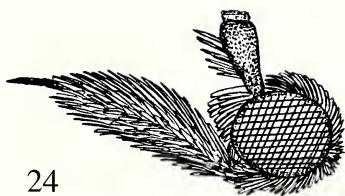
21



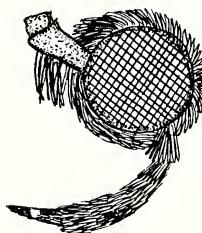
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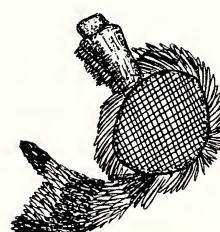
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27

Figs. 18–27. Labial palpi of *Metanarsia* spp.: 18. *M. modesta*. 19. *M. onzella*. 20. *M. kosakewitshi*. 21. *M. dahurica* sp. n. 22. *M. scythiella*. 23. *M. piskunovi* sp. n. 24. *M. junctivittella*. 25. *M. alphitodes*. 26. *M. incertella*. 27. *M. partilella*.

and narrow. Saccus triangular. Aedeagus about as long as sacculus, basal part bifurcated and strongly sclerotized, apex with distinct teeth.

**F e m a l e .** Unknown.

**V a r i a t i o n .** There is variation in the expression of yellow patches of the forewing and in the shape of the sacculus and vinculum lobes in the male genitalia.

**R e m a r k s .** *M. onzella* is more similar externally to *M. junctivittella*, but differs reliably in the wing pattern and the shorter labial palpus. The male genitalia are clearly distinguished by long and narrow vinculum lobes.

**L i f e h i s t o r y .** Adults fly in June and August.

**D i s t r i b u t i o n .** SE Kazakhstan, Uzbekistan, Turkmenistan. Russia: South of European part (Sarepta) (K. Sattler, pers. comm.).

### ***Metanarsia kosakewitshi* Piskunov, 1990**

**Figs. 4, 20, 32**

*Metanarsia (Metanarsia) kosakewitshi* Piskunov, 1990: 95, figs. 1–3 [male genitalia].

**M a t e r i a l .** Holotype ♂ with labels: handwritten “Sary-Tau-Kumy, nizovija r.[eki] Ili, 12.vi.1977, I. S. Kumalev” (recto) “Alma-Atinskaja obl.” (verso) (on white paper in Cyrillic characters), handwritten (Piskunov) on printed form “Holotypus *Metanarsia (Metanarsia) kosakewitshi* Piskunov, sp. n., ♂” (recto) “Coll. Inst. Zool. AN Ukrainian SSR, Kiev, gen. prep. № 293, ♂, V. Piskunov” (verso) (on red paper), handwritten (Piskunov) on printed form “MIKR. PREP. № 293, ♂, holotypus” (recto) “*Metanarsia (Metanarsia) kosakewitshi* Piskunov, sp. n., Kazakhstan, Piskunov” (verso) (on white paper) (SIZK).

**R e d e s c r i p t i o n .** Length of forewing 11.0 mm. Head, thorax, and tegulae covered with yellowish-white scales. Segment 2 of labial palpus straight, slightly broadened towards apex, densely covered with long setae; inner surface yellowish-white, outer surface reddish-brown. Segment 3 of labial palpus straight, very short, entirely covered with long setae of segment 2. Scape reddish-brown with pecten of few, long hair-like scales, other antennal segments brown. Forewing uniformly reddish-brown. Hindwing grey.

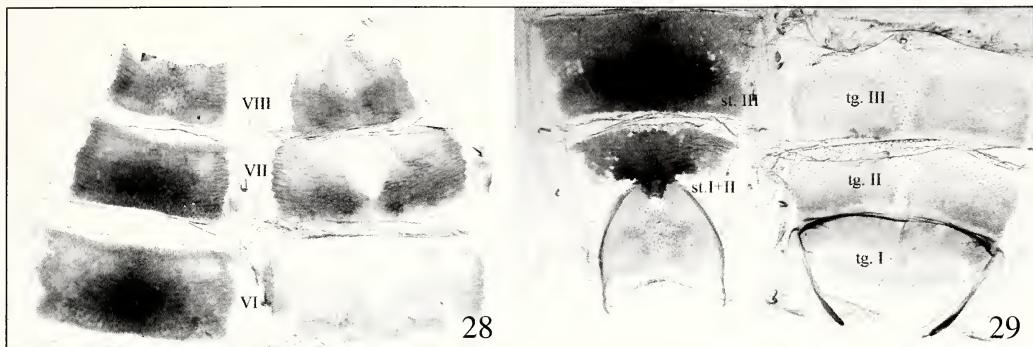
**M a l e g e n i t a l i a .** Uncus relatively broad, slightly narrowed apically with very small apical depression. Gnathos weakly curved near middle, distal part slightly expanded, spoon-like. Cucullus finger-like, slightly curved at base, some exceeding length of uncus. Sacculus about two-thirds length of cucullus with deep depression at outer margin, apex with four distinct teeth. Vinculum lobes about one-third length of sacculus, rounded apically. Saccus narrow, triangular. Aedeagus bifurcated at base with distinct teeth before apex, sclerotized basally.

**F e m a l e .** Unknown.

**R e m a r k s .** *M. kosakewitshi* Pisk. is more similar both externally and in the male genitalia to *M. dahurica* sp. n., but clearly differs in the uniformly reddish-brown forewing without fascia, slightly curved cucullus, smaller apical depression of uncus and the distinct deep depression at the outer margin of the sacculus; differences from *M. scythiella* are mentioned below.

**L i f e h i s t o r y .** Adults fly in June.

**D i s t r i b u t i o n .** SE Kazakhstan.



Figs. 28–29. Male abdominal segments: 28. *M. scythiella*, segments VI–VIII. 29. *M. scythiella*, segments II–III.

### *Metanarsia dahurica* sp. n.

**Material.** Holotype ♂, with labels: handwritten (Kostjuk) [Russia: Chitinskaya oblast'] "Daurskie stepi, vostochnyi bereg oz.[era] Barun-Torei, mys Mergen [Dahurian steppes, east bank of Barun-Torei Lake, Cape Mergen], 21.vi.1988, na svet, [on light] I. Kostjuk" (on white paper in Cyrillic characters), handwritten on printed form "Holotypus *Metanarsia dahurica* Bidzilya" (on red paper) (ZMKU). – Paratypes: 1♂, 2♀, labelled as holotype (gen. prep. 24/03, 42/03) (ZMKU). ♂, "Mongolia, Vostochnyi Aimak, Tamsag-Bulak, 21.vi.[1]976, Kerzhner" (gen. prep. 23/03) (ZIN).

**Description.** Length of forewing 9.0–11.0 mm. Head and thorax whitish-cream, tegulae cream with reddish-brown base. Labial palpus straight, segment 2 very broad, about five times length of segment 3, broadened towards apex, reddish-brown, dorsal surface cream; segment 3 very short, almost entirely covered with scales of segment 2. Scape reddish-brown with pecten of numerous long hair-like scales, other antennal segment brown with white rings. Forewing reddish-brown, bright, with distinct brown oblique transversal fascia from one-third posterior margin to half width of wing. Cilia reddish-brown. Hindwing light grey.

**Male genitalia.** Uncus relatively broad, with deep apical depression, densely covered with long setae. Gnathos broadened and slightly sclerotized at base, curved near apex. Cucullus straight with slightly broadened and rounded apex. Sacculus about two-thirds length of cucullus, with four small apical teeth. Vinculum lobes relatively broad, rounded apically. Saccus triangular. Aedeagus relatively long, distinctly bifurcated at base, with small teeth before apex.

**Female genitalia.** Papilla anales rounded apically, sparsely covered with long setae. Apophyses posteriores about 1.5 times length of apophyses anteriores. Segment VIII relatively broadly sclerotized laterally whereas anterior margin narrowly sclerotized. Ductus bursae short. Corpus bursae extremely long, evenly broadened proximally.

**Variation.** The forewing colour varies from bright reddish-brown to pale greyish-brown; the male from Mongolia is characterized by a broader cucullus and reduced apical teeth on the sacculus; two examined females showed no variation.

**Remarks.** In previous papers (Budashkin & Kostjuk 1994: 19; Kostjuk et al. 1994: 10;

### Figs. 5, 21, 33–34, 49

Bidzilya et al. 1998: 48) *Metanarsia dahurica* was recorded as *M. kosakewitshi* Pisk., but my examination of the holotype of *M. kosakewitshi* showed that specimens from Transbaikalia reliably differ in forewing pattern, which has one distinct brown fascia. The male genitalia differ from those of *M. kosakewitshi* Pisk. in the straight cucullus, the sacculus with an indistinct depression on the outer margin and with smaller apical teeth, and the uncus with a deeper apical depression. The female genitalia of *M. dahurica* are clearly distinguished from those of all other known *Metanarsia* females by the very long and thin corpus bursae.

**Life history.** Inhabits steppe biotopes; adults fly in June.

**Distribution.** Russia: SE of Chitinskaja oblast'; Mongolia: East Aimak.

**Derivatio nominis.** Named after the type region.

### *Metanarsia scythiella* Ponomarenko, 2000

Figs. 6, 22, 35

*Metanarsia scythiella* Ponomarenko, 2000: 223, fig. 1 [adult], figs. 2–5 [male genitalia].

**Material.** Paratype, ♂, Russia, Tuva rep. 50°40' N 92°58' E, 750 m, L. Ubsa-Noor, shore mead./Nanophyton-steppe, 15.6.1995, Jalava & Kullberg leg. (gen. prep. 54/03) (ZMUH). Holotype not seen.

**Redescription.** Length of forewing 11.5 mm. Head, thorax, and tegulae yellow; base of tegulae and lateral sides of head mottled with pink. Labial palpus reddish-brown, inner surface lighter; segment 2 about twice width and four times length of segment 3, covered with long scales; segment 3 short, straight. Haustellum very short. Scape reddish-brown with pecten of few long hair-like scales, other antennal segments yellow. Forewing bright yellow, costal margin and termen reddish-pink, cilia yellow with some pink scales. Hindwing grey, cilia yellow.

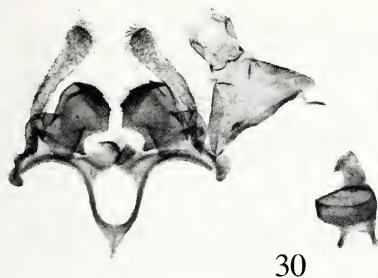
**Male genitalia.** Uncus broad, with apical depression. Gnathos relatively short, weakly expanded distally. Cucullus distinctly narrowed at base, weakly curved, with slightly broadened and rounded apex. Sacculus broad, about two-thirds length of cucullus, with one lateral and four small apical teeth, inner surface with triangular depression. Vinculum lobes relatively long, rounded, apically covered with short setae. Saccus triangular. Aedeagus about as long as sacculus, distinctly bifurcated at base, with small teeth before apex, proximal half about twice width of distal half.

**Female.** Unknown.

**Remarks.** *M. scythiella* is easily recognizable externally by its bright yellow forewing with reddish-pink costal margin. The male genitalia resemble those of *M. kosakewitshi* Pisk. and *M. dahurica* sp. n. but differ in the shorter and broader aedeagus, the sacculus without deep depression on the outer margin, the longer vinculum lobes, the distinctly narrowed base of the cucullus, and the shorter saccus. In genitalia, *M. scythiella* is also similar to *M. modesta* and *M. incertella* but differs from *M. modesta* in the basally narrowed sacculus and the shorter saccus; differences from *M. incertella* are mentioned below.

**Life history.** Inhabits arid habitats, adults fly just before sunrise (Ponomarenko 2000: 224).

**Distribution.** Russia: Tuva, Ubsa-Noor Lake.



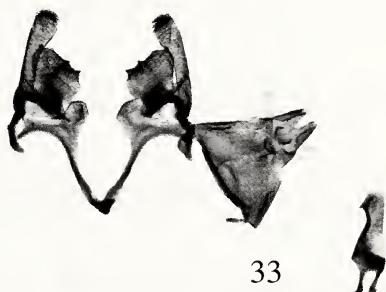
30



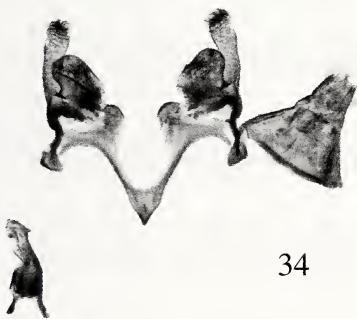
31



32



33



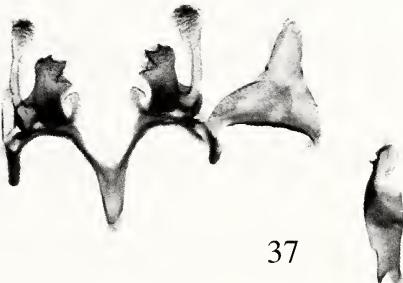
34



35



36



37

**Figs. 30–37.** Male genitalia of *Metanarsia* spp.: **30.** *M. modesta*, Ukraine (gen. prep. 7/03) **31.** *M. onzella*, Kazakhstan (gen. prep. 29/03). **32.** *M. kosakewitschi*, holotype, Kazakhstan (gen. prep. 293). **33.** *M. dahurica* sp. n., paratype, Russia: Chitinskaja obl. (gen. prep. 24/03). **34.** *M. dahurica* sp. n., paratype, Mongolia (gen. prep. 23/03). **35.** *M. scythiella*, paratype, Russia: Tuva (gen. prep. 54/03). **36.** *M. piskunovi* sp. n., paratype, Mongolia (gen. prep. 6/04). **37.** *M. junctivittella*, Kazakhstan (gen. prep. 30/03).

***Metanarsia piskunovi* sp. n.****Figs. 7, 23, 36, 50**

**M a t e r i a l.** Holotype ♀ with labels: printed “**Mongolia**, Uver-Khangaiskiy Aimak, bliz vost.[ochnogo] ber.[ega] oz.[era] Tatsyn-Tsagan-Nur [Mongolia, Uver-Khangaiskiy Aimak, near east bank of Tatsyn-Tsagan-Nur Lake] 2.–4.viii.[1]969, M. Kozlov” (on white paper in Cyrillic characters), handwritten on printed form “Holotypus *Metanarsia piskunovi* *Bidzilya*” (on red paper), printed “gen. prep. 33/03” (on white paper) (ZIN) – Paratypes: 2♀, labelled as holotype (ZIN); ♂, Mongolia, Vost.[ochno]-Gob.[iiskiy] Aimak, 45 km S.[evero]-V.[ostochnee] Bajan-Munkha, na svet, 3.vii.[1]971, Kerzhner (gen. prep. 6/04); ♂, Mongolia, Vost.[ochno]-Gob.[iiskiy] Aimak, 50 km S.[everneee] Sain-Shanda, na svet, 31.vii.[1]971, Kerzhner (all ZIN).

**Description.** Length of forewing 10.0–11.0 mm. Head, thorax, and tegulae light yellow. Labial palpus weakly recurved; segment 2 broad, about twice length of segment 3, outer surface light brown, inner surface and apex cream; segment 3 short, densely covered with cream scales. Haustellum long. Scapus cream with pecten of few hair-like scales, other antennal segments dark grey with white rings. Forewing light yellow, termen with some brown scales; with small brown spot in middle and second spot at two-thirds length; indistinct diffuse dark oblique fascia from one-quarter of posterior margin to half width of forewing. Hindwing light grey.

**Male genitalia.** Uncus relatively narrow, with apical depression. Gnathos long, broadened distally. Cucullus very short and broad, constricted basally, apex rounded. Sacculus relatively narrow, with one triangular lateral and two large apical teeth. Vinculum lobes broad, rounded apically. Saccus triangular, pointed apically. Aedeagus short, about as long as sacculus, basal half about as long and twice as wide as distal half, base bifurcated, apex with small teeth.

**Female genitalia.** Papillae anales rounded apically, covered with long setae. Apophyses posteriores about 1.5 times length of apophyses anteriores. Segment VIII relatively narrowly sclerotized anterolaterally. Ductus bursae short. Corpus bursae broad and long.

**Variation.** The specimens from the type series show no variation both in habitus and in genitalia.

**Remarks.** This new species is more similar externally to *M. scythiella* but differs in the colour of the forewing which in *M. scythiella* is bright yellow with a pink costal margin and without dark spots. The male genitalia are similar to those of *M. scythiella*, but differ reliably in the broader and shorter cucullus and narrower sacculus with two large apical teeth. The female genitalia of *M. piskunovi* sp. n. resemble those of *M. alphitodes* but differ in the shorter and broader ductus bursae, the shape of the corpus bursae, and the much larger size.

**Life history.** Adults fly from July to early August.

**Distribution.** Mongolia: Uver-Khangaiskiy Aimak, East Gobiiskiy Aimak.

**Derivatio nominis.** Named in honour of Dr. Vladimir I. Piskunov (Vitebsk, Byelorussia), who made an important contribution to the study of the gelechiid moths of the Palaearctic region, in particular with genus *Metanarsia*.

**The *Metanarsia junctivittella*-group**

Segment 2 of labial palpus very long, straight, covered with very long setae; aedeagus with two teeth before apex; saccus long; gnathos very long;  $R_4$  reduced,  $R_3$  and  $R_5$  arising from corner of cell.



**Figs. 38–45.** Male genitalia of *Metanarsia* spp. **38.** *M. junctivittella*, Uzbekistan (gen. prep. 31/03). **39.** *M. junctivittella*, Tadzhikistan (gen. prep. 68/02). **40.** *M. alphitodes*, Algeria (gen. prep. 19/03). **41.** *M. alphitodes*, Uzbekistan (gen. prep. 26/03). **42.** *M. alphitodes*, Turkmenistan (gen. prep. 27/03). **43.** *M. alphitodes*, Mongolia (gen. prep. 20/03). **44.** *M. incertella*, Kazakhstan (gen. prep. 15/03). **45.** *M. incertella*, Uzbekistan (gen. prep. 52/03).

***Metanarsia junctivittella* Christoph, 1885****Figs. 8–10, 24, 37–39***Metanarsia junctivittella* Christoph, 1885: 161, pl. 8 fig. 11.*Metanarsia (Parametanarsia) junctivittella* Christoph, 1885. – Gerasimov 1930: 33, pl. 10 figs. 6–8.

**Material.** Lectotype ♂ (designated here) with labels: printed “TRANSCASPIA, Askhabad, 19.v.1882, H. Christoph” (on white paper), printed “LECTO-TYPE” (round, purple-edged BMNH label), handwritten (Christoph), “♂ ♀. Askhabad” (recto) (on white paper, in black box), “19 5 82” (verso), printed “*Metanarsia junctivittella* Christoph, H. Christoph det.” (on white paper), printed “Christoph Coll., Walsingham Collection, 1910–427” (on white paper – BMNH registration label), handwritten (Christoph) “*Junctivittella Chr.*” (on white paper, in black box). **Kazakhstan:** 8♂, Karatau Chr.[ebet], 10 km N Kentau, 600 m, svet, 19–21.v.1994, Pljushtch, Nesterov (gen. prep. 30/03) (ZMKU). **Uzbekistan:** 4♂, 70 km S Tamdy-Bulaka, Kyzylkum, 30.iv, 8.v.1965, Pastukhov; 3♂, Ajakguzhumdy, 40 km O Dzhingil’dy, Kyzylkum, 7.v.1966, 17.v.1969, Falkovitsh (all ZIN). **Turkmenistan:** 2♂, Badkhyz, kord.[on] Kyzylzhar, svet, 21.iv.1981, 3.v.1980, V. Pechen’; ♂, Kushka, dolina reki, 21.iv.1981, Nesterov (ZMKU). **Tadzhikistan:** ♂, Staraja Pristan’, 12 km Yu Dzhilykul’ na reke Vahsh, svet, 20.v.1949, Yu. Shchetkin; ♂, Dzhilykul’ na reke Vahsh, 16.iv.1949, Yu. Shchetkin (gen. prep. 28/03); ♂, Vahshskaja dolina, Molotovobadskiy r-n, 6-oi posiolok, 20.iv.1953, V. Degtjariova; ♂, Kondara, 1100 m, 29.vi.1956, Yu. Shchetkin (all ZMHB).

**Redescription.** Length of forewing 6.0–9.0 mm. Head, thorax, and tegulae yellow. Labial palpus straight, outer surface mottled with brown; segment 2 four times length of segment 3; segment 3 short, slender, covered with scales of segment 2. Scape yellowish-brown with dense pecten of numerous long hair-like scales, other antennal segments brown. Forewing dark yellow with brown longitudinal line from one-quarter of posterior margin to three-quarters length; subapical area and cilia mottled with brown. Hindwing light grey.

**Male genitalia.** Uncus relatively broad, densely covered with long setae. Gnathos weakly expanded distally, apex spoon-like. Cucullus slender, expanded towards apex. Sacculus about two-thirds length of cucullus, with one lateral and three apical teeth. Vinculum lobes relatively broad, triangular, pointed apically. Saccus long and slender, pointed apically. Aedeagus about as long or slightly longer than cucullus, basally bifurcated, with one small and one large teeth before apex, caecum long.

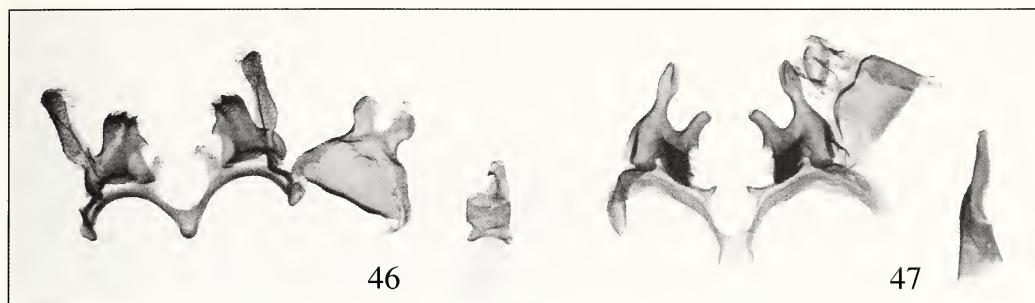
**Female genitalia** (after Gerasimov 1930: pl. 10 fig. 7). Papilla anales covered with setae. Apophyses posteriores about 1.5 times length of apophyses anteriores. Anterior margin of segment VIII narrowly sclerotized. Ductus bursae thin. Corpus bursae very long and relatively thin.

**Variation.** Externally very variable: specimens from Uzbekistan grey, with dark brown longitudinal line and numerous brown scales mainly along the veins; occasional specimens from Tadzhikistan light, uniformly yellowish-cream, without markings. The male genitalia vary in the width of the saccus, and the apical teeth of the sacculus may be reduced.

**Remarks.** *M. junctivittella* is clearly recognizable in the wing pattern, the very long labial palpus, the long saccus, the aedeagus with two teeth before apex, and the extremely long and thin corpus bursae.

**Life history.** Adults fly from the end of April to late June and readily attracted to light.

**Distribution.** South and SE Kazakhstan, Uzbekistan, Turkmenistan, Tadzhikistan; Afghanistan and Pakistan (K. Sattler, pers. comm.).



**Figs. 46–47.** Male genitalia of *Metanarsia* spp.: **46.** *M. incertella*, Mongolia (gen. prep. 21/03). **47.** *M. partillella*, Uzbekistan (gen. prep. 32/03).

### The *Metanarsia alphitodes*-group

Labial palpus slender, weakly recurved; sacculus densely covered apically with short setae; gnathos very membranous, indistinct.

#### *Metanarsia alphitodes* (Meyrick, 1891)

#### Figs. 11–14, 25, 40–43, 51

*Calyptrotis alphitodes* Meyrick, 1891: 56–57 – “Biskra [Algeria]; a series obtained one evening from some sheltered shrubs near the river bank”.

*Calyptrotis alphitodes* Meyrick, 1891. – Clarke 1969: 393, pl. 195, figs. 1–1d – “Type: The male so marked in the British Museum, ‘Biskra, Algeria. 21.4.[18]90.’” – This action may be considered as an effective lectotype designation (ICZN Art. 74.5), not seen.

*Metanarsia gobica* Lvovsky & Piskunov, 1989: 554, figs. 43–45, **syn. n.** Holotype ♂ with labels: printed “MNR, Bajan-Khong.[orskiy] aimak, 140 km Yu. Shine-Dzhinsta, oaz.[is] Ehin-Gol, na svet, 26.vi.1981, L’vovskiy” (on white paper in Cyrillic characters), handwritten “26.vi” (recto) “svet” (verso) (on white paper), handwritten on printed form “Holotypus, ♂, 13872” (recto) “*Metanarsia gobica* Lvovsky et Piskunov.” (verso) (on red paper) (ZIN).

*Metanarsia alphitodes* (Meyrick, 1891). – Ponomarenko 2000: 222.

**M a t e r i a l.** **Algeria:** 2♂, Biskra, [18]87. Stdg. (gen. prep. 19/03) (ZMHB). **Kazakhstan:** ♂, Uigurskiy r-n, 15 km NW Tchundzha, Jasenevaja roshcha, 20.v.1991, P. Ustjuzhanin (ZMKU). **Uzbekistan:** 5♂, 2♀, Ajakguzhumdy, 40 km O Dzhingil’dy, Kyzylkum, 31.v.1975, 19.v.1970, 13, 15.v.1976, Falkovitsh (gen. prep. 27/03, 39/03) (ZIN). **Turkmenistan:** 2♂, ♀, Krasnovodsk (gen. prep. 27/03) (ZMHB); ♂, W Kopetdag, g.[ora] Sjunt, 19.v.1998, na svet, Z. Kljuchko, O. Torgonja (ZMKU). **Mongolia:** ♂, Mongolskiy Altai, 30 km N Biger, polupustynja, H-1350, 23.vi.1999, P. Ustjuzhanin; ♂, Mongolia, [Uver-Khangaiskiy Aimak] Tugrek, *Nitraria*, 21.vii.[19]70, I.[arva] zimuet, e. l. iii.[19]71, M. Kandybina (gen. prep. 20/03) (ZIN).

**Redescription.** Length of forewing 5.0–7.0 mm. Head, thorax, and tegulae covered with cream brown-tipped scales. Inner surface of labial palpus cream, outer surface brownish-cream; segment 2 about twice length of segment 3. Haustellum long, well developed. Scape brownish-cream with pecten of numerous hair-like setae, each antennal segment grey with white ring at base. Forewing cream mottled with brown; with two small indistinct spots near base, one brown spot of raised scales near posterior margin at half length, a brown, transversal, distally broadened fascia from half of costa to half width of wing, and greyish-brown scales in subapical area forming diffuse patches or one narrow streak along outer margin and near tornus. Hindwing light grey.

**Male genitalia.** Uncus long and broad, with small apical depression. Tegumen very short. Cucullus longer than uncus, weakly curved in middle, expanded distally. Sacculus about half length of cucullus. Vinculum lobes membranous, often indistinct, about one-third length of sacculus, broadened apically. Saccus triangular. Aedeagus short, about as long as sacculus, bifurcated and strongly sclerotized basally with distinct teeth before apex.

**Female genitalia.** Papillae anales sparsely covered with long setae. Apophyses posteriores about twice length of apophyses anteriores. Sternite VIII broadly sclerotized laterally, its anterior margin narrowly sclerotized. Ductus bursae broad, about as long as corpus bursae. Corpus bursae sub-oval.

**Variation.** The number of brown scales and their distribution can vary extensively and the brown subapical streak is often absent; males from Mongolia have the cucullus more slender medially and the vinculum broader; the three examined females showed no variation.

**Remarks.** *M. alphitodes* is easily recognizable externally by the slender, weakly recurved labial palpus, the unique wing pattern, and the small size. The male genitalia are clearly distinguished by the apically setose sacculus. The differences of the female genitalia from those of *M. piskunovi* sp. n. are mentioned above.

**Life history.** In Mongolia an adult was reared from *Nitraria* sp. (Nitrariaceae) in July. The larva hibernates. Adults fly from mid-May to the end of June.

**Distribution.** Algeria, SE Kazakhstan, Turkmenistan, Uzbekistan, Mongolia.

### The *Metanarsia incertella*-group

Labial palpus long, strongly curved; gnathos short, triangular; ductus bursae thin, weakly sclerotized, clearly separated from corpus bursae.

#### *Metanarsia incertella* (Herrich-Schäffer, 1861)

Figs. 15–16, 26, 44–46, 52

*Anacampsis incertella* Herrich-Schäffer, 1861: 31, pl. [23], fig. 156.

*Epiparasia longivitella* Rebel, 1914: 276, Taf. IV, fig. 12 – Caradja 1920: 94.

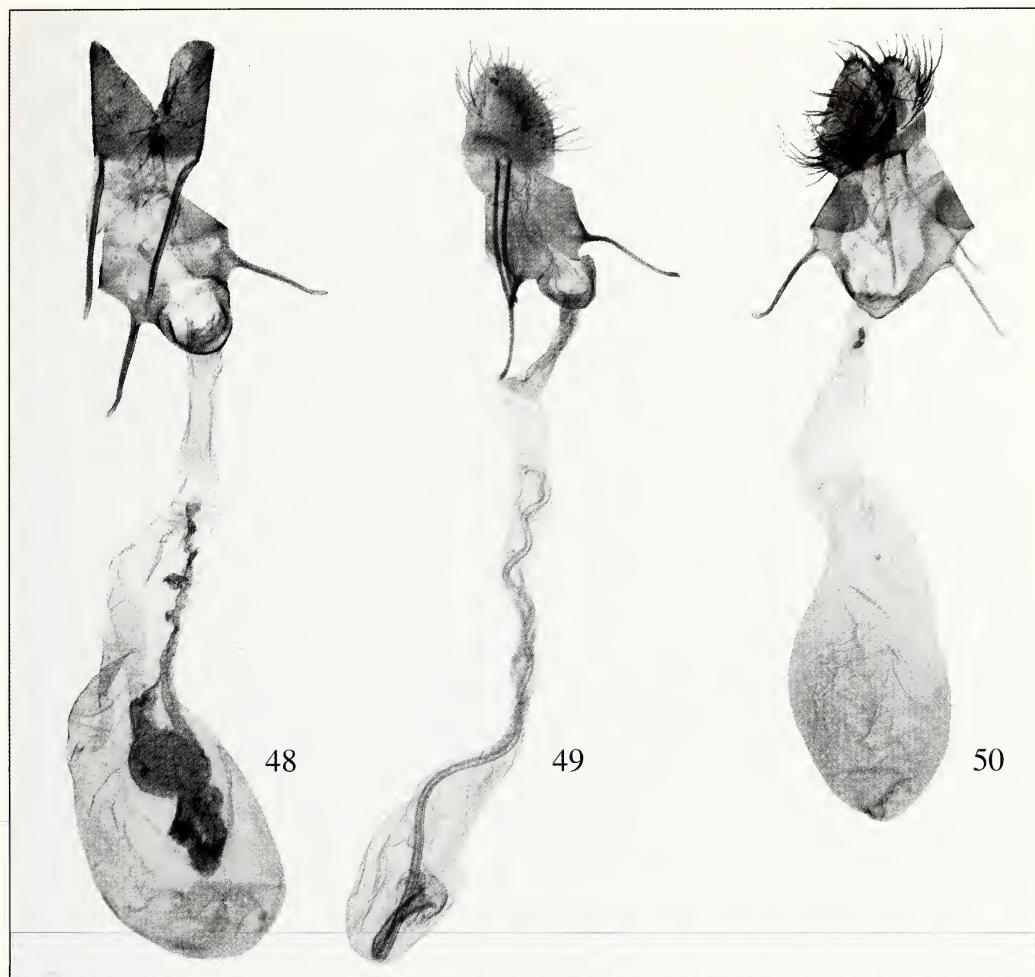
*Epiparasia incertella* (Herrich-Schäffer, 1861). – Caradja 1920: 94; Huemer, Karsholt, & Sauter 1996: 341–345, figs. 1–9.

*Epidola halmyropis* Meyrick, 1926: 270–271, syn. n. Holotype ♂ (by monotypy) with labels: handwritten (Meyrick) “Inderksky, Uralsk, B. 26.4.07” (black ink on white paper), printed “Holo-type” (round, red-edged BMNH label), printed “Meyrick Coll., B.M. 1938-290” (on white paper – BMNH registration label), handwritten “*Epidola halmyropis* Meyr., Holotype ♂” (black ink on off-white paper), handwritten “data published as “June”, (“4” on specimen)” (black ink on white paper), printed “Abdomen missing” (on blue paper) (BMNH).

*Metanarsia (Metanarsia) incertella* (Herrich-Schäffer, 1861). – Piskunov 1990: 95.

*Metanarsia incertella* (Herrich-Schäffer, 1861). – Ponomarenko 2000: 222.

**Material.** Holotype ♂ (by monotypy) with labels: handwritten “Sarepta I C. 60. I Type I zu A..kh.f.15b.” (black ink on white paper in green box), printed “Holotype” (round, red-edged BMNH label), printed “Coll. Möschl[er].” (on white paper), printed “Origin.” (on pink paper), printed, with handwritten inscriptions “Holotype ♂ | *Anacampsis* ? | *incertella* H.-S. | teste K. Sattler 1986” (on white paper), printed “ex coll. STAUDINGER” (on white paper) (ZMHB). **Russia:** ♂, Kapustin Jar, Astrakh. obl., 10.8.74, na svet, Utochkin (ZMKU). **Kazakhstan:** 7♂, dolina reki Tcharyn, 15 km W Tchundzha, Jasenevaja roshcha, 7.vii.1994, svet, I. Kostjuk leg. (gen. prep. 15/03, 25/03) (ZMKU). **Uzbekistan:** ♂, ♀,



Figs. 48–50. Female genitalia of *Metanarsia* spp.: 48. *M. modesta*, Ukraine (gen. prep. 47/03). 49. *M. dahurica* sp. n., paratype, Russia: Chitinskaja obl. (gen. prep. 42/03). 50. *M. piskunovi* sp. n., holotype, Mongolia (gen. prep. 33/03)

Ajakguzhumdy, 40 km O Dzhingil'dy, Kyzylkum, 9.v.1970, 17.v.1965, M. Falkovitsh (gen. prep. 40/03) (ZIN). **Mongolia:** ♂, Mongolskiy Altai, 30 km N Biger, polupustunja, H-1350, 23.vi.1999, P. Ustjuzhanin (gen. prep. 21/03) (ZMKU).

**Redescription.** Length of forewing 8.0–13.0 mm. Head, thorax, and tegulae cream. Labial palpus strongly projecting over head; segment 2 about 1.5–2 times length and 1.5 times width of segment 3, its outer surface yellowish-cream, inner surface lighter, off-white. Scape same colour as head with pecten of numerous long hair-like scales. Forewing uniformly yellowish-cream or with more or less distinct longitudinal line which can be divided into separate brown patches. Hindwing light grey.

**Male genitalia.** Uncus broad, with deep apical depression. Cucullus finger-like, broadened towards apex, apex rounded, covered with short setae, slightly longer than uncus. Sacculus about half length of cucullus, with one lateral and three apical teeth. Lobes of posterior margin of vinculum more or less prolonged, weakly setosed. Saccus

short, broadly rounded. Aedeagus short, about as long as sacculus, proximal half strongly sclerotized, base bifurcated, apex with small teeth.

**Female genitalia.** Papillae anales elongated, densely covered with long setae. Apophyses posteriores about twice length of apophyses anteriores. Corpus bursae very long, evenly broadened distally.

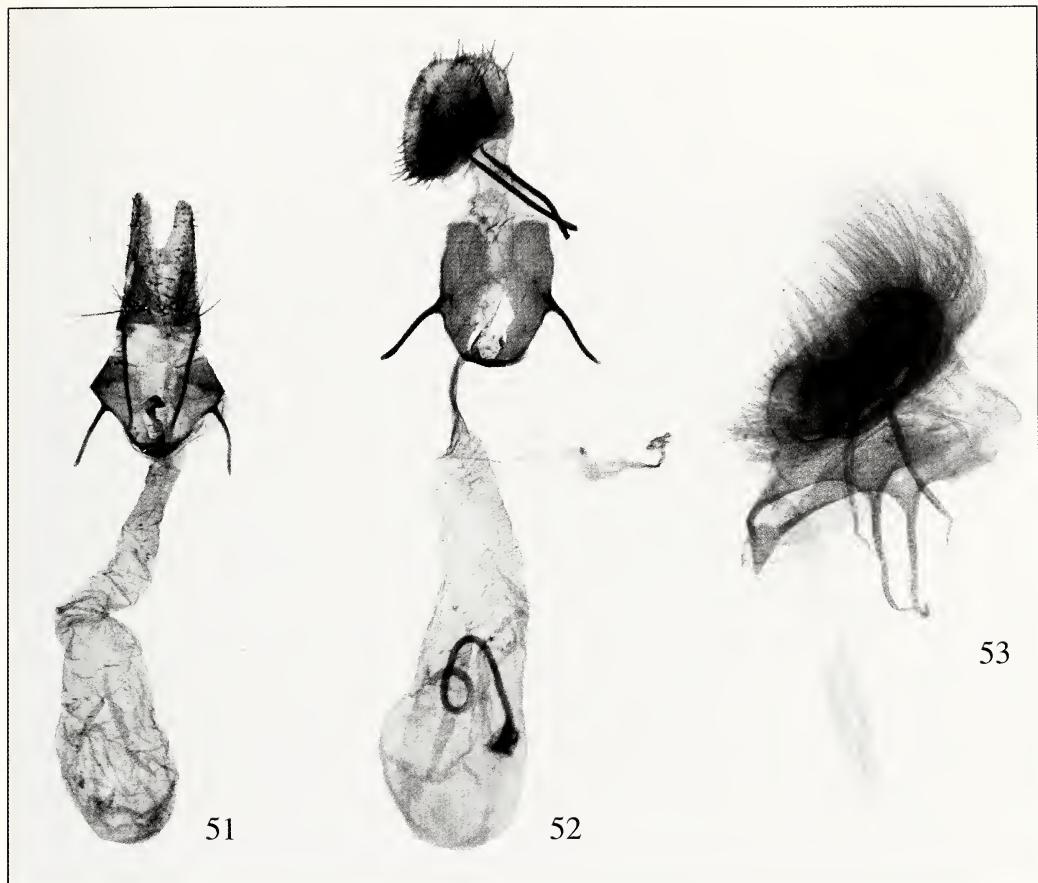
**Variation.** According to Huemer et al. (1996: 342) *M. incertella* shows extensive variation in the colour of the forewing and its markings from uniformly yellowish-cream without any marking to dark, greyish-brown with distinct brown lines and patches. At my disposal I had uniformly white specimens from Turkmenistan, yellowish-cream ones from Kazakhstan, whereas the male from Mongolia had a weakly expressed brown longitudinal line. Specimens from Turkey (Huemer et al. 1996, fig. 8) differed from specimens from Kazakhstan, Uzbekistan, and Mongolia in the shape of the vinculum lobes which was distinctly broader and rounded apically. There is also some variation in the shape of the apical depression of the uncus and in the length of the saccus in the male genitalia. One female from Tunisia (Huemer et al. 1996, fig. 9) slightly differed from females from Turkmenistan in the narrower lateral sclerotization of segment VIII.

**Remarks.** *M. incertella* is easily recognizable externally by the long and strongly recurved labial palpus. The male genitalia resemble those of *M. scythiella* and *M. kosakewitschi* but clearly differ in the narrower sacculus without deep triangular depression on the inner margin, the shorter saccus, the short triangular gnathos, the deeper apical depression of the uncus, and the shorter aedeagus. The female genitalia are clearly distinguished by the weakly sclerotized ductus bursae, which is distinctly separated from the corpus bursae.

*Hypsipselon rigidellum* var. *zeroudellum* Chrétien, 1915 (Tunisia), *Gelechia rhamiferella* Lucas, 1940 (Algeria), and *Epidola halmyropis* Meyrick, 1926 (W Kazakhstan, Idersky) were considered possible synonyms of *M. incertella* (Huemer et al. 1996: 341). This opinion was based on the examination of specimens that fit the original descriptions well and that originated from the type localities of these taxa. Thus, these presumed synonymies are quite plausible, but I was unable to check the type material of the first two taxa for confirmation. Unfortunately, the holotype of *E. halmyropis* lacks the abdomen, and although it corresponds well to *M. incertella* in wing pattern (Fig. 15), it differs in its unusually small size (wingspan 12 mm). Taking into consideration the extensive variation in external characters of *M. incertella* and the fact that W Kazakhstan (Uralsk) is the type locality for *E. longivitella*, I establish hereby the presumed synonymy of *M. incertella* Herrich-Schäffer, 1861 with *E. halmyropis* Meyrick, 1926 **syn. n.**

**Life history.** Adults fly from May to early August, up to about 2000 m in mountains (Huemer et al. 1996: 342).

**Distribution.** Russia (Volgogradskaja oblast', Astrakhanskaja oblast'), Kazakhstan, Uzbekistan, Mongolia. Known also from Spain, Algeria, Morocco, Tunisia, Russia: South and East of European part, South Siberia (Krasnojarsk), Turkey, West China (Caradja 1920: 94; Huemer et al. 1996: 342).



Figs. 51–53. Female genitalia of *Metanarsia* spp.: 51. *M. alphitodes*, Uzbekistan (gen. prep. 39/03). 52. *M. incertella*, Uzbekistan (gen. prep. 40/03). 53. *M. partilella*, Uzbekistan (gen. prep. 45/03).

### The *Metanarsia partilella*-group

Scape with dense brush of short setae; gnathos sucker-like; valva not entirely divided into cucullus and sacculus; aedeagus long, not bifurcated at base; papillae anales hairy; ductus bursae extremely short.

#### *Metanarsia partilella* (Christoph, 1887)

*Teleia partilella* Christoph, 1887a: 167.

*Teleia partilella* Christoph, 1887. – Christoph 1889: 57, pl. 3 fig. 9.

*Metanarsia (Parametanarsia) partilella* (Christoph, 1887). – Piskunov 1988: 365, figs. 8–9.

**M a t e r i a l.** Lectotype ♂ (designated by K. Sattler in Piskunov 1988: 365) with labels: circle of green paper, handwritten “♂”, Askhabad (recto) Partitella (verso) (on white paper), printed “coll. b.[yvshego] Vel.[ikogo] Kn.[jazja] Nikolaja Mikhailovicha” (on white paper, in Cyrillic characters), printed “Lectotype ♂, *Teleia partitella* Christ., teste K. Sattler, 1978” (on white paper), handwritten (Piskunov) “♂, *Metanarsia partitella* (Christoph, 1887), Piskunov det., 1981” (on white paper), printed “Hololectotypus” (on red paper). 2♂, 2♀, Turkmenistan, Repetek, SE Karakumy, 6,11,15,24.v.1981, Falkovitsh (gen. prep. 43/03, 45/03) (ZIN). ♂, Uzbekistan, Zhamansai, Kyzylkum, 25.v.1970, Falkovitsh (gen. prep. 32/03) (ZIN).

#### Figs. 17, 27, 47, 53

**Redescription.** Length of forewing 10.0–11.0 mm. Head white. Tegulae white mottled with grey scales mainly at base. Thorax covered with white, grey-tipped scales. Labial palpus relatively short; segment 2 broad, grey, apex white, about 1.5 times length of segment 3; segment 3 straight, grey, with few white scales. Scape grey, apex with white ring, other antennal segments dark grey with white ring. Forewing greyish-white, divided by two white fasciae into separated grey patches: first near base, second in middle and two small patches in subapical area; cilia grey. Hindwing dark grey.

**Male genitalia.** Uncus sub-oval, sparsely covered with short setae, with very small triangular apical depression. Gnathos large, strongly curved in distal one-third. Cucullus and sacculus broadly fused at base. Cucullus constricted at base, apex rounded, without setae. Sacculus about half as long and as wide as cucullus, without apical teeth. Vinculum lobes very short, triangular. Saccus short, sub-rectangular. Aedeagus longer than tegumen and uncus, slightly curved in middle, gradually narrowed towards apex, with very small subapical teeth.

**Female genitalia.** Papillae anales large, densely covered with very long, hair-like setae. Apophyses posteriores about as long as apophyses anteriores. Lateral part of segment VIII narrowly sclerotized; anterior margin triangular. Corpus bursae very thin and short, not exceeding length of papillae anales and segment VIII.

**Variation.** There is a slight variation in the shape of the grey patches of the forewing.

**Remarks.** *M. partilella* is easily recognizable externally by the unique wing pattern and the scape with a dense brush of short setae. The male genitalia are characterized by the very long aedeagus, the slender sacculus without apical teeth, and the large sucker-like gnathos. The female genitalia are clearly distinguished by the extremely short bursa and the papillae anales covered with very long, hair-like setae.

**Life history.** Adults fly in May.

**Distribution.** Turkmenistan, Uzbekistan.

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