

New taxa of *Parexarnis* Boursin, 1946 from Asia (Lepidoptera: Noctuidae, Noctuinae)

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Abstract. Three new *Parexarnis* Boursin, 1946 species, and five new *Parexarnis* subspecies are described. The main external and genitalia features of the new species and their closest relatives are characterised and discussed. The images are illustrated on five tables with 40 colour figures, the genitalia are presented on seven monochromatic plates with figures of 18 males and 14 females.

Keywords. *Parexarnis*, Asia, new species, new subspecies, description, taxonomy.

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Introduction

Parexarnis Boursin, 1946 is one of the taxonomically most difficult genera of Noctuidae with 21 described species. In a few taxonomical publications (Fibiger & Lafontaine, 2005; Fibiger & Lafontaine, 2005 (2.); Skule, B. & Nilsson, D. 2008; Fibiger et al., 2010, [https://ftp.funet.fi/index/Tree of life/ insecta/lepidoptera /ditrysia/noctuoidea/noct-uidae/noctuinae/actebia/](https://ftp.funet.fi/index/Tree%20of%20life/insecta/lepidoptera/ditrysia/noctuoidea/noct-uidae/noctuinae/actebia/), etc.), it is downgraded into the genus *Actebia* Stephens, 1829 as a subgenus of it, with the following close relative genera: *Perissandria* Warren, 1909, *Protexarnis* McDunnough, [1929], *Hemiexarnis* Boursin, 1948, *Ledereragrotis* Varga, 1990. The author of this publication cannot accept this concept, and he still considers *Parexarnis* and the genera mentioned above as valid, distinct genera, as in some other publications, e.g. Hreblay, Ronkay & Plante (1998), Aulombard et al., 2020, since those have well defined different external and genitalia characters.

Parexarnis is exclusively Palearctic, relatively rich in species, having a wide distributional range from western Europe and northern Africa through Anatolia, the Near East, Caucasus, Central- and Inner Asia, to the Himalayas and Tibetan plateau. The most diverse is in the high mountains in the Central- and Inner Asian high mountains. In the case of some species, there is a great individual variability in the external characters, and sometimes even in the shape of some of the characters of the genitalia. This may be why the various literatures do not agree even in the eastern limits of the distribution of the well-known *P. fugax* (Treitschke, 1825).

Rhyacia dormitans Corti & Draudt, 1933 (TL: Kuku-noor, Qinghai) is very similar to *P. l. laetifica* by its external features, figured in Seitz Supplement, 1938; can be a subspecies or form of it. [https://ftp.funet.fi/index of Actebia](https://ftp.funet.fi/index%20of%20Actebia) synonymised it to *P. l. laetifica*. Hreblay, Ronkay & Plante (1998, pp 123) suspected it as a synonym of *Parexarnis obumbrata* (Staudinger, 1889). The genitalia of *dormitans* were not available. Author dissected a male and female specimen from an externally resembling series from the type locality of *dormitans*, however both proved to be *P. poecila* (Alphéraky, 1888).

Hacker (1990) considered *P. pseudosollers* (Boursin, 1940), *P. taurica* (Staudinger, 1889), and *P. damnata* (Draudt, 1937) to be three different species. Hreblay, Ronkay & Plante (1998, p. 123) in their list of *Parexarnis*, synonymized *P. pseudosollers* to *P. taurica*, while *P. damna-*

ta and *P. figulina* (Draudt, 1936) were accepted as a subspecies of *P. taurica*. The main problem is the taxonomic identity of *P. taurica* and *P. damnata*, since the type of the latter one was destroyed during the Second World War. Ebert & Hacker (2002, p. 288) solved this problem that of the remaining five female paratypes, one from the Schwingenschuss collection was considered as *P. taurica*, while one of the remaining four females from the ZSM collection was designated as the lectotype of *P. damnata*, which was figured by him in *Esperiana* 9, p. 589, plate 17, fig. 18., its genitalia p. 408, fig. 104. Both are from the Alborz range, Iran and sympatric occurrence was also suspected. He figured the male genitalia of both species from the Alborz (*Esperiana* 9, p. 388, figs. 29 and 30.) and published a larger series of *P. damnata* from there, but only a single male of *P. taurica*, spite of the type locality of both *P. pseudosollers* and *P. taurica* is in Anatolica. In the most recent publication Aulombard et al., 2020, considered *P. damnata* and *P. pseudosollers* to be two distinct species.

This paper is not a complete revision of the genus *Parexarnis* but attempts to clear the taxonomy of hitherto incompletely studied Asian species, describing three new species and five new subspecies from Asia.

Abbreviations for personal and institutional collections used herein are as follows: HNHM = Hungarian Natural History Museum, Budapest, Hungary; ZISP = Zoological Museum of the Zoological Institute RAS, Saint Petersburg, Russia; ZSM = Zoologische Staatssammlung München, Germany; PGM = collection of Péter Gyulai (Miskolc, Hungary); ZVD = collection of Zoltán Varga (Debrecen, Hungary). Other abbreviations used: GYP = genitalia slide prepared by Péter Gyulai; VZ = genitalia slide prepared by Zoltán Varga; m = male; f = female; HT = holotype; PT = paratype; LT = lectotype, TL = type locality.

All the figured specimens and genitalia are deposited in the private collection of the author.

Descriptions of new taxa.

Parexarnis hindukushventus sp. n. (Figs 1–2, 41, 60)

Holotype. male, Pakistan, 2450 m., Hindukush Mts., E of Teru, Samaran village; 17–18. IX. 1998, leg. P. Gyulai & A. Garai, slide no. GYP 1098 (PGM).

Paratypes. 1 female, with the same data as of the HT (PGM); 1 female, Pakistan, 2450 m., Hindukush Mts., Shandur pass, S slope, 36°07' N, 72°38' E, 3300 m, 29–31. VIII. 1997, GY. Fábrián & G. Ronkay (PGM); 1 male, 1 female, Pakistan, Hindukush Mts., 5 km E of Shandur pass 3250 m, 72°38'E, 36°07'N, 23.VIII.2001, leg. B. Benedek & G. Ronkay (HNHM); 2 males, Pakistan, 2450 m., Hindukush Mts., 3 km W of Pingal, 19. and 24. VIII. 2001, B. Benedek & G. Ronkay (PGM); 2 males, with the same data (HNHM).
Slide numbers: GYP 6042f, GYP 6050f, GYP 6121m.

Diagnosis. *Parexarnis hindukushventus* sp. n. (Figs 1–2) is related to *Parexarnis ala* Staudinger, 1881 (Figs 3–4) (TL: Kyrgyzstan, Ala Tau) (Staudinger, 1881 and Bang-Haas, O. 1922), which is a widely distributed species in the Central Asian high mountains. *P. hindukushventus* sp. n. is one of the largest species of the genus and its clear white, shiny hindwing is unique, except *Parexarnis undulans* (Moore, 1878) and *Parexarnis vestilina* (Kozhantchikov, 1937), however both are much smaller and very distinctive in both the external and genitalia features; furthermore, their distribution pattern also differs. *P. hindukushventus* sp. n. can be separated from *P. ala* by its much lighter, pale greyish-brownish-ochre forewings with more sharply defined crosslines, simple (not double) antemedial line and shiny, white hindwings, without or almost without the slight diffuse brownish marginal suffusion.

In the male genitalia capsule of *P. hindukushventus* sp. n. (Fig. 41), the distal section of the valva is conspicuously larger and more elongated than in *P. ala* (Fig. 42). The separation of the two taxa is easier by the comparison of the vesica. In the new species, the tube of the endophallus (vesica) bearing a subterminal and terminal diverticula looking the same shape (tongue-like) and size, but the former one bears a thin, serrate ribbon, while the latter one has a broad based triangular extension; while in the vesica of *P. ala*, the subterminal one bears a broader, roughly sclerotized field, while the terminal one elliptic, slightly sclerotized, laterally with a conspicuous large extension. The best diagnostic features in the female genitalia are the somewhat short-

er ductus bursae, the significantly larger appendix- and corpus bursae and the strongly, more extended, ample part in the junction of the appendix- and corpus bursae in *P. hindukushventus* **sp. n.** (Fig. 60), than in *P. ala* (Fig. 61).

It is more distinctive from *Parexarnis sollers* (Christoph, 1877) (Figs 5, 6) with the darker pale greyish-brownish-ochre forewings and the monochorous, shiny, whitish (clear white of the females) hindwings. *P. hindukushventus* **sp. n.** (Fig. 41) differs from *P. sollers* (Fig. 43), with the dorsally acute and significantly longer, larger cucullus section and the larger, tongue-like, more prominent subterminal- and terminal diverticulum, from which the former one bears a strong serrate ribbon. Additionally, the tiny cornutus is sitting on the subbasal section of the coiled vesica tube in the new species, while it is sitting on a conical subbasal diverticulum in *P. sollers*. In the female genitalia of *P. hindukushventus* **sp. n.** (Fig. 60), the laminar plates in the ductus bursae are longer, the appendix bursae basally much smaller, the corpus bursae significantly larger, longer and more extended, ample in the junction of the appendix- and corpus bursae, than in *P. sollers* (Fig. 62).

Description. Wingspan 41–46 mm. Antennae filiform of both sexes, of the male scattered with very fine pectination. Vesture of the head and thorax pale greyish brownish. Forewings ground colour shiny, differently shaded pale greyish-brownish-ochre. The orbicular and reniform stigmata the slightly darker shades of the ground colour, surrounded with a diffuse pale yellowish area. Orbicular macula typical, reniform macula narrow, arched, claviform stigma absent. Transverse lines fine, obscure, the darker shade of the ground colour; antemedial one wavy, double; postmedial one fine, slightly arcuated, finely serrate; subterminal line sinuous, diffuse with some pale ochreous outer shade. Hindwing shiny, white, patternless, fringe of it clear white. Underside of forewings whitish, with the slight shade of the reniform macule. Hindwings shiny whitish-clear white, patternless.

Male genitalia (Fig. 41). Uncus strong, distally strongly pubescent. Valva medially the broadest, slightly convex in both sides, cucullus section elongate, terminally asymmetrically rounded, dorsally slightly more extended, apically acute; terminated in a few of slight setae. Harpe strong, straight, terminally somewhat spatulate. Saccular process small, wedge-like. Vinculum v-shaped. Aedeagus straight. Everted tube of endophallus coiled, its subbasal diverticulum absent but the small cornutus present on it. Both the subterminal diverticulum and the terminal one tongue-like, but the former one bears a thin, serrate ribbon, while the latter one broad based, triangular, slightly sclerotized.

Female genitalia (Fig. 60). Ovipositor short, the apophyses anteriores medium sized, the apophyses posteriores about two times longer. Ductus bursae tubular, the laminar plates in it robust, and broad. Appendix bursae ovoid-globular, distally prominent, and strongly sclerotized. Corpus bursae elongate, anteriorly globular.

Etymology. The name of the new species means „the favourite of Hindukush“.

Distribution. The new species is known only from the Hindukush Mts. in moderate altitude.

***Parexarnis damnata iranoazerica* ssp. n.** (Figs 12–14, 45, 64)

Holotype. male, Iran, prov. Azerbayejan e-Garbi, 5 km S of Shoet, 1350 m; 28 – 29. IX. 2002, leg. P. Gyulai & A. Garai, slide no. GYP 6045 (PGM).

Paratypes. 4 males, 1 female, with the same data (PGM); 1 female, Iran, prov. Azerbayejan E-Sharqi, 45 km W of Miyane, 1500 m; 7 – 8. IX. 2000, leg. P. Gyulai & A. Garai (PGM); 2 males, 2 females, Iran, prov. Azerbaijan e-Sharqi, Kuh-e-Qoshrud, 25 km SE of Bostanabad, 1800 m., 10 – 11. IX. 2001, leg. P. Gyulai & A. Garai (PGM). Slide nos. GYP 6082m, GYP 6041f, GYP 6128m, 6132f.

Diagnosis. The specimens of the new subspecies (Figs 12–14) are generally smaller than those of the nominotypical *Parexarnis damnata* (Draudt, 1937) (Figs 7–9, 10, 11) (TL: Elburz Mts., Tact i Suleiman), which is a very variable taxon with a wide range of the colouration of the forewings, from the pale ochreous, pale brown to the dark greyish brown. *P. damnata iranoazerica* **ssp. n.** can be distinguished from nominotypical subspecies by the concolorous dark brown forewings, which are almost patternless, only the dark greyish or blackish reniform macula visible.

In the male genitalia capsule of the new subspecies (Fig. 45) the cucullus section of the valve is somewhat more asymmetrically elongated dorsal, the terminal diverticulum in the vesica tube is a triangle and significantly longer, than in the nominotypical subspecies. (Fig. 44). By these two genitalia features, it somewhat resembles to that of the Central- and inner Asiatic *Parexarnis laetifica* (Staudinger, 1889) (Figs 47, 48), however the lack of the conical subbasal diverticulum strictly separates it from *P. laetifica*. In the female genitalia of *P. damnata iranoazERICA* **ssp. n.** (Fig. 64) the laminar plates of the ductus bursae are shorter than in *P. damnata damnata* (Fig. 63), although regularly the specimens and the genitalia of the new subspecies are somewhat smaller. The corpus bursae are longer, and the appendix bursae are terminally broader, globular, more sclerotized in the new subspecies than in the nominotypical one.

Etymology. The name of the new subspecies refers to its distribution.

Distribution. The new subspecies is known only from the two Azeri provinces of Iran, in moderate altitudes.

***Parexarnis damnata checheni* ssp. n.** (Figs 15, 16, 46, 65)

Holotype. male, USSR, CHIASSR (=Russia, Chechnya-Ingushetia), Furtoug, 1000 m, 8–9. VI. 1990, leg. Á. Uherkovich & L. Ábrahám, slide no. GYP 6063 (PGM).

Paratypes. 3 males, 1 female, with the same data; 1 male, 1 female, USSR, CHIASSR (=Russia, Chechnya-Ingushetia), Furtoug, 1000 m, 29. V. 1990, leg. Á. Uherkovich, L. Ábrahám & Z. Korsós (PGM); 2 males, same data (ZVD), 5 males, USSR, CHIASSR (=Russia, Chechnya-Ingushetia), Furtoug, 1000 m, 8–9. VI. 1990, leg. Á. Uherkovich & L. Ábrahám (PGM); 1 male, 1 female, USSR, CHIASSR (=Russia, Chechnya-Ingushetia), Furtoug, 1000 m, 9–12. VI. 1990, leg. Á. Uherkovich & L. Ábrahám (PGM); 1 female, USSR, Checheno-Ingoussetia, NE Caucasus, Furtoug, 1100 m, 17-21.IX.1990, leg. B. Herczig & L. Ronkay (HNHM); 7 males and 4 females, USSR, CHIASSR (=Russia, Chechnya-Ingushetia), Caucasus, 2100 m, Skolny pass, 5. VIII. 1988, leg. Herczig, Szeőke & Mészáros (PGM); 1 female, same data (HNHM); 2 females, USSR CHIASSR, Shkolny pereval 2100 m, 9 July 1989, leg. Herczig, Uherkovich, Horváth, Sárközi (coll. HNHM); 4 males, same data (coll. ZVD); 1 female, USSR, Checheno-Ingoussetia, NE Caucasus, Furtoug, 1100 m, 17-21. IX.1990 | leg. B. Herczig & L. Ronkay (coll. HNHM); 1 male, USSR CHIASSR, Caucasus Mts., Itum-Kale, 1200 m, 11. VIII.1988, leg. Herczig (coll. HNHM); 1 male, USSR, Checheno-Ingoussetia, NE Caucasus, vic. Lake Kezenoi-am, 1700-2200 m, 11-14. IX.1990, leg. B. Herczig & L. Ronkay (coll. HNHM); 1 male, 1 female, USSR CHIASSR, Caucasus 1800 m, lake Kezenoj-am, 13. VIII.1988. Herczig, | Szeőke, Mészáros (coll. HNHM); 1 female, USSR, CHIASSR, Caucasus, 1000 m, Kerigo, 9-10. VIII. 1988. | leg. Herczig (coll. HNHM); 1 male, USSR, CHIASSR, Caucasus, at rivers Nelch and Assa, 10 km S of Torgim, 1300 m, 7. VIII.1988, Herczig, Szeőke, Mészáros (coll. HNHM); 2 males, 1 female, USSR, NE Caucasus, Soun, 2900 m, 5.VII.1991, |leg. B. Herczig, V. Markó et Z. Mészáros (coll. HNHM); 4 males, 7 females, USSR, Georgia, Kazbegi, 1983.VII.14-16, leg. Ács E. (HNHM); 1 female, Azerbayejan, Talysh Mts., Kalahan, 1600 m; 31. VIII. –1. IX. 1992, leg. V. Siniaev (PGM); 2 females, [Georgia], Lagodekhi, 18 [31]. V.1885, [leg. Christoph], ex coll. Gr. Prince Nikolai Mikhailovich (ZISP); 1 male, [Georgia], Chiauri [near Lagodekhi], 10[23].IX.1885, [leg. Christoph], ex coll. Gr. Prince Nikolai Mikhailovich (ZISP); 1 male, [Azerbaijan, Nakhichevan], Ordubad, 27. V.[9.VI.]1881, leg. Christoph, ex coll. Gr. Prince Nikolai Mikhailovich (ZISP); 1 female, [Azerbaijan, Nakhichevan], Ordubad, 3[16]. V.1883, leg. Christoph, ex coll. Gr. Prince Nikolai Mikhailovich (ZISP). Slide nos. GYP 6041, GYP 6043m, GYP 6072f, RL2979m, VZ 11085m, VZ 11604 m.

Diagnosis. The specimens of the new subspecies (Figs 15, 16) are generally not so distinctive from the ones of the Iranian nominotypical *Parexarnis damnata* (Draudt, 1937) (Figs 7–9, 10, 11) (TL: Elburz Mtns, Tac i Suleiman) in their external features and size, due to the wide individual variability in both taxa (even in the male and female genitalia configuration). However, the ground colour of the forewings of the new subspecies is more greyish or browsuffused and the crosslines are more defined. Furthermore, the slightly orange suffused and the concolorous light or pale fawn coloured, patternless forewinged specimens are common among the nominotypical subspecies, while these forms were not guessed in the large series of the new subspecies. Beside the northern, isolated distribution of the new subspecies, the slight differences in the genitalia configuration can help in the correct identification.

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In the male genitalia capsule of the new subspecies (Fig. 46), the distal section of the valvae generally is somewhat shorter, and the subterminal diverticulum in the vesica tube is slightly smaller than in the nominotypical subspecies (Fig. 44). In the female genitalia of *P. damnata checheni* **ssp. n.** (Fig. 65) the medial section of the corpus bursae joining to the appendix bursae is much less extended, the appendix bursae is conspicuously weaker and more elongated than in *P. damnata damnata* (Fig. 63).

From *P. damnata iranoazerica* **ssp. n.** (see above), the specimens of *P. damnata checheni* **ssp. n.** differ with the much lighter, grayish ground colour and the well-defined forewing pattern. In the male genitalia of *checheni* **ssp. n.** (Fig. 46) the cucullus section is less elongated and asymmetrically elongated dorsal, the terminal diverticulum in the vesica is broader but lower, much less prominent than in *iranoazerica* (Fig. 45); while those are the somewhat shorter laminar plates in the ductus bursae and smaller, significantly weaker appendix bursae in the female of *checheni* **ssp. n.** (Fig. 65).

Etymology. The name of the new subspecies refers to its type locality.

Distribution. The new subspecies is known only from the Caucasus.

The taxonomy of *Parexarnis laetifica* (Staudinger, 1889) (TL: S of Issyk-Kul)

P. laetifica has a wide range of distribution in Asia, occurring in most regions of Central Asia, furthermore in Mongolia, on the Tibetan plateau, in the Hindukush Mts., Karakoram Mts. and Indian Himalaya. The specimens are very different in the external features, however no significant differences can be found in the genitalia structure. Thus, only some of the highly isolated populations can be separated by subspecific levels below. In all the known populations, the females are regularly lighter coloured than the males. The author checked the type of *P. laetifica*, which is a concolorous, reddish-brown suffused specimen, probably a rare form, which sometimes occurs in other Central Asian populations, as well (see Fig. 19). However, all the studied specimens from the region of the type locality (Thian Shan and the Pamir), have a rather brownish-greyish ground colour of the forewing with the slight pale ochre ghost in the outer side of the crosslines. In the original description, Staudinger mentions also greyish-yellow suffusion on the forewing of the second specimen from the same locality, which is typical to this species. This comment by him confirms that the type is a rare form of *P. laetifica*. Similar specimen to the holotype is shown by Fig. 19. Forewing colouration and wing pattern have a wide scale, from shades of ochreous, reddish brown to the dark brown, greyish and blackish (Figs 17-22). Firstly Kovács & Varga (1973) and Hreblay, Ronkay & Plante (1998) suspected subspecific division of *P. laetifica*, but without description of the new subspecies.

***Parexarnis laetifica kharahasar* **ssp. n.** (Figs 23–26, 49, 68)**

Holotype. male, Mongolia, Bajan Ölgij aimak, Mongol Altay Mts., Örgön Sirig, 6. VIII. 1986, leg. P. Gyulai, slide no. GYP 859 (PGM).

Paratypes. 1 female, with the same data (PGM); 1 male, Mongolia, Bajan Ölgij aimak, Mongol Altay Mts., Bulgan village, 7. VIII. 1986, leg. P. Gyulai (PGM); 3 males, same data (ZVD); 2 males, Mongolia, Bajan Ölgij aimak, Mongol Altay Mts., Mönhaihran, in the village, 30–31. VII. 1986, leg. P. Gyulai, (PGM); 1 male, Mongolia, Chovd aimak, Mongol Altay Mts., in the town, 9–10. VIII. 1986, leg. P. Gyulai (PGM); 4 males, 1 female, Mongolia, Chovd aimak, Mongol Altay Mts., 6 km SW from Chovd, 25–28. VII. 1986, leg. P. Gyulai (PGM); 1 male, Mongolia, Chovd aimak, Mongol Altay Mts., Cenhergol, 25 km SE from Manchan, 29–30. VII. 1986, leg. P. Gyulai (PGM); 2 males, same data, leg. Z. Varga (ZVD); 1 male, 1 female, Mongolia, Zavchan aimak, Uliassutai, leg. Peregovits & Varga (ZVD); 2 males, Mongolia, Gobi Altai aimak, Khasagt Khayrkhan mts. | 12 km | W of Altay, 2130 m, N46°23.949', E 96°05.873'; | 24.VII.2006, | leg. B. Benedek & J. Babics (coll. HNHM); 1 male, Mongolia | Gobi Altai aimak, Mongol Altay mts., | Sutay mt., 16 km SE of Tonhil, 2032 m, | N46°11.318' E94°00.955' | 25.VII.2006 | leg. B. Benedek & J. Babics (HNHM); 2 males, 2 females, Mongolia, Chovd aimak, Mongol Altay Mts., Mönch Khaykhran, 6 km W of Tsenkhel, 47°03'502 N, 91°47'469 E, 28. VII. 2006, leg. B. Benedek & J. Babics (PGM); 4 males, 2 females, same data (HNHM); 2 males, Mongolia, Gobi Altai aimak, 60 km E of Altay, 46°11'336 N, 96°59'669 E,

30. VII. 2006, leg. B. Benedek & J. Babics (PGM); 1 female, Mongolia, Chovd aimak, Mongol Altay Mts., 30 km N of Üyench, Üyench river valley, 46°22'9782 N, 92°07'856 E, 1910 m, 27. VII. 2006, leg. B. Benedek & J. Babics (PGM); 6 males, 3 females, Mongolia | Govi Altai aimag | 60 km E of Altay, 2395 m | N46°11.336' E96°59.669', | 29.VII.2006, leg. J. Babics, B. Benedek (HNHM); 1 male, 1 female, Mongolia, Gobi Altay aimag, Mongol Altay Mts., 16 km SE of Tonhil, 46°11'518 N, 94°00'955 E, 2032 m, 29. VII. 2006, leg. B. Benedek & J. Babics (PGM); 1 female, same data (HNHM); 1 male, SW Mongolia, Hovd aimak, Hundiyn Gol riv., 46°06' N, 92°30'E, 1600 m, 3. VII. 2010, leg. nat. coll., (PGM); 1 female, Mongolia, Govi Altay aimag, Govi Altay, Mts., 30 km S Biger v., 2700–3000 m, 45°25'28 N, 97°08'30 E, 3–10. VII. 2002, leg. nat. coll. (PGM); 2 males, 4 females, Mongolia, Govi Altay aimag, | Mts. Adz Bogd, valley of Ih-gol, | 2100 m, 95°00'E, 44°45'N | 3-4. VIII. 1988. | leg. Peregovits & Varga (HNHM); 4 males, 3 females, Mongolia, Govi Altay aimag, | Mts. Govi Altay, 6 km S of | Tögrög, 1750 m, 94°45'E, | 45°51'N, 6. VIII. 1988. | leg. Peregovits & Varga (HNHM); 3 males, Mongolia, Gov'-Altay aimag, | Khasagt Khayrkhan Uul, 12 km | W of Altay, N 46°24', E 96°06'; | 2130 m, 27.VI. 2005, | leg. B. Benedek & T. Csóvári (HNHM); 1 male, 1 female, Mongolia, Khovd aimak, | Dzhungarian Gobi, 81 km SW | of Dzuyi, N 45°45', E 93°15'; | 1810 m, 29.VI. 2005 | leg. B. Benedek & T. Csóvári (HNHM); 3 males, 1 female, Mongolia, Govi Altay aimag, | Mts. Adz Bogd, Bungin Davaa, | 15 km S of Bun, 2700 m, | 95°15'E, 44°47'N, 5. VIII. 1988, leg. Peregovits & Varga (HNHM); 1 male, 3 females, Mongolia, Zavkhan aimag, | 78 km SSW of Uliastay | N 47°02', E 96°47'; | 2150 m, 5.VII.2005 | leg. B. Benedek & T. Csóvári (coll. HNHM); 2 males, Mongolia, Zavkhan aimag, 1750 m, | 5 km SW of Tsagaan khairkhan sum, | 47°27'56.9"N, 96°43'25.3"E, | 4-5.VII.2003, | leg. J. Puntsagsulam & S. Tögs-Erdene (coll. HNHM); 1 male, Mongolia, Mongolian Altay, Khovd aimak, Altai Sum, 22 km NNW of Altai, h=1552 m, 46.006623 N 92.356425 E, at light, 6.VI.2022, leg. I. A. Makhov (ZISP); 2 females, Mongolia, Mongolian Altay, Gov'-Altay aimag, Tonkhil Sum, 11 km W of Tonkhil village, 46.2979918 N 93.7575660 E, at light, 15.VI.2022, leg. I. A. Makhov (ZISP); 1 male, 1 female, [Mongolia], Altai Mong., 1904, leg. Grum-Grzhimailo; 1 female, [Mongolia], Altai, [1904?], leg. Grum-Grzhimailo (ZISP); 1 male, Mongolia, Dzhasaktukhan, 14[27]. VII.1877, leg. Potanin, prepare in glycerine [Kozhanchikov] N 1460 (ZISP); 1 male, Mongolia, at the Dzhasaktu-Khan's headquarters, at the northern foot of Tatoshir-Ola, 14 [27].VII.1877, leg. Potanin (ZISP); 1 male, Mongolia West., mountains West of Ulangkom [Ulaangom], 27.VII. [9.VIII.]1903, leg. Grum-Grzhimailo (ZISP); 7 males, 8 females, [Mongolia], Urga [Ulan-Baatar], leg. Leder, ex coll. Gr. Prince Nikolai Mikhailovich (ZISP); 1 female, Mongolia, Uvs aimag, ~64 km WNW of mount Ulaangom, SE edge of the lake Ureg-Nuur basin, 3 km SW of Ulan-Zukhyn pass, h=1650 m, 50°03'50" N, 91°10'43" E, 1-2.VII.2015, leg. Ya.N. Kovalenko (ZISP). 1 male, 1 female, China, Xin-Yiang, Karlik Mount, 3300 m, 85 km NE of Hami city, 20–30. VIII. 1998, leg. S. Nykl (PGM). Slide nos. VZ 11336 m, VZ 11337 m, VZ 11840 m, VZ 11842 f, GYP 6070f.

Diagnosis. The forewings of the specimens of the Mongolian subspecies (Figs 23–26) are somewhat broader, the marginal area on the hindwings more defined, less diffuse than those of the forms of the nominotypical *P. laetifica* (Figs 17–22). Ground colour greyish brown on the forewings, the inner area on the hindwings much lighter of *P. laetifica kharahasar* **ssp. n.** than on the nominotypical subspecies. Slight pale ochre colouration visible only around the stigmata and as an outer ghost of the crosslines on the *kharahasar* **ssp. n.**

In the male genitalia capsule of the new subspecies (Fig. 49) the cucullus section is smaller and the subbasal diverticulum in the vesica tube is much smaller than in the nominotypical subspecies. (Figs 47, 48). In the female genitalia of *P. laetifica kharahasar* **ssp. n.** (Fig. 68), the laminar plates of the ductus bursae are somewhat slighter but longer than in *P. laetifica laetifica* (Figs 66, 67), the appendix bursae is smaller but more prominent in the new subspecies than in the nominotypical one.

Etymology. Kharahasar was the black-clothed son of the god of the Eastern Sky in the Mongolian mythology.

Distribution. The new subspecies is known from Mongolia and from the Karlik Mount in northwestern Xinyiang, China, not far from the Mongolian border.

***Parexarnis laetifica meridiemdeserti* ssp. n.**

(Figs 27, 28, 50, 69)

Holotype. male, China, Xin-Yiang, 4000 m, King Mounts, 30 km E Muztagata Mount, 27. VII. –3. VIII. 1995, leg. M. Kopp et al., slide no. GYP 987 (PGM).**Paratypes.** 2 males with the same data (PGM); 1 male, 2 females, China, 4000 m, Kunlun Shan, 100 km S of Karaki village, 14–24. VII. 1995, leg. M. Kopp et al. (PGM).

Slide nos. GYP 852m, GYP 856m, 857m, GYP 6109f.

Diagnosis. The forewings of this subspecies (Figs 27, 28) are somewhat more elongated than those of the nominotypical *P. laetifica* (Figs 17–22). Ground colour is almost concolorous brownish with slight reddish suffusion on the forewings of the males, while those are much more contrastive, with lighter brownish ground colour and with ochreous ghost of the outer side of the crosslines on the females *P. meridiemdeserti* ssp. n.In the male genitalia capsule of the new subspecies (Fig. 50) the terminal diverticulum in the vesica tube is a triangle and significantly larger, than in the nominotypical and other subspecies. (Figs 47, 48) and (Figs 49, 51–53, 70). In the female genitalia of *P. laetifica meridiemdeserti* ssp. n. (Fig. 69), the ductus bursae and its inner laminar plates are conspicuously broader than in *P. laetifica laetifica* (Fig. 66, 67) and in all of the *P. laetifica* subtaxa (Figs 68, 70); the appendix bursae more elongated and significantly more prominent in the new subspecies than in the nominotypical one.**Etymology.** The name of the new species means „south from the desert“, since it occurs in the two high mountains south from the Takla Makan desert.***Parexarnis laetifica terminusincola* ssp. n.** (Figs 30–33, 52, 53, 70)**Holotype.** male, Pakistan, Hindukush Mts., Shandur pass, E slope, 3300 m, 36°07' N, 72° 38' E, 3300 m, 29 - 31. VIII. 1997, leg. GY. Fábíán & G. Ronkay, slide no. 6127 (PGM).**Paratypes.** 1 female, Pakistan, Hindukush Mts., Shandur pass, 3750 m, 24. VII. 2011, leg. B. Benedek (PGM); 1 male, Pakistan, Karakoram Mts., Chapurson valley, near Baba Ghundi village, 3100 m, 26. VIII. 2001, leg. B. Benedek & G. Ronkay (PGM); 1 male, with the same data (HNHM); 1 male, Pakistan, Karakoram Mts., Chapurson valley, near Rhaminji village, 2500 m, 27. VIII. 2001, leg. B. Benedek & G. Ronkay (PGM); 2 males, with the same data (HNHM).
Slide nos. GYP 6115m, GYP 6047f.**Diagnosis.** The specimens of *P. laetifica terminusincola* ssp. n. (Figs 30–33) are less contrastive than of the nominotypical *P. laetifica* (Figs 17–22), and those of most of the subspecies, except the Indian Himalayan *Parexarnis laetifica saxea* Hacker & Kautt, 1996 (Fig. 29). The forewings of this subspecies are pale brownish with pale orange-reddish suffusion, however, lacks the weak ochre ghost on the outer side of the crosslines (or it is very obtuse). The females are slightly lighter with more pale ochre colouration, strictly defined brown subterminal line with the slight ochre outer ghost of the subterminal crossline. The specimens from the Karakoram Mts. are somewhat larger and lighter coloured, however, no female was available, and genitalia differences were not found. Thus, the Karakoram populations are accepted to this subspecies provisorically.In the male genitalia capsule of the new subspecies (Figs 52–53) the cucullus section of the valvae is somewhat more elongate dorsal than in the nominotypical subspecies (Figs 47–48), and both the subterminal and terminal diverticulum in the vesica tube are smaller. In the female genitalia of *P. laetifica meridiemdeserti* ssp. n. (Fig. 70), the ductus bursae and its inner laminar plates are somewhat longer than in *P. laetifica laetifica* (Fig. 66, 67).**Etymology.** The name of the new species means “living near the border“, since it occurs near the borders between Afghanistan and Pakistan and Tajikistan, China and Pakistan.***Parexarnis dagestana* sp. n.** (Figs 34, 54)**Holotype.** male, Russia, North Caucasus, Dagestan, Dokuzparinsky District, 8 km south of Miskindzha village, Mount Shalbudzag, 3000m, 16-20. VII. 2022 V. Zurilina, slide no. GYP 6040 (PGM).

Diagnosis. *Parexarnis dagestana* sp. n. (Fig. 34) is related to *Parexarnis laetifica* (Staudinger, 1889) (Figs 17–22) (TL: Kyrgyzstan, Issyk Kul) by its genitalia configuration, which has a wide range in Central- and Inner Asia, to the Himalaya. It can be very easily separated from all the taxa of *P. laetifica* by the following features. *Parexarnis dagestana* sp. n. has shorter forewings with less elongated apex; much darker, greyish forewings with scattered dark blueish scales in the basal area and very dark blackish crosslines; furthermore, it lacks the yellowish or pale orange shade of the crosslines. The hindwing of *P. dagestana* sp. n. is more distinctive not only from *P. laetifica*, but from all the congeners as well, since it has the most contrasty hindwing with whitish ground colour, dark greyish, very broad marginal field and a large, curved cellular macula.

In the male genitalia capsule of *P. dagestana* sp. n. (Fig. 54), the uncus is stronger and much more pubescent than in *P. laetifica* (Figs 47–48), the cucullus section is more elongated and acute apically. There are better diagnostic characters in the tube of the endophallus (vesica); *P. dagestana* sp. n. bears a long, strongly sclerotized, wing-like field on the ventral side of the helicoid coil, which is unical in *Parexarnis* and characteristic to this new species. Very rarely, a much paler, weaker, hardly sclerotized field can be visible in *P. laetifica* vesica, which supports the idea that *P. dagestana* sp. n. is the westernmost close relative of *P. laetifica*.

The subterminal diverticulum in the new species is broad, slightly sclerotized but much less prominent than in the close relatives, while the terminal diverticulum is globular and much smaller in the new species.

Description. Wingspan 42 mm. Antenna filiform. Vesture of the head and thorax, forewing ground colour and cilia almost concolorous dark greyish. The orbicular and reniform stigmata as ground colour, encircled with fine yellowish scales. Claviform stigma absent. Transverse lines fine, blackish and fuscous, antemedial one wavy, postmedial one fine, slightly arcuated, finely serrate; both with some pale ochreous outer shade. Hindwing whitish, with broad diffuse greyish marginal field and a conspicuous curved cellular macula. Underside of wings without or almost without shade of upperside pattern, forewings pale light greyish with a prominent dark shade of the reniform macula, hindwings whitish, almost patternless, with a prominent dark shade of the cellular macula.

Male genitalia (Fig. 54). Uncus strong, strongly pubescent. Valva medially the broadest, strongly convex dorsally with asymmetric, dorsally elongated, apically acute cucullus section, terminated in a row of a few small setae. Harpe strong, straight, outward ship with asymmetrical hammer-like head. Saccular processes tiny, curved inward, acute. Vinculum v-shaped. Aedeagus straight. Everted tube of endophallus coiled and slightly curved dorsally, bearing a long, strongly sclerotized, wing-like plate medially; its subbasal diverticulum conical, terminated with a small cornutus. The subterminal diverticulum broad, slightly sclerotized but not prominent while the terminal diverticulum is small and globular.

Distribution. The new species is known only from the type locality in moderate altitude.

***Parexarnis obumbrata conmixta* ssp. n.** (Figs 37, 38, 56, 72)

Holotype: male, Mongolia, Hovd aimak, Mongol Altay Mts., Mönch Khaykhran, 6 km W of Tsenkhel, 47°03'502 N, 91°47'469 E, 28. VII. 2006, leg. B. Benedek & J. Babics (PGM); slide no. GYP 6062 (PGM).

Paratypes: 1 female, with the same data (PGM); 1 male, Mongolia, Gobi Altay aimak, S of Mongolian Altay, Alag Kharkhan Mts., 2500 m, 5–7. VII. 2004, leg. A. Saldaitis (PGM); 7 males, 4 females, Mongolia, Gobi Altay aimak, Adz Bogd Uul Geb. cca 35 km S von Somon Altay, am Plateau, 3000 m, Nr. 598, 28. VI. 1966, exp. Dr. Z. Kaszab, 1966. (HNHM); 1 female, Mongolia, Bajan-Ulgii, Flus-Zargalani, 20 km NW Bulgan, 4.VII.1980, leg. Z. Puntsagdulam (coll. HNHM); 1 female, Mongolia, Govi Altai aimak, Mts. Adz Bogd, Bungin Davaa, 15 km S of Bun, 2700 m, 95°15'E, 44°47'N, 5. VIII.1988, leg. Peregovits & Varga (coll. HNHM); 4 males, Mongolia, Govi Altai aimak, Adz Bogd Mts, Bungin Davaa, 2700 m, 95°15'E, 44°47'N, 5.08.1988, leg. Peregovits & Varga (ZVD); 1 female, Mongolia, Mongolian Altay, Khovd aimag, Bulgan Sum, 36 km S of Bulgan, desert, 45.7812698 N 91.1355541 E, at light, 7.VI.2022, leg. I. A. Makhov (ZISP); 1 female, Mongolia, Mongolian Altay, Khovd aimag, Bulgan Sum, 27 km NNW of Burenkhairkhan, 46.3372557 91.4698368 E, at light,

10.VI.2022, leg. I.A. Makhov (ZISP); 2 females, Mongolia, Mongolian Altay, Khovd aimag, Bulgan Sum, 30 km NNE of Bulgan, 46.4021527 N 91.1830443 E, at light, 11.VI.2022, leg. I.A. Makhov (ZISP); 1 female, Mongolia, Mongolian Altay, Khovd aimag, Bulgan Sum, 19 km NE of Bulgan, dry steppe, 46.2548970 N 91.2569036 E, at light, 12.VI.2022, leg. I.A. Makhov (ZISP).

Slide nos. VZ 598m, GYP 6044m, GYP 6108f.

Diagnosis. A male and the genitalia of the Mongolian population were figured firstly by Varga (1973). Hreblay, Ronkay & Plante (1998) suspected it as a distinct subspecies, but did not describe. Wingspan 36-41 mm, while of the nominotypical subspecies 39-41 mm. The specimens of the new subspecies (Figs 37, 38) are generally hardly distinctive in the external features from the ones of the typical *Parexarnis obumbrata* (Staudinger, 1889) (TL: Kyrgyzstan, Issyk Kul) (= *Rhyacia sollertina* Corti & Draudt, 1933; TL: Aksu) (Figs 35, 36). The forewings of the new subspecies are more densely suffused with pale ochre scales and more contrastive than of the nominotypical subspecies. Beside the eastern, isolated distribution of the new subspecies, the slight differences in the genitalia configuration can help in the correct identification.

In the male genitalia capsule of the new subspecies (Fig. 56) the distal section of the valvae is broader, while the cucullus section is somewhat shorter, the terminal diverticulum is somewhat larger than in the nominotypical subspecies. (Fig. 55) and both diverticuli lack of the sclerotization. In the female genitalia of *Parexarnis obumbrata conmixta* **ssp. n.** (Fig. 72), the ductus bursae is shorter, the appendix bursae are less laterally prominent, shorter, and much stronger sclerotized distally, than in the nominotypical subspecies (Fig. 71).

Etymology. The name of the new species means „mixed“, referring to the slightly contrastive forewings than in the nominotypical subspecies.

Distribution. The new species is known from SW Mongolia.

***Parexarnis pallidobrunnea* sp. n.** Figs 39, 40, 57, 58, 73)

Holotype: male, Pakistan, 2450 m., Hindukush Mts., E of Teru, Samaran village; 17-18. IX. 1998, leg. P. Gyulai & A. Garai slide no. GYP 1097 (PGM).

Paratypes: 3 males, one female with the same data (PGM).
Slide nos. GYP 6051m, GYP 6117m, GYP 6114f.

Diagnosis. *Parexarnis pallidobrunnea* **sp. n.** (Figs 39, 40) is related to *Parexarnis obumbrata* (Staudinger, 1889) (TL: Kyrgyzstan, Issyk Kul) (= *Rhyacia sollertina* Corti & Draudt, 1933; TL: Aksu) (Figs 35, 36) being the southern sister species of it. *P. pallidobrunnea* **sp. n.** has lighter, pale greyish-brownish forewings and hindwings with much paler wing pattern than of *P. obumbrata*. The new species lacks the pale yellowish outer shade of the more arcuate postmedial crossline and the scattered yellowish scales on the forewing, which are typical on the *P. obumbrata* and its Mongolian subspecies, while the pale yellowish diffuse surrounding of the orbicular and reniform macules is more extended on the female.

In the male genitalia capsule of *P. pallidobrunnea* **sp. n.** (Figs 57, 58), the valvae are slender distally, the cucullus section is more elongated and acute apically, in the significantly broader, much more coiled tube of the endophallus (vesica) the subbasal diverticulum is much larger, more prominent, than in *P. obumbrata* (Fig. 55), and the new species lacks the small subterminal sclerotized diverticulum, which is present in *P. obumbrata*. In comparison *P. sollers* (Fig. 43), the valvae are slender distally, the cucullus section is more elongated and acute apically, the subbasal diverticulum in the coiled vesica conspicuously larger and broader in the new species (Figs 57, 58), than in *P. sollers*; additionally the subterminal diverticulum is regressed in *P. pallidobrunnea* **sp. n.** There are better diagnostic features in the female genitalia. The ovipositor much more elongate, the laminar plate of the antrum much stronger and broader, the tubular ductus bursae significantly shorter in *P. pallidobrunnea* **sp. n.** (Fig. 73), than in *P. obumbrata* (Fig. 71). Additionally, the appendix bursae is rather globular and the corpus bursae is somewhat saccate, while the appendix bursae is prominent, the corpus bursae is globular in *P. obumbrata*. In the female genitalia of *P. pallidobrunnea* **sp. n.** (Fig. 73) and *P. sollers* (Fig. 62) the differences are more expressed; the new species has robust ductus bursae with two large unequal laminar plates, but smaller appendix- and ductus bursae than of *P. sollers*.

Description. Wingspan 40–44 mm. Antenna filiform of both sexes. Vesture of the head and thorax, forewing ground colour almost concolorous with differently shaded greyish-brownish suffusion. The orbicular and reniform stigmata the darker shade of the ground colour, surrounded with a diffuse area of yellowish scales, which is more extended on the female. Orbicular macula typical, reniform macula narrow, arched, claviform stigma absent. Transverse lines fine, obscure, the darker shade of the ground colour; antemedial one oblique, wavy, double; postmedial one fine, slightly arcuated, finely serrate; subterminal sinuous, diffuse with some pale ochreous outer shade. Hindwing almost concolorous brownish-greyish, with broad, slightly darker diffuse greyish marginal field and an arched slight, obscure cellular macula. The underside of the wings pale greyish, the hindwing rather whitish, with the pale shade of the upperside pattern.

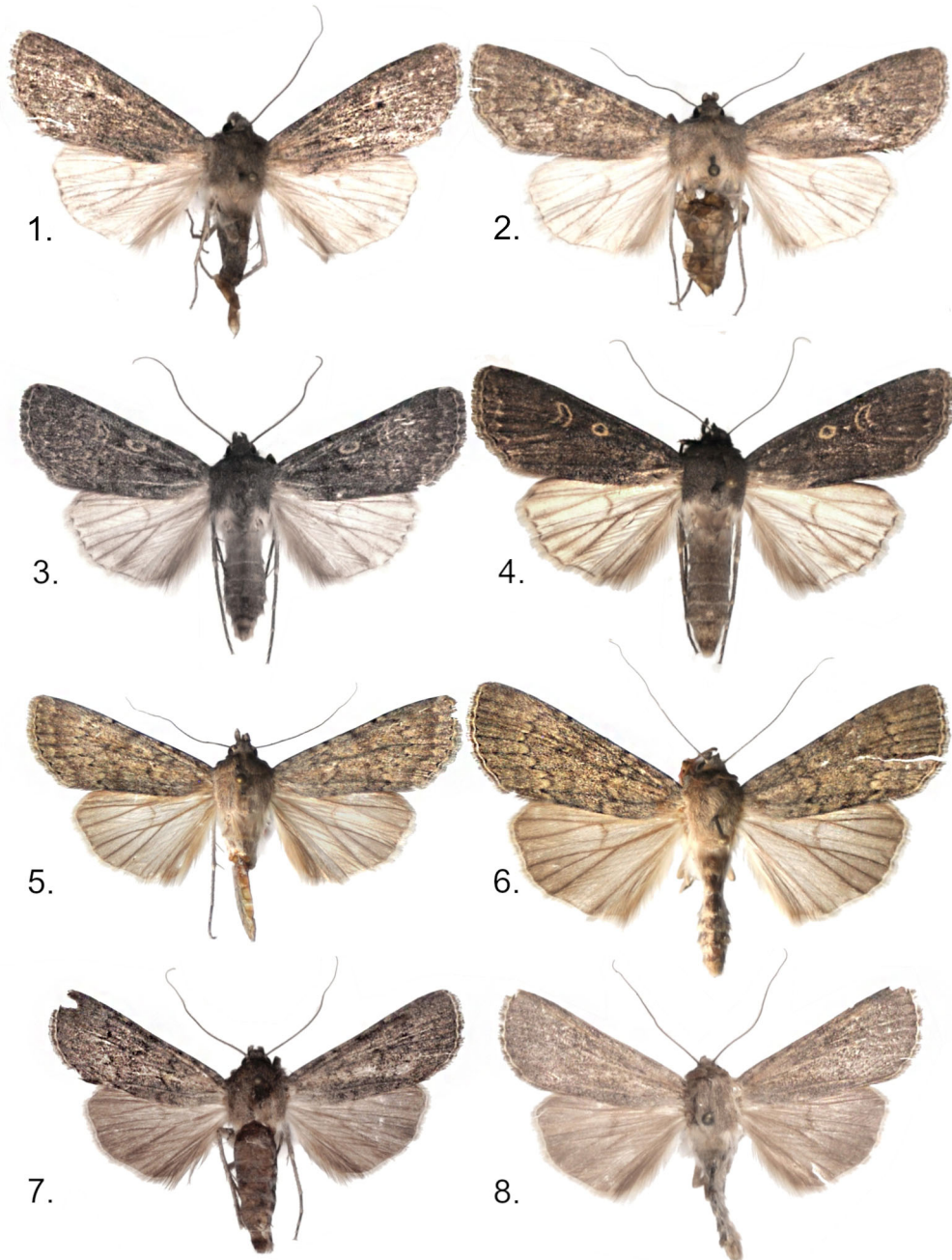
Male genitalia (Figs 57, 58). Uncus strong, distally pubescent. Valvae elongated, medially the broadest, somewhat convex dorsally, with terminally rounded, but dorsally slightly extended cucullus section. Harpe strong, straight, and terminally somewhat spatulate. Saccular processes absent or slight. Vinculum v-shaped. Aedeagus straight. Everted tube of endophallus coiled, its subbasal diverticulum large, prominent, conical, terminated with a small cornutus. The subterminal diverticulum regressed, while the terminal diverticulum is small and tongue-like.

Female genitalia (Fig. 73). Ovipositor elongate, the apophyses anteriores short, the apophyses posterioris about four times longer. Ductus bursae tubular, the laminar plates of the antrum are robust, strongly sclerotized, and inequal. Appendix bursae globular, terminally with a slight sclerotization. Corpus bursae is somewhat saccate, unusually small in this genus.

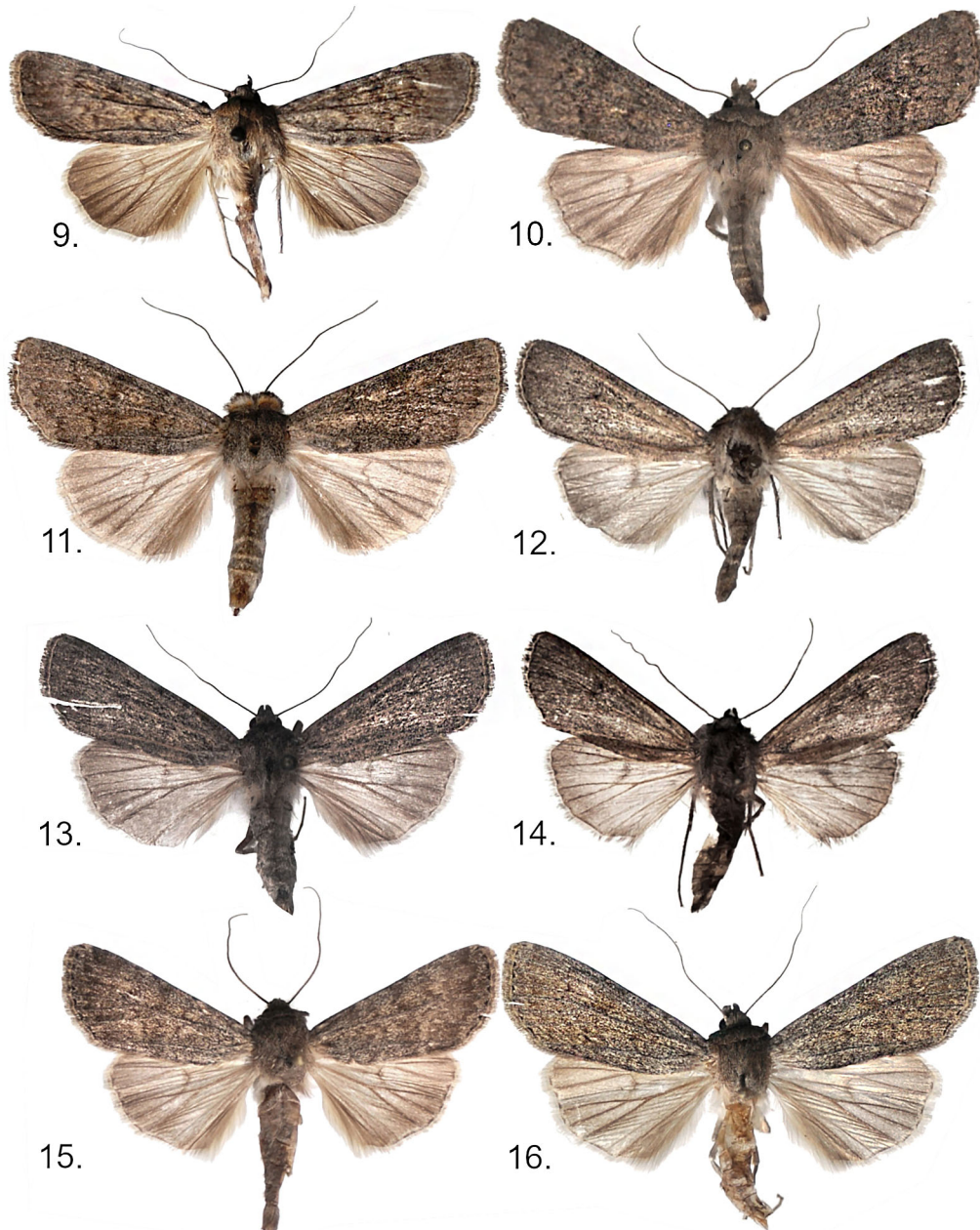
Distribution. The new species is known only from the Hindukush Mts. at moderate altitude.

Etymology. The name of the new species means pale brown, referring to the forewing colouration.

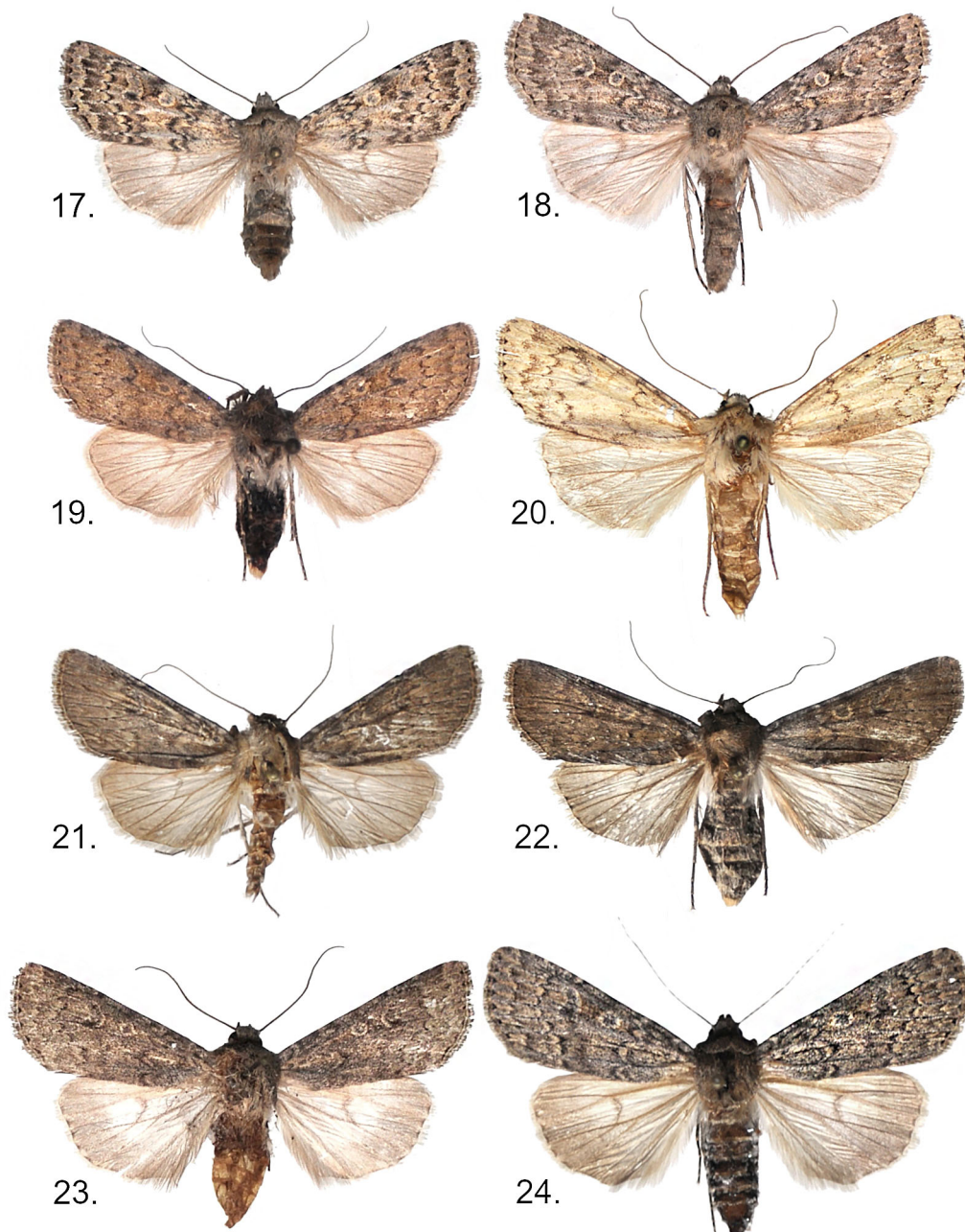
Acknowledgements. The author is grateful to Prof. Zoltán Varga (Debrecen University, Hungary) for consultation, review, suggesting one of the subspecific names and supporting the author with genitalia documentation; to Alexey Matov (ZISP, St. Petersburg, Russia) for consultation and photo documentation; Adrienne Gyulai-Garai (Miskolc, Hungary) for her great help with the computer assistance and during the Pakistani and Iranian expeditions; to Zsolt Bálint, Balázs Tóth and Gergely Katona (HNHM, Budapest, Hungary) for the data of the type material of HNHM; and last but not least, to Imre Fazekas (Pannon Institute, Pécs, Hungary) for the review and publication of the manuscript.



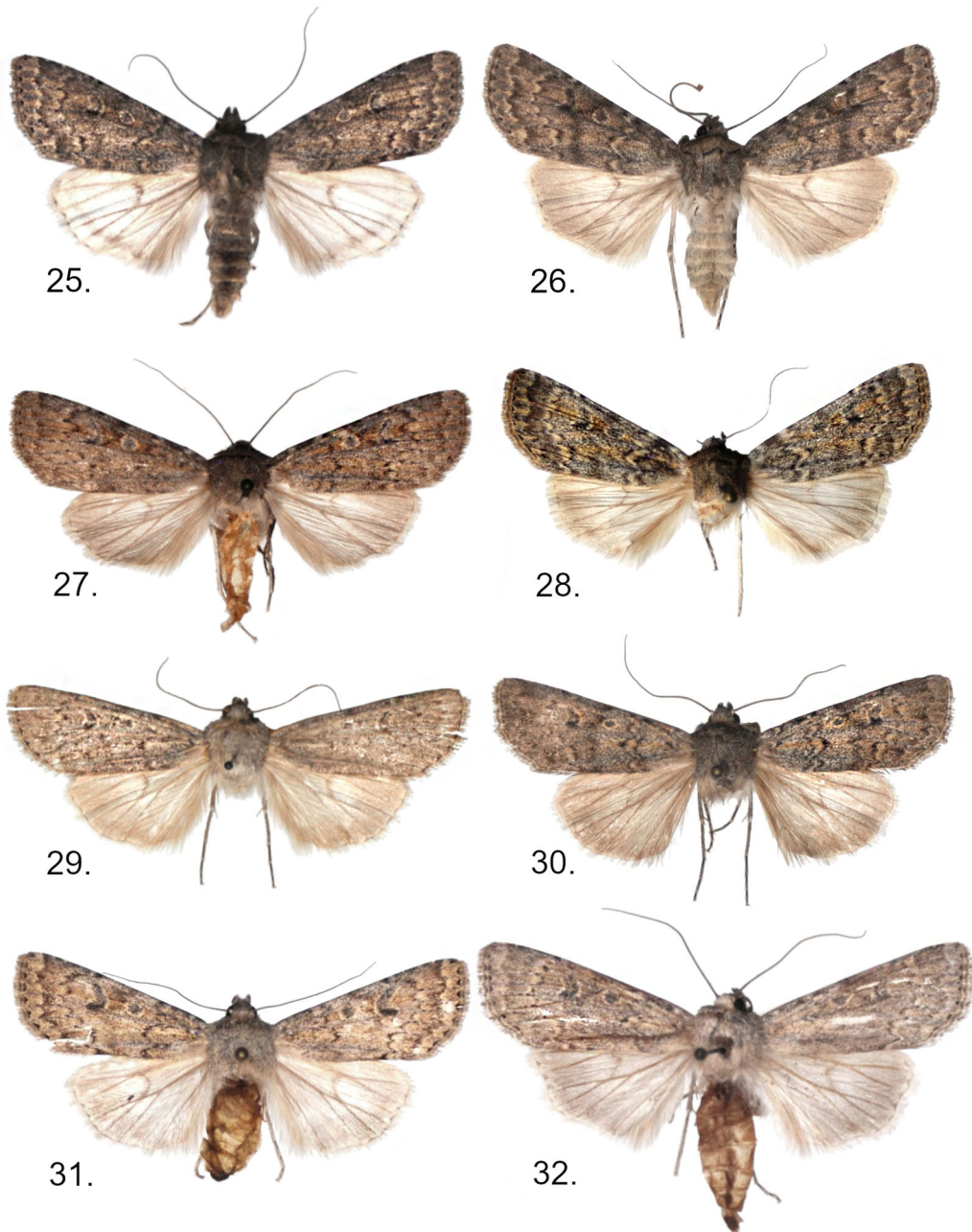
Figures 1–8. *Parexarnis* spp. adults. **1.** *P. hindukushventus* **sp. n.**, HT, m., Pakistan, Hindukush Mts., GYP 1098 (PGY); **2.** *P. hindukushventus* **sp. n.**, PT, f., Pakistan, Hindukush Mts., GYP 6050 (PGY); **3.** *P. ala* (Staudinger, 1881), m, Kazakhstan, Taldy-Kurgan (PGY); **4.** *P. ala* (Staudinger, 1881), f, Kazakhstan, Taschkarasu (PGY); **5.** *P. sollers* (Christoph, 1864), m, Iran, Khorasan, Binaloud, GYP 6084 (PGY); **6.** *P. sollers* (Christoph, 1864), m, Usbekistan, W Thien-Shan (PGY); **7.** *P. damnata* (Draudt, 1937), m, Iran, prov. Tehran, GYP 6103 (PGY); **8.** *P. damnata* (Draudt, 1937), m, Iran, Mazandaran, C. Alborz (PGY).



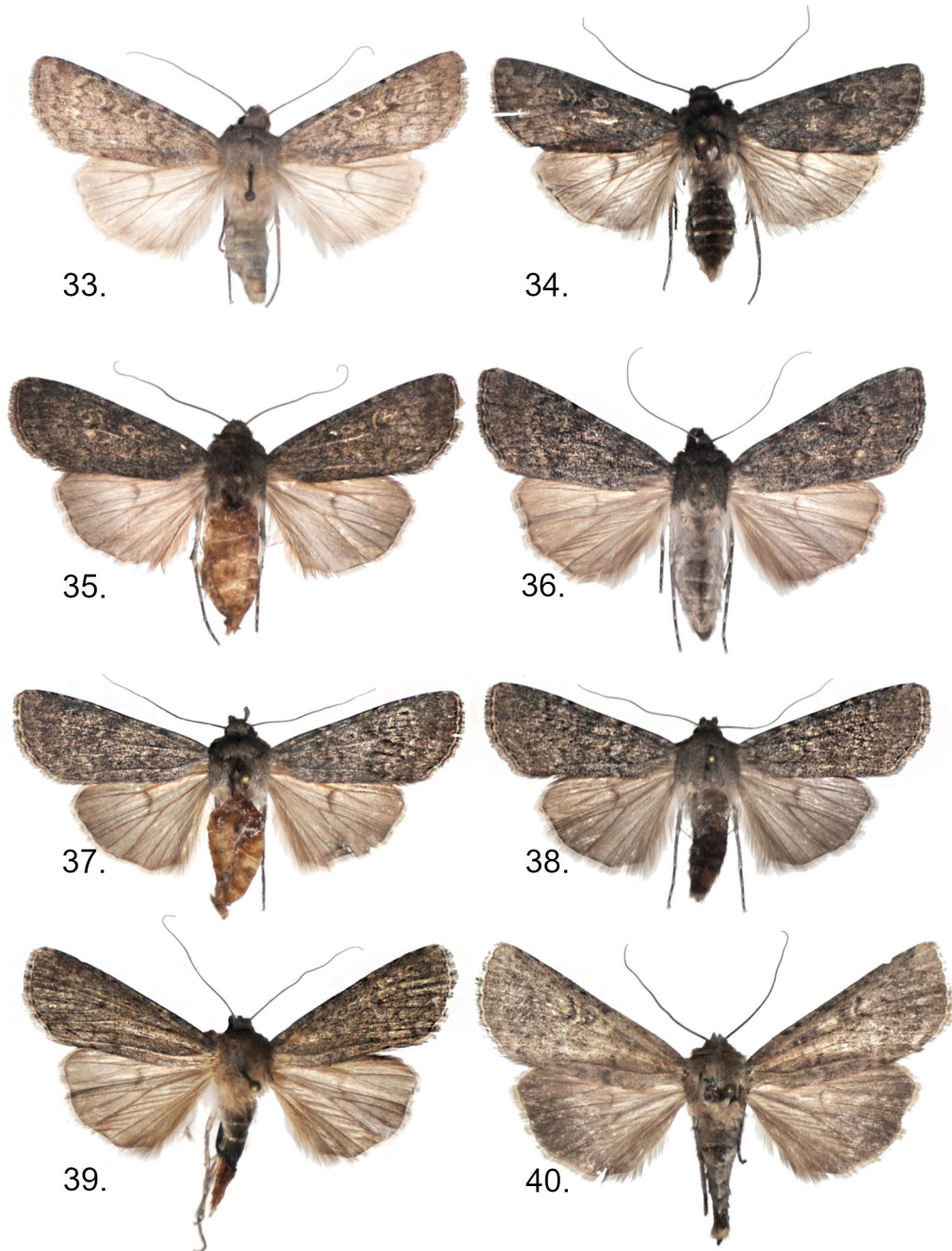
Figures 9–16. *Parexarnis* spp. and ssp. adults. **9.** *P. damnata* (Draudt, 1937), m, Iran, Mazandaran, GYP 6093 (PGY); **10.** *P. damnata* (Draudt, 1937), f, Iran, Mazandaran, C. Alborz (PGY); **11.** *P. damnata* (Draudt, 1937), f, Iran, prov. Tehran, GYP 6131 (PGY); **12.** *P. damnata iranoazerica* ssp. n., PT, m, Iran, Azerbayejan-e-Garbi, GYP 6128 (PGY); **13.** *P. damnata iranoazerica* ssp. n., PT, f, Iran, Azerbayejan-e-Garbi (PGY); **14.** *P. damnata iranoazerica* ssp. n., HT, m, Iran, Azerbayejan-e-Garbi, GYP 6045 (PGY); **15.** *P. damnata checheni* ssp. n., HT, m, USSR, CHIASSR (Chechnya), Caucasus, GYP 6063 (PGY); **16.** *P. damnata checheni* ssp. n., PT, f, USSR, CHIASSR (Chechnya), Caucasus, GYP 6072 (PGY).



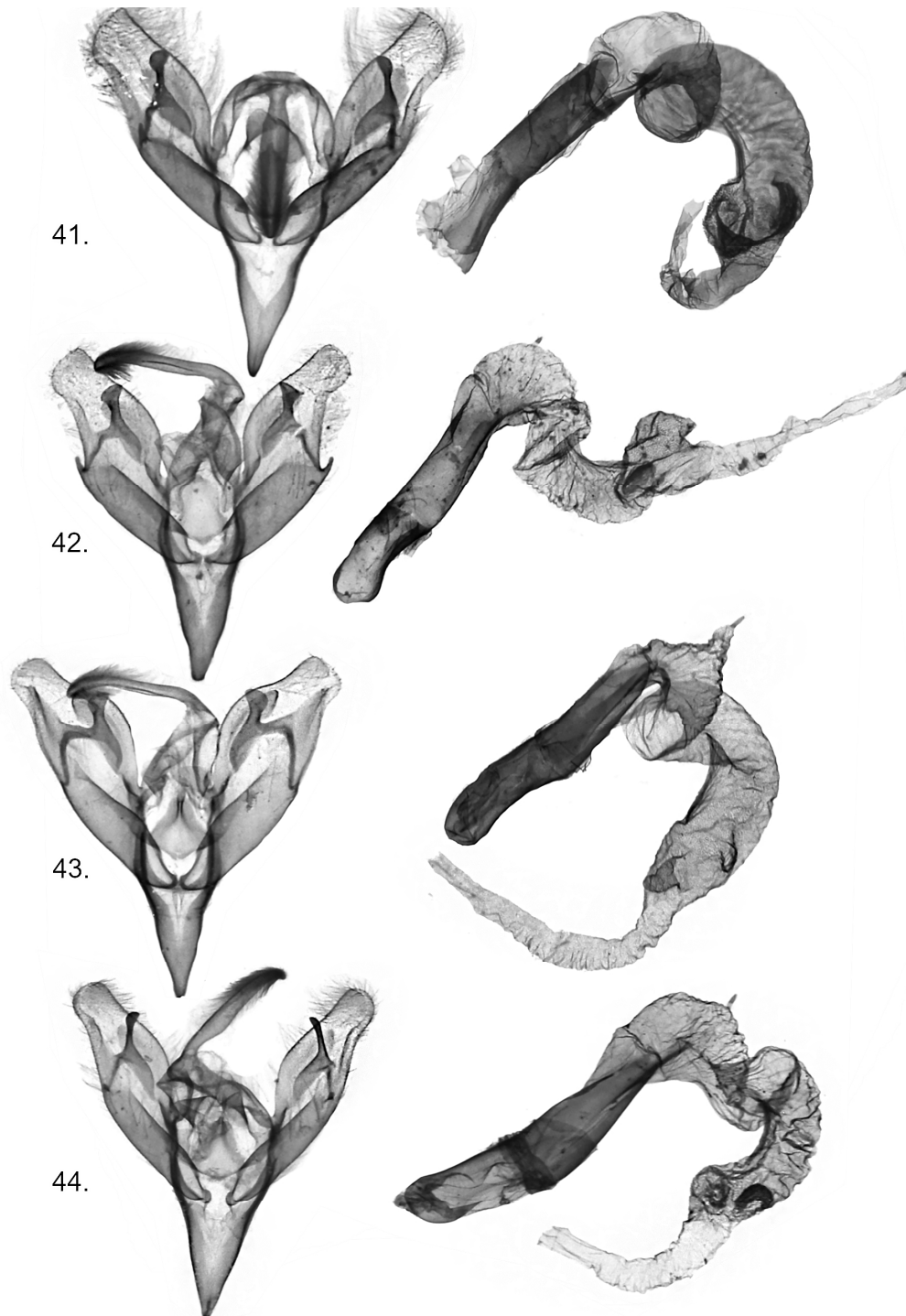
Figures 17–24. *Parexarnis* spp. and ssp. adults. **17.** *P. laetifica* (Staudinger, 1889) m, Usbekistan, Zeravshan, GYP 6129 (PGY); **18.** *P. laetifica* (Staudinger, 1889) f, Kirgisia, 5 km S of Enilchek (PGY); **19.** *P. laetifica* (Staudinger, 1889) m, Tajikistan, SE Pamir, Akbura (PGY); **20.** *P. laetifica* (Staudinger, 1889) f, Tajikistan, W Pamir, Vantsh Mts., GYP 2003 (PGY); **21.** *P. laetifica* (Staudinger, 1889) m, Tajikistan, E Pamir, Zulumart Mts., GYP 6053 (PGY); **22.** *P. laetifica* (Staudinger, 1889) f, Tajikistan, E Pamir, Zulumart Mts., GYP 6118 (PGY); **23.** *P. laetifica kharahasar* ssp. n., HT, m., Mongolia, Bajan Ölgij aimak, GYP 859 (PGM); **24.** *P. laetifica kharahasar* ssp. n., PT, f, Mongolia, Hovd aimak, GYP 6070 (PGY).



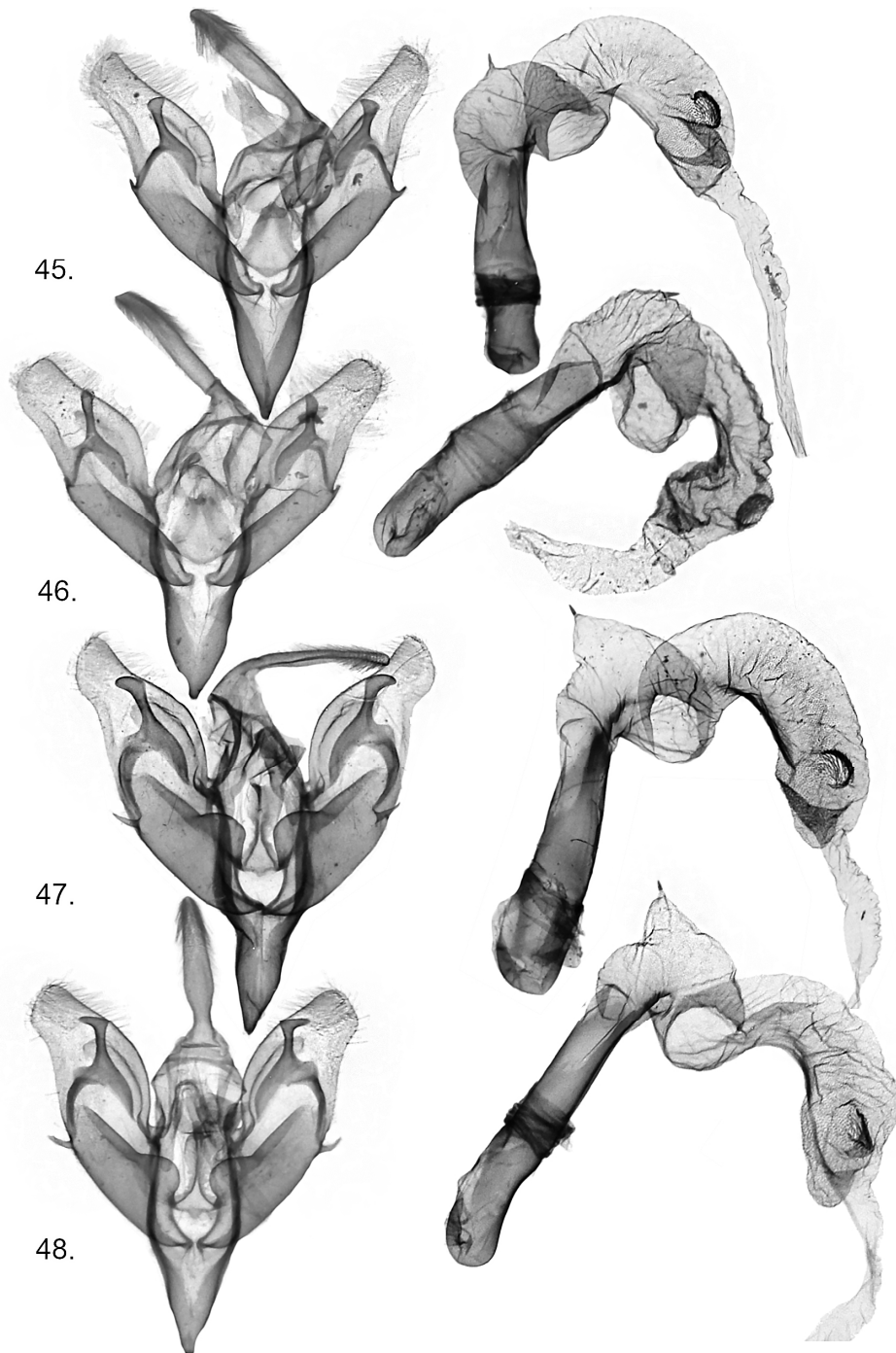
Figures 25-32. *Parexarnis* ssp. adults. **25.** *P. laetifica kharahasar* ssp. n., PT, m., China, Xin-Yiang, Karlik Mount Mount (PGM); **26.** *P. laetifica kharahasar* ssp. n., PT, m., f. China, Xin-Yiang, Karlik Mount (PGM); **27.** *P. laetifica meridiemdeserti* ssp. n., HT, m, China, Muztagata, GYP 987(PGM); **28.** *P. laetifica meridiemdeserti* ssp. n., PT, f, China, Kunlun, GYP 6109 (PGM); **29.** *P. laetifica saxea* Hacker & Kautt, 1996, PT, m, India, Himachal Pradesh, GYP 6126 (PGM); **30.** *P. laetifica terminusincola* ssp. n., HT, m, Pakistan, Hindukush Mts., GYP 6127 (PGM); **31.** *P. laetifica terminusincola* ssp. n., PT, f, Pakistan, Hindukush Mts., GYP 6047 (PGM); **32.** *P. laetifica terminusincola* ssp. n., PT, m, Pakistan, Karakoram Mts., GYP 6115 (PGM).



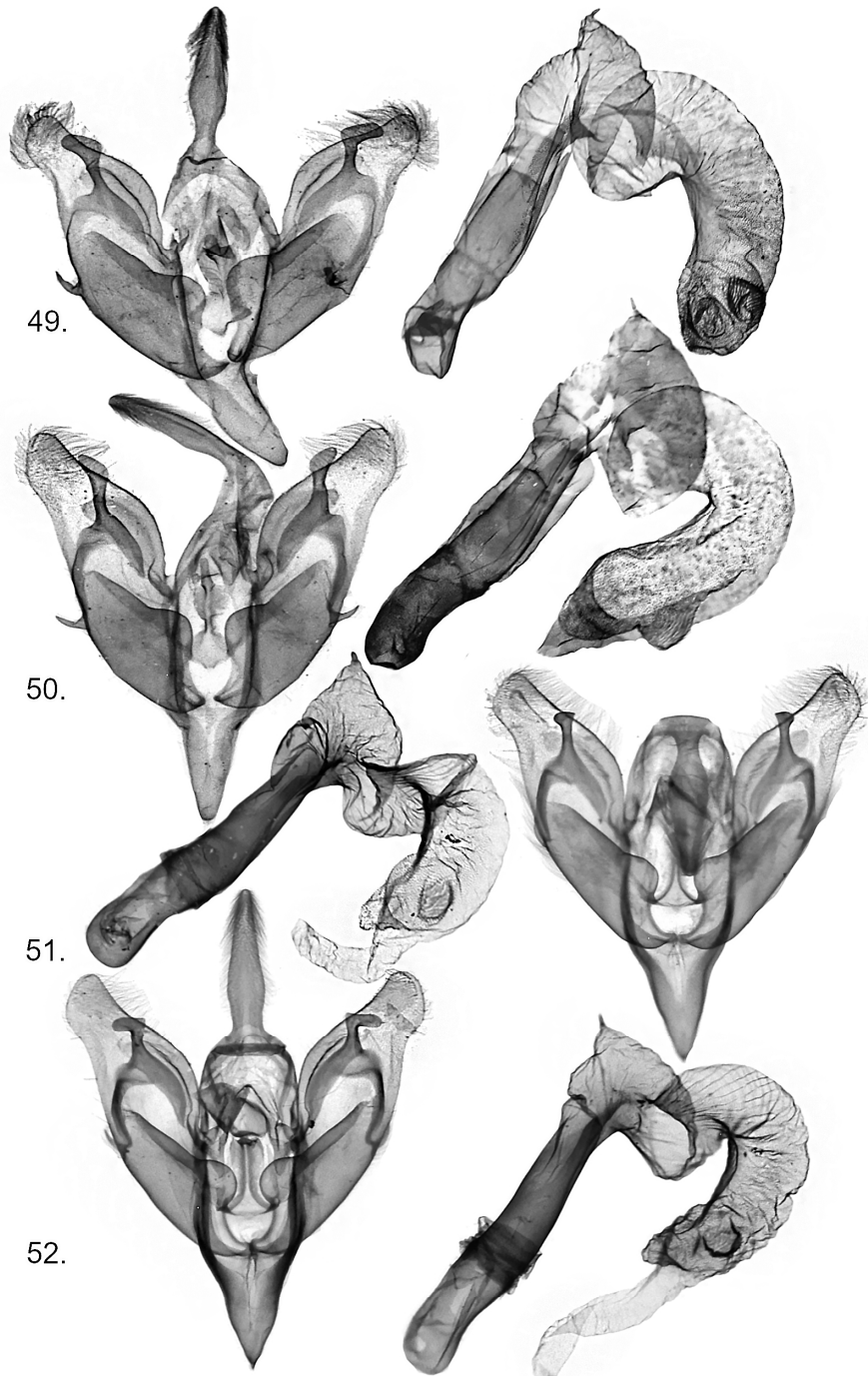
Figures 33–40. *Parexarnis* spp. and ssp. adults. **33.** *P. laetifica terminusincola* **ssp. n.**, PT, m, Pakistan, Karakoram Mts. (PGM); **34.** *P. dagestana* **sp. n.**, HT, m, Russia, Dagestan, Caucasus, GYP 6040 (PGM); **35.** *P. obumbrata* (Staudinger, 1889), m, Kirgisia, Kyrgyz Alatau, GYP 6100 (PGM); **36.** *P. obumbrata* (Staudinger, 1889), f, Kazakhstan, Bakanas (PGM); **37.** *P. obumbrata conmixta* **ssp. n.**, HT, m, Mongolia, Gobi Altay, GYP 6062 (PGM); **38.** *P. obumbrata conmixta* **ssp. n.**, PT, f, Mongolia, Hovd aimak, GYP 6108 (PGM); **39.** *P. pallidobrunnea* **sp. n.**, HT, m., Pakistan, Hindukush Mts., GYP 1097 (PGM); **40.** *P. pallidobrunnea* **sp. n.**, PT, f., Pakistan, Hindukush Mts., GYP 6114 (PGM).



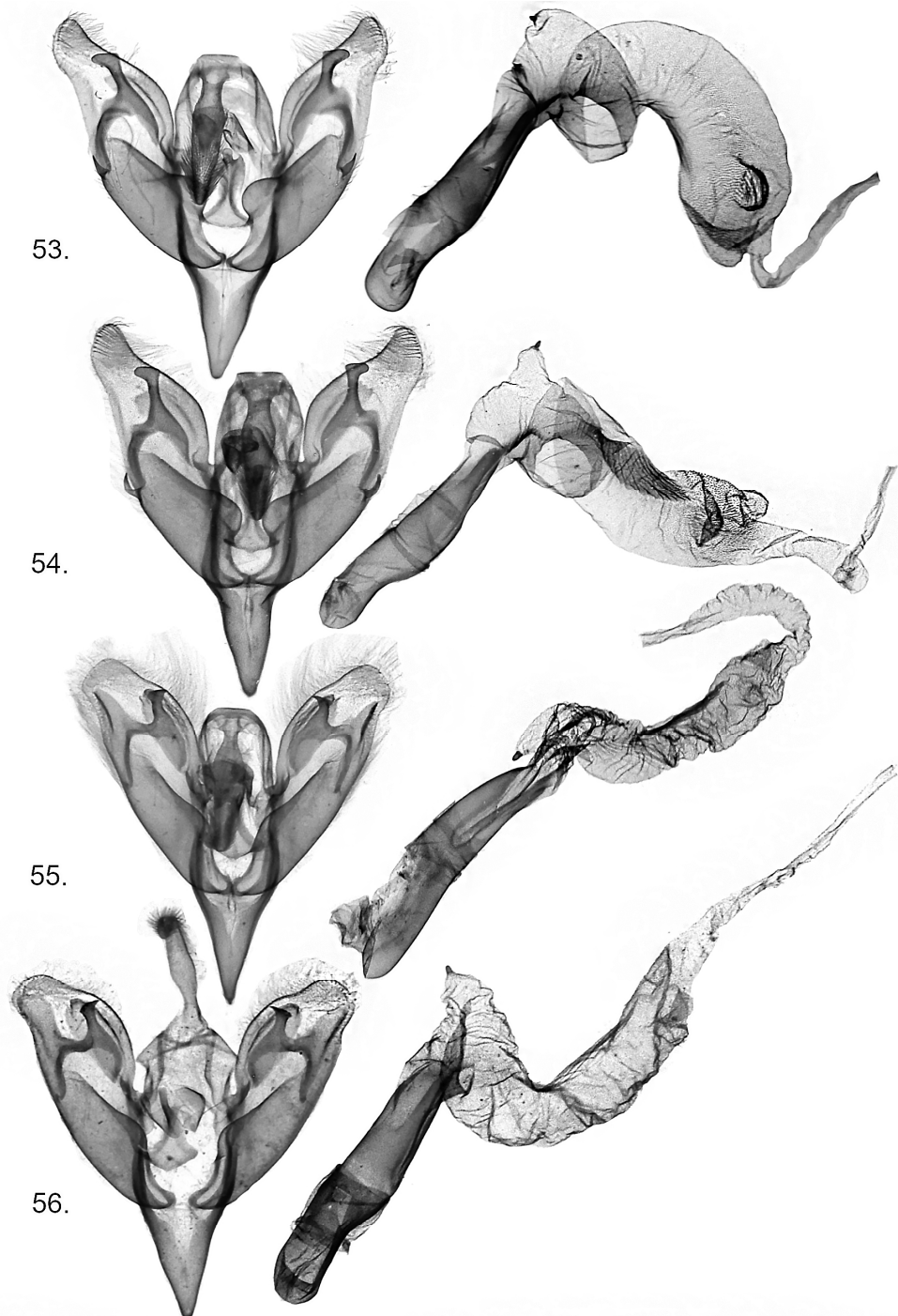
Figures 41–44. Male genitalia of *Parexarnis* spp. **41.** *P. hindukushventus* **sp. n.**, HT, Pakistan, Hindukush Mts., GYP 1098; **42.** *P. ala* (Staudinger, 1881), Kazakhstan, Alma-Ata, GYP 6061; **43.** *P. sollers* (Christoph, 1877), Iran, Kerman, GYP 6071; **44.** *P. damnata* (Draudt, 1937), Iran, Mazandaran, GYP 6093.



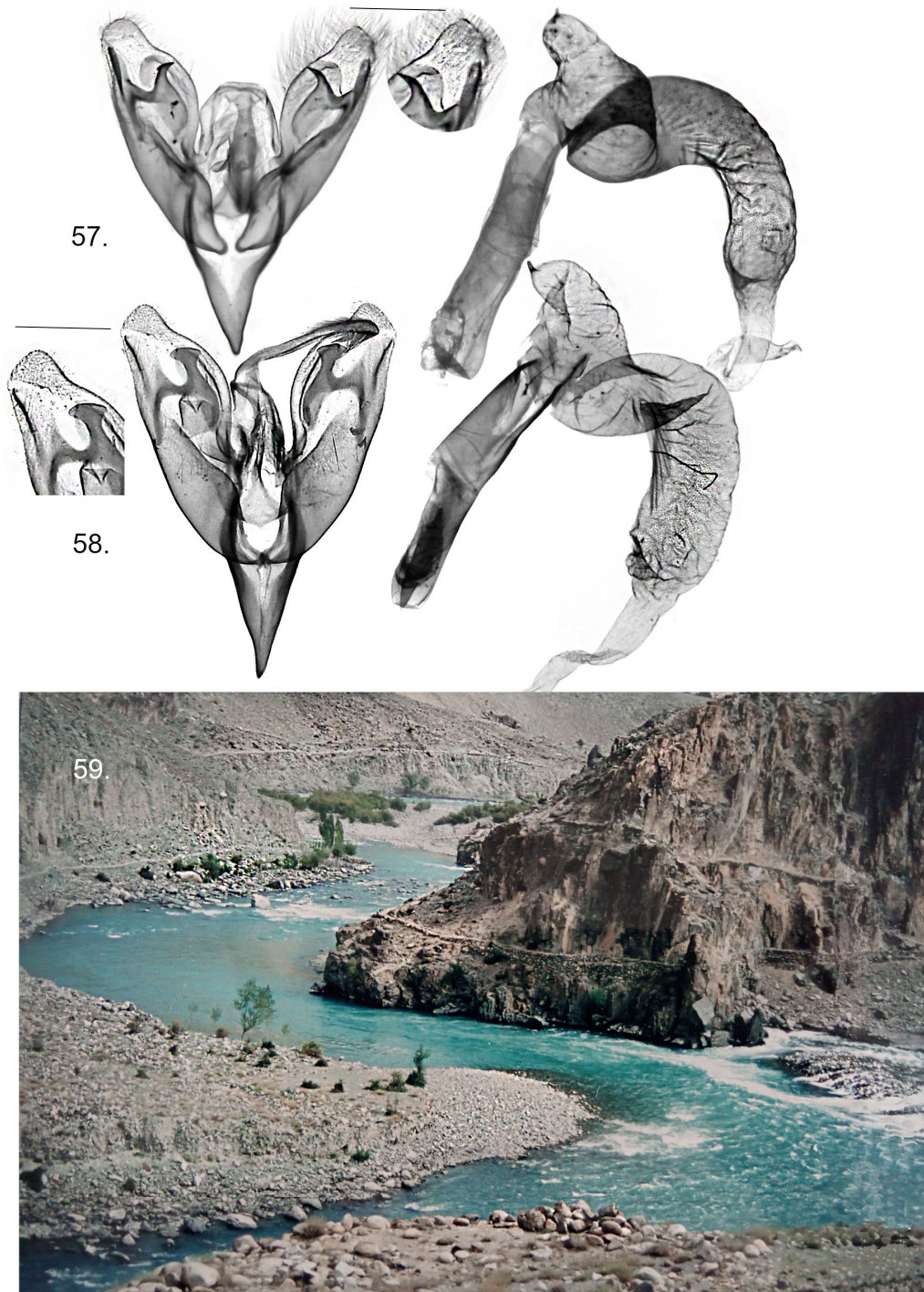
Figures 45–48. Male genitalia of *Parexarnis* spp. and ssp. **45.** *P. damnata iranoazerica* ssp. n., HT, Iran, Azerbayejan-e-Garbi, GYP 6045; **46.** *P. damnata checheni* ssp. n., HT, Russia, Chechnya, Caucasus, GYP 6063; **47.** *P. laetifica* (Staudinger, 1889), Tajikistan, E Pamir, Zulumart Mts., GYP 6053; **48.** *P. laetifica* (Staudinger, 1889), Tajikistan, SE Pamir, Akbura, GYP 6086.



Figures 49–52. Male genitalia of *Parexarnis* ssp. **49.** *P. laetifica kharahasar* ssp. n., HT, Mongolia, Bajan Ölgij aimak, GYP 859; **50.** *P. laetifica meridiemdeserti* ssp. n., HT, China, Muztagata, GYP 987; **51.** *P. laetifica saxea* Hacker & Kautt, 1996, PT, India, Himachal Pradesh, GYP 6126; **52.** *P. laetifica terminusicola* ssp. n., HT, Pakistan, Hindukush Mts., GYP 6127.

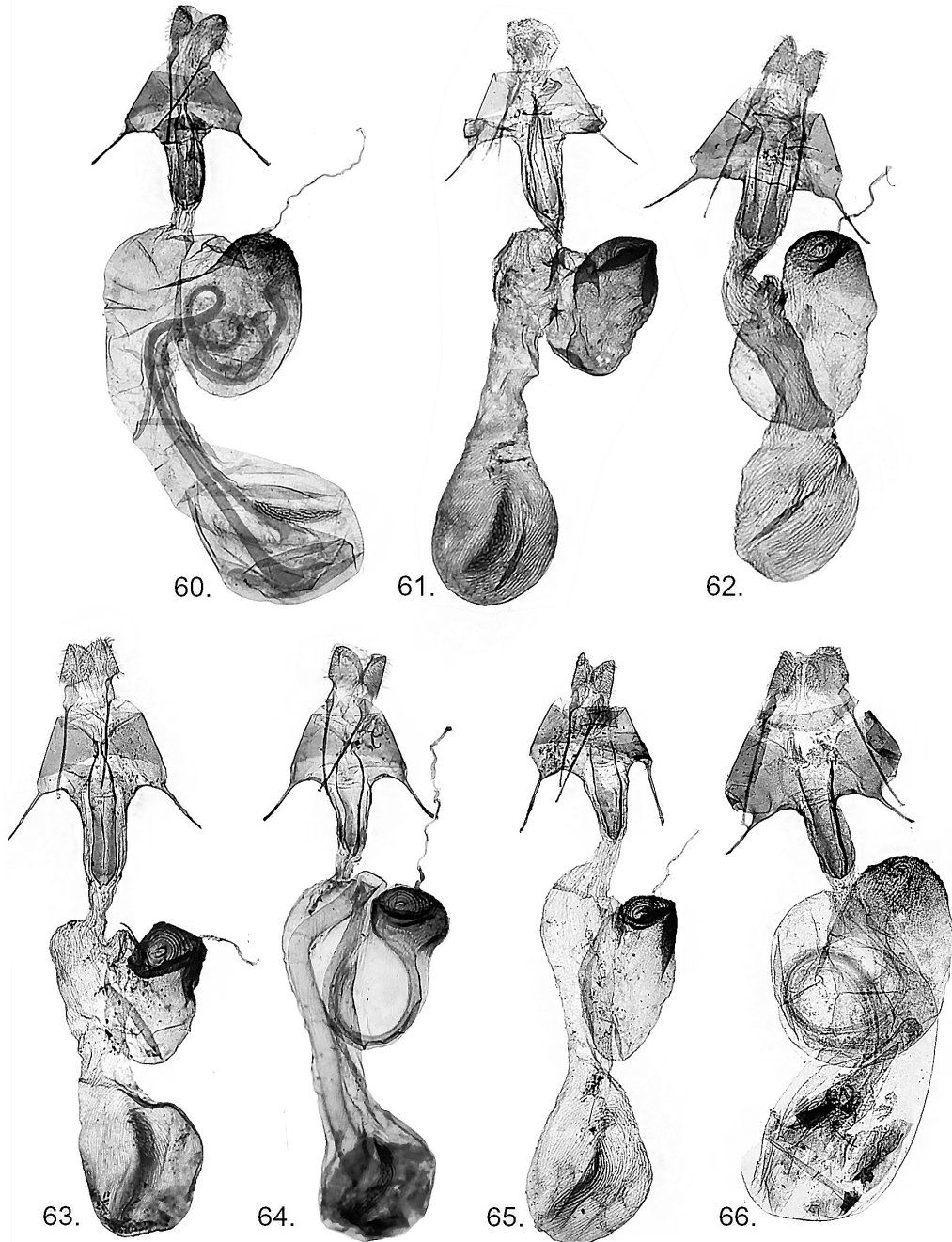


Figures 53–56. Male genitalia of *Parexarnis* spp. and ssp. **53.** *P. laetifica terminusincola* ssp. n., PT, Pakistan, Karakoram Mts., GYP 6115; **54.** *P. dagestana* sp. n., HT, Russia, Dagestan, Caucasus, GYP 6040; **55.** *P. obumbrata* (Staudinger, 1889), Kirgisia, Kyrgyz Alatau, GYP 6100; **56.** *P. obumbrata conmixta* ssp. n., HT, Mongolia, Hovd aimak, GYP 6062.

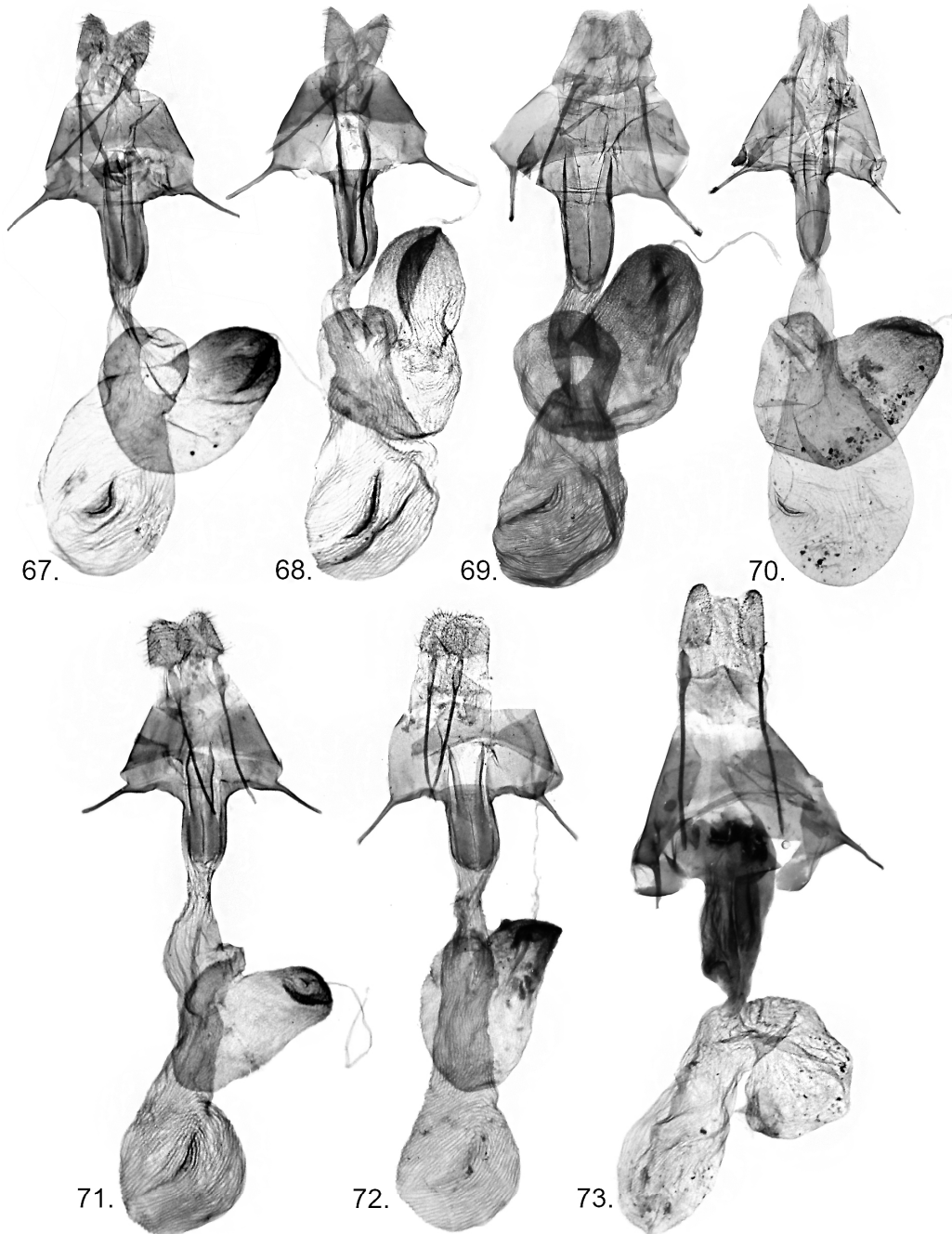


Figures 57–58. Male genitalia of *Parexarnis* sp. **57.** *P. pallidobrunnea* sp. n., HT, Pakistan, Hindukush Mts., GYP 1097; **58.** *P. pallidobrunnea* sp. n., PT, Pakistan, Hindukush Mts., GYP 6051.

Figure 59. Pakistan, Hindukush Mts. Going to the type locality of *P. hindukushventus* sp. n. and *P. pallidobrunnea* sp. n. Expedition of A. Garai & P. Gyulai, 1998.



Figures 60–66. Female genitalia of *Parexarnis* spp. and ssp. **60.** *P. hindukushventus* **sp. n.**, PT, Pakistan, Hindukush Mts., GYP 6042; **61.** *P. ala* (Staudinger, 1881), Kazakhstan, N. Thian Shan, GYP 6101; **62.** *P. sollers* (Christoph, 1877), Usbekistan, Chingam, GYP 6083; **63.** *P. damnata* (Draudt, 1937), Iran, prov. Mazandaran, GYP 6131; **64.** *P. damnata iranoazerica* **ssp. n.**, PT, f, Iran, Azerbayejan-e-Garbi, GYP 6132; **65.** *P. damnata checheni* **ssp. n.**, PT, Russia, Caucasus, GYP 6048; **66.** *P. laetifica* (Staudinger, 1889), Kyrgyzstan, At Bash, GYP 6069.



Figures 67–73. Female genitalia of *Parexarnis* spp. and ssp. **67.** *P. laetifica* (Staudinger, 1889), Tajikistan, E Pamir, GYP 6118; **68.** *P. laetifica kharahasar* **ssp. n.**, PT, Mongolia, Chovd, aimak, GYP 6070; **69.** *P. laetifica meridiemdeserti* **ssp. n.**, PT, China, Kunlun Mts., GYP 6109; **70.** *P. laetifica terminusincola* **ssp. n.**, PT, Pakistan, Hindukush, GYP 6047; **71.** *P. obumbrata* (Staudinger, 1889), Kazakhstan, Alma-Ata, GYP 6113; **72.** *P. obumbrata conmixta* **ssp. n.**, Mongolia, Hovd aimak, GYP 6108; **73.** *P. pallidobrunnea* **sp. n.**, PT, Pakistan, Hindukush Mts., GYP 6114.

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**A MECSEK
ÁLLATVILÁGA 2**

**The fauna of the
Mecsek Mts 2, Hungary**

**Redigit
Fazekas Imre**



A Mecsek állatvilága második a kötetben 2500 mecseki állatfajt mutatnak be a szerzők. Az új fajok között találunk olyanokat, amelyeket korábban, sem Magyarországon, sem Közép-Európában még nem ismertek a szakemberek.

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