



New species of the genus *Eupithecia* (Lepidoptera, Geometridae) from China. Part VIII

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Abstract

In this eighth part of this series, six new species of *Eupithecia* are described from China: *Eupithecia galsworthyi* sp. n., *Eupithecia fossaria* sp. n., *Eupithecia eremiata* sp. n., *Eupithecia panacea* sp. n., *Eupithecia mediata* sp. n. and *Eupithecia caementariata* sp. n. The species *Eupithecia peregovitsi* Mironov & Galsworthy, 2009 is presented as new for China. *Eupithecia lineisdistincta* Vojnits, 1981 and *Eupithecia dealbata* Inoue, 1988 are recorded from Sichuan Province for the first time. New faunistic data for five additional poorly known species are given, namely for *Eupithecia cichisa* Prout, 1939, *Eupithecia contraria* Vojnits, 1983, *Eupithecia perendina* Vojnits, 1980, *Eupithecia nobilitata* Staudinger, 1882 and *Eupithecia nephelata* Staudinger, 1897. Adults and their genitalia are illustrated for all species.

Key words: taxonomy, distribution, new records

Introduction

This is the eighth in a series of papers describing new species of Chinese *Eupithecia*. A full list of literature about Chinese *Eupithecia* is to be found in Mironov & Galsworthy (2014). This paper is, similarly to the seventh part of this series, based on material stored in the private collection of Josef Procházka (†2020) (Nižbor, Czech Republic), currently deposited in the Natural History Museum, Prague, Czech Republic.

Abbreviations:

BMNH	The Natural History Museum, London, United Kingdom;
Gen. prep.	genitalia preparation;
MNHU	Museum für Naturkunde, Zentralinstitut der Humboldt-Universität zu Berlin, Germany;
SMNK	Staatliches Museum für Naturkunde Karlsruhe, Germany;
NMPC	National museum, Natural History Museum, Prague, Czech Republic;
TTM	Termesztudományi Múzeum Allattara (Hungarian Natural History Museum), Budapest, Hungary;
ZFMK	Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, Germany;
ZSM	Zoologisches Staatssammlung München, Germany.

New species

Eupithecia galsworthyi sp. n.

(Figs 1, 15, 21)

Type material: Holotype, ♂, **China**, Qinghai, South from Xining, Laji Shan Mt., 3070 m, 36°22.614' N, 101°33.644' E, 26.–29.v.2017, A. Saldaitis leg. Gen. prep. J. Procházka 20132, Photo J. Šumpich 21354 (NMPC). Paratypes 2 ♂, **China**, SW Gansu, near Xiahe (Labrang), 2900 m, 35°11.968' N, 102°33.545' E, 23.v.2017, A. Saldaitis leg. Gen. prep. J. Šumpich 22133 (NMPC); 1 ♂, **China**, Qinghai, 20 km N from Datong, 2730 m, 37°05.480' N, 101°34.422' E, 25.v.2017, A. Saldaitis leg. Gen. prep. J. Procházka 20181, Photo J. Šumpich 22103 (NMPC).

Diagnosis. This species rather to the *fletcherata* species group (Bolte 1990). It is externally most similar to the Chinese *E. inopinata* Vojnits, 1984 (Mironov & Galsworthy 2014), but the discal dots on the fore wings are larger. The male genitalia are best distinguished from those of other species by the combination of the shape of the valve with a broadly sclerotized and rounded saccular projection, the cornuti on the vesica and the shape of the eighth sternite.

Description. Adults. (Figs 1, 15). Male. Wingspan 22.0 mm, fore wing 12.0 mm. Head and notum covered with whitish scales. Fore wing rather elongate and narrow. Ground colour brownish grey; costal margin with four black costal blotches; transverse lines not clearly visible; subterminal line indented, whitish, forming a whitish ternal spot; terminal area darker near apex; terminal line black, interrupted by veins; discal dot large, black, ovoid. Hind wing ovoid, pale brownish-grey; transverse lines inconspicuous, discal spot small, black, rounded. Fringe chequered with brownish-grey and pale dirty whitish.

Male genitalia (Fig. 21). Uncus stout, rather short, biapical. Valve with sinuate dorsal margin, and broadly sclerotized sacculus, which forms a broadly rounded projection at the middle of the valve with broadly rounded apex. Vinculum rather short and medium width, semicircular. Papillae on the anterior arms of the labides comparatively short, narrow, covered with normal-sized setae. Aedeagus tapered to anterior end. Vesica armed with a patch of three horn-like cornuti, one separate horn-like cornutus near the apical part and a folded, irregular cornutus near ductus ejaculatorius base. Sternite A8 peg-like, tapered to posterior end, with two broad parallel arms with spine-shaped apices; apical hollow deep and narrow; basal hollow shallow; two basal lobes less sclerotized than remainder of sternite.

Female. Unknown.

Bionomy. Host plant unknown. The holotype was collected by light in May at an elevation of 2900–3000 m (Fig. 35).

Distribution. China. Known from Qinghai province.

Etymology. This species is named in honour of the English lepidopterist, naturalist and former Ambassador to the People's Republic of China from 1997 to 2002 Sir Anthony Charles Galsworthy (London, Great Britain).

Eupithecia fossaria sp. n.

(Figs 2, 16, 22)

Type material: Holotype, ♂, **China**, NW. Yunnan, Nu Jiang valley, Road Lushui/Gulang, 25°58.15" N, 98°47.40" E, 10.iii.2019, 2000 m, A. Saldaitis leg. Gen. prep. J. Procházka 20176, Photo J. Šumpich 22102 (NMPC).

Diagnosis. This species possibly belongs to the *fletcherata* species group. It is externally similar to *E. raniata* Prout, 1958 owing to the shape of the fore wings and the large discal dots (Mironov & Galsworthy 2014). The male genitalia can be distinguished from those of other species by the shape of the valve and the pattern of cornuti on the vesica of the aedeagus. The shape and sclerotization of the eighth sternite are similar to those of the Taiwanese *E. karapinensis* Wileman & South, 1917.

Description. Adult. (Figs 2, 16). Male. Wingspan 18.0 mm, fore wing 10.0 mm. Head and notum covered with yellowish scales. Fore wing with slightly arched costal margin; apex narrowly rounded. Ground colour brownish ochreous; transverse lines inconspicuous; terminal area with narrow, wavy, whitish subterminal line; terminal line narrow, black, interrupted by veins; discal dot large, ovoid, black. Hind wing with medially emarginate terminal margin; slightly paler than fore wing; with traces of dark basal and medial transverse lines and small, ovoid discal dot. Fringe chequered with brown and pale ochreous.

Male genitalia (Fig. 22). Uncus rather short, narrow, biapical. Valve relatively broad with dorsal margin slightly convex near base; ventral margin with prominent ventral process and deep medial hollow; apex rather narrowly rounded; sacculus heavily sclerotized. Vinculum broad, elongate. Papillae on the anterior arms of labides elongate, tapered to apices and covered with short setae. Aedeagus elongate, stout, slightly broadened to anterior end. Vesica multiply granulate, armed with two elongate cornuti with obtuse apices, one elongate, plate-like, U-shaped cornutus and one other folded, irregular cornutus near ductus ejaculatorius base. Sternite A8 slightly elongate, broadened basally, with two narrow apical horns pointed outwards basal hollow rather narrow and deep; about 2/3 apical part of sternite heavily sclerotized.

Female. Unknown.

Bionomy. Host plant unknown. The holotype was collected by light in March at an elevation of 2000 m (Fig. 36).

Distribution. China. Known from Yunnan province.

Etymology. From the latin word “fossa”—“ditch” in english.

Note. The single type specimen is worn.

Eupithecia eremiata sp. n.

(Figs 3, 17, 30)

Type material: Holotype, ♀, **China**, N Sichuan, 20 km N from Maoxian, 1820 m, 31°46.310' N, 103°42.898' E, 20.v.2017, A. Saldaitis leg. Gen. prep. J. Procházka 20191, Photo J. Šumpich 22104 (NMPC).

Diagnosis. This species belongs to the *satyrata* species group (McDunnough, 1949). The female genitalia of *Eupithecia eremiata* sp. n. very similar to those of *Eupithecia pernotata* Guenée, [1858]. However, externally the new species is distinguished from the compared species by the brown colour of the fore and hind wings and also details of the pattern. Similar to *Eupithecia caementariata* sp. n., but fore wing with less visible transverse lines; medial line angled onto costa before discal dot, the large whitish tornal spot absent, hind wing darker, brown.

Description. Adult. (Figs 3, 17). Female. Wingspan 24.5 mm, fore wing 14.0 mm. Head and notum covered with light-brownish scales. Fore wing with straight costal margin, apex narrowly rounded. Ground colour dark brown; transverse lines marked by black costal blotches; postmedial line right angled onto costa; terminal line darker than rest of wing, especially near apex, with a narrow, wavy whitish subterminal line; terminal line narrow, black, interrupted by veins; discal dot small ovoid-acuminate, black. Hind wing brown, paler than fore wing, with traces of transverse lines; discal dot small, ovoid, blackish. Fringe chequered with dark brown and paler ochreous brown.

Female genitalia (Fig. 30). Bursa copulatrix sclerotized, pear-shaped, mostly covered with large uniform spines. Ductus bursae sclerotized, with prominent bulge on one side, and one small patch of spines near base of ductus seminalis. Ductus seminalis narrow, slightly broadened at base, attached to central part of ductus bursae opposite prominent bulge. Colliculum collar-like, relatively short and broad, slightly inclined to base of ductus seminalis. Antrum short, membranous. Tergite A8 rectangular, wide and short. Anterior and posterior apophyses relatively short and narrow. Papillae anales small, rounded, covered with normal-sized setae.

Male. Unknown.

Bionomy. Host plant unknown. The holotype was collected by light in May at an elevation of 1800 m (Fig. 37).

Distribution. China. Known from Sichuan province.

Etymology. From the late latin word “eremus”—“lonely” in english.

Eupithecia panacea sp. n.

(Figs 4, 18, 31)

Type material: Holotype, ♀, **China**, W Sichuan, 25 km N from Batang, 3100 m, dry valley, 30°12.049' N, 099°14.078' E, 19.–20.ix.2017, A. Saldaitis leg. Gen. prep. J. Procházka 20144, Photo J. Šumpich 22105 (NMPC).

Diagnosis. This species possibly belongs to the *fletcherata* species group. The shape of the fore wings with pointed apices and the brown coloration distinguish *Eupithecia panacea* sp. n. from any other species of the genus.

The combination of small corpus bursae, disposition of spines, elongate colliculum, short apophyses and the shape of the papillae anales can be successfully used to distinguish this species from other Asian species.

Description. Adult. (Figs 4, 18). Female. A relatively narrow winged species. Wingspan 19.0 mm; fore wing 11.0 mm. Head and notum covered with whitish scales. Fore wing elongate with slightly bowed costal margin and pointed apex; ground colour brown with dark traces of medial and postmedial transverse lines; medial line oblique, sharply angled from discal dot onto costa, postmedial line right angled onto costa; terminal area darker near apex; discal dot dark brown, very small, rounded. Hind wing ovoid, brown, with dark traces of basal and medial transverse lines; discal dot very small, rounded. Terminal lines on all wings continuous blackish brown.

Female genitalia (Fig. 31). Bursa copulatrix small, rather spherical, membranous with chaotic disposition of small spines. Colliculum collar-like, elongate, almost equals to length of bursa. Antrum membranous, short and broad. Tergite A8 broad, rectangular. Anterior and posterior apophyses short and broad. Papillae anales relatively large, tapered to apices and covered with long setae.

Male. Unknown.

Bionomy. Host plant unknown. The holotype was collected by light in September at an elevation of 3700 m in dry steppe (Fig. 38).

Distribution. China. Known from Sichuan province.

Etymology. From the greek word “Panacea”—the goddess of universal health.

Note. The holotype specimen (female) of this species is worn.

***Eupithecia mediata* sp. n.**

(Figs 5, 19, 23)

Type material: Holotype, ♂, **China**, N Sichuan, Road Jiuzhaigou/Songpan, 2900 m, 33°08.770' N, 103°43.624' E, 21.v.2017, A. Saldaitis leg. Gen. prep. J. Procházka 20133, Photo J. Šumpich 22106 (NMPC). Paratype 1 ♂, the same locality, date and collector (NMPC).

Diagnosis. This species belongs to the *lariciata* species group (Bolte 1990). It is similar to the Chinese *E. stomachosa* Vojnits, 1980. However, on the fore wings of the new species the discal dots are larger, and the medial area between the antemedial and medial transverse lines darker. The combination of shape of valve, short, stout and broad uncus and two apical patches of short horn-like cornuti on the vesica of the aedeagus in the male genitalia, as well as the shape of eighth sternite in the male easily distinguish this species from other representatives of this species in the Chinese fauna.

Description. Adult. (Figs 5, 19). Male. Wingspan 18.0 mm; fore wing 11.0 mm. Head and notum covered with yellowish scales. Fore wing with slightly curved costal margin and narrowly rounded apex. Ground colour brown; basal transverse line right angled; antemedial and medial lines oblique, sharply angled respectively before and behind discal dot; postmedial line right angled near costa; terminal area darker near apex with pale indented subterminal line; pale tornal spot very small; terminal line blackish, interrupted by veins; discal dot relatively large, ovoid, black. Hind wing paler with traces of dark transverse lines; terminal area darker, brownish grey with indented pale subterminal line; terminal line narrow, blackish, interrupted by veins; discal dot small, ovoid, smaller and paler than on the fore wing. Fringe brownish, slightly chequered with darker and paler areas.

Male genitalia (Fig. 23). Uncus biapical, short and broad, stout; enlarged near apex, when viewed laterally. Valve large, elongate, with evenly curved ventral margin and small ventral process; apex rounded; sacculus lightly sclerotized. Vinculum rather narrow and short, semicircular. Papillae on the anterior arms of labides elongate, narrow, in apical half covered with long setae. Aedeagus slim, elongate and narrow. Vesica multiply granulate, armed with two apical patches of short, stout horn-like cornuti, one elongate, plate-like cornutus and one smaller, folded, irregular cornutus at ductus ejaculatorius base. Sternite A8 peg-like, broadened and bilobed basally; apex more sclerotized with two small and short, rounded horns; basal hollow short and shallow.

Female. Unknown.

Bionomy. Host plant unknown. The holotype was collected by light in May at an elevation of 2900 m (Fig. 39).

Distribution. China. Known from Sichuan province.

Etymology. From latin word “medius”—“medium” in english.

Eupithecia caementariata sp. n.

(Figs 6, 20, 24)

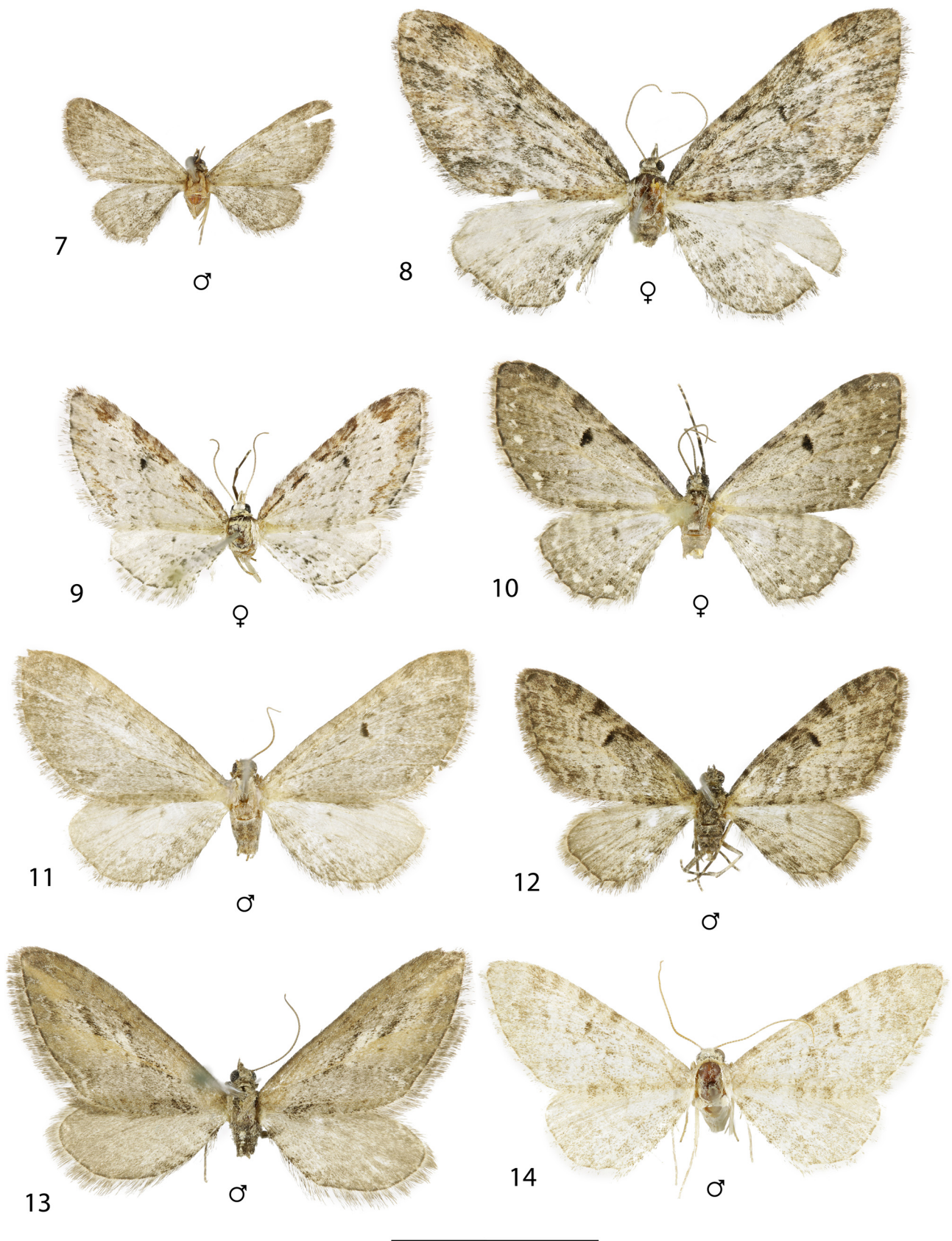
Type material: Holotype, ♂, **China**, N. Sichuan, Road Jiuzhaigou/Songpan, 2900 m, 33°08.770' N, 103°43.624' E, 21.v.2017, A. Saldaitis leg. Gen. prep. J. Procházka 20131, Photo J. Šumpich 22107 (NMPC).

Diagnosis. This species belongs to the *satyrata* species group. It is similar to *Eupithecia eremiata* sp. n., but the fore wing is paler with more visible transverse lines; the medial line is sharply angled onto the costa behind the discal dot; the large whitish tornal spot is present; the hind wing is paler, pale brownish.

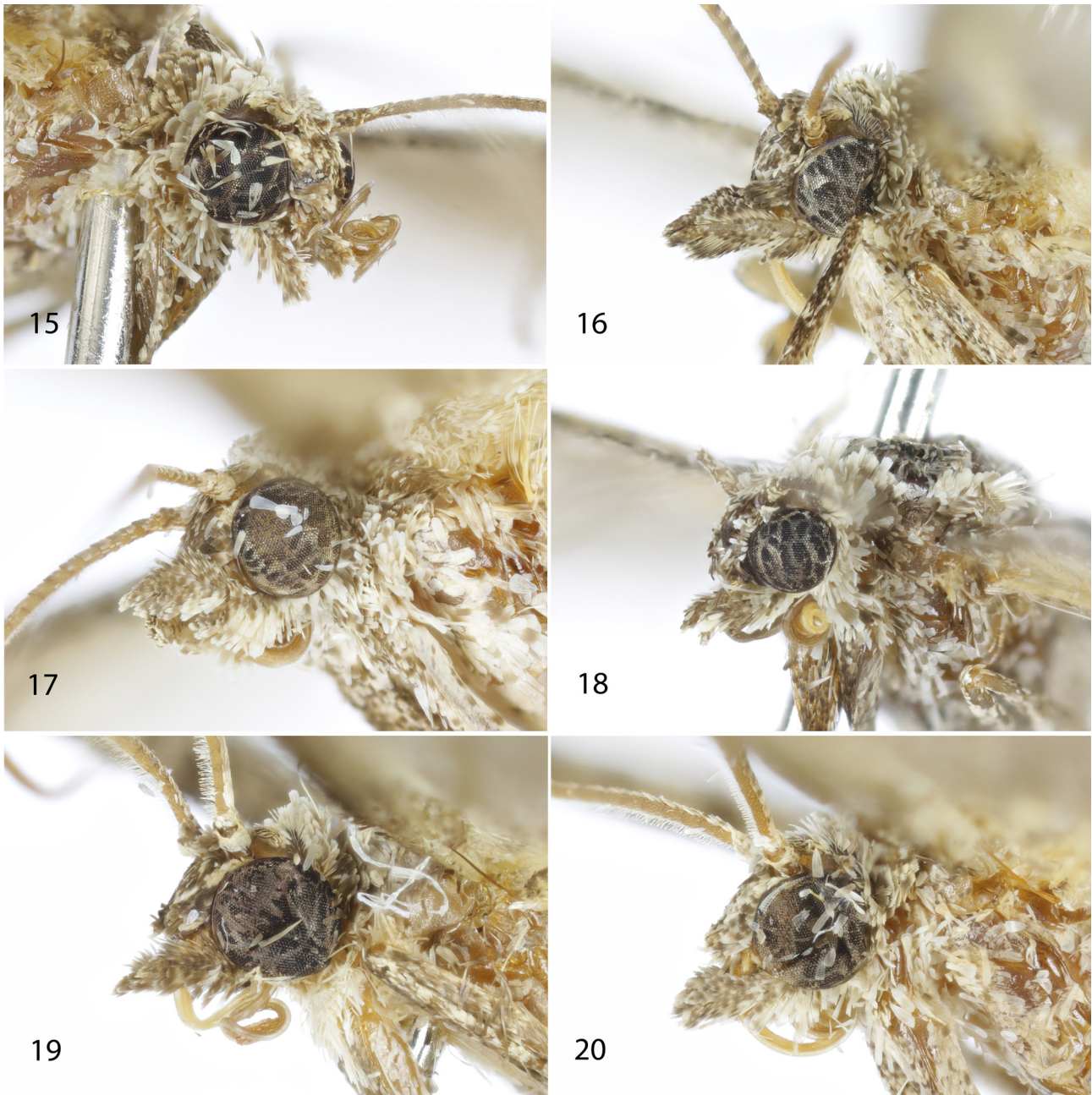
Description. Adult. (Figs 6, 20). Male. Wingspan 21.5 mm; fore wing 13.0 mm. Head and notum covered with whitish scales. Fore wing rather elongate and narrow, costal margin bowed, apex very narrowly rounded; ground colour brown; basal transverse line evenly curved; antemedial line right angled onto costa in areole; medial line sharply angled onto costa behind discal dot; postmedial line rather wavy and right angled onto costa behind areole; all transverse lines forming blackish costal spots; near apex also a large blackish costal spot; light subterminal line dentate, forming a prominent whitish tornal spot; discal dot relatively large, ovoid, black. Hind wing ovoid, pale brownish; terminal area slightly darker, dark traces of basal and medial lines placed along anal margin; discal dot small, rather rounded, brownish. Terminal lines on all wings clear, relatively broad, interrupted on the veins, blackish brown. Fringe chequered with brown and pale brownish.



FIGURES 1–6. *Eupithecia* adults, China, holotypes (scale bars = 10 mm). 1. *E. galsworthyi* sp. n.; 2. *E. fossaria* sp. n.; 3. *E. eremiata* sp. n.; 4. *E. panacea* sp. n.; 5. *E. mediata* sp. n.; 6. *E. caementariata* sp. n.



FIGURES 7–14. *Eupithecia* adults, China (scale bars = 10 mm). 7. *E. cichisa* Prout, 1939; 8. *E. lineisdistincta* Vojnits, 1981; 9. *E. peregovitsi* Mironov & Galsworthy, 2009; 10. *E. dealbata* Inoue, 1988; 11. *E. contraria* Vojnits, 1983; 12. *E. perendina* Vojnits, 1980; 13. *E. nobilitata* Staudinger, 1882; 14. *E. nephelata* Staudinger, 1897.



FIGURES 15–20. Heads of *Eupithecia* species, China, holotypes. 15. *E. galsworthyi* sp. n.; 16. *E. fossaria* sp. n.; 17. *E. eremiata* sp. n.; 18. *E. panacea* sp. n.; 19. *E. mediata* sp. n.; 20. *E. caementariata* sp. n.

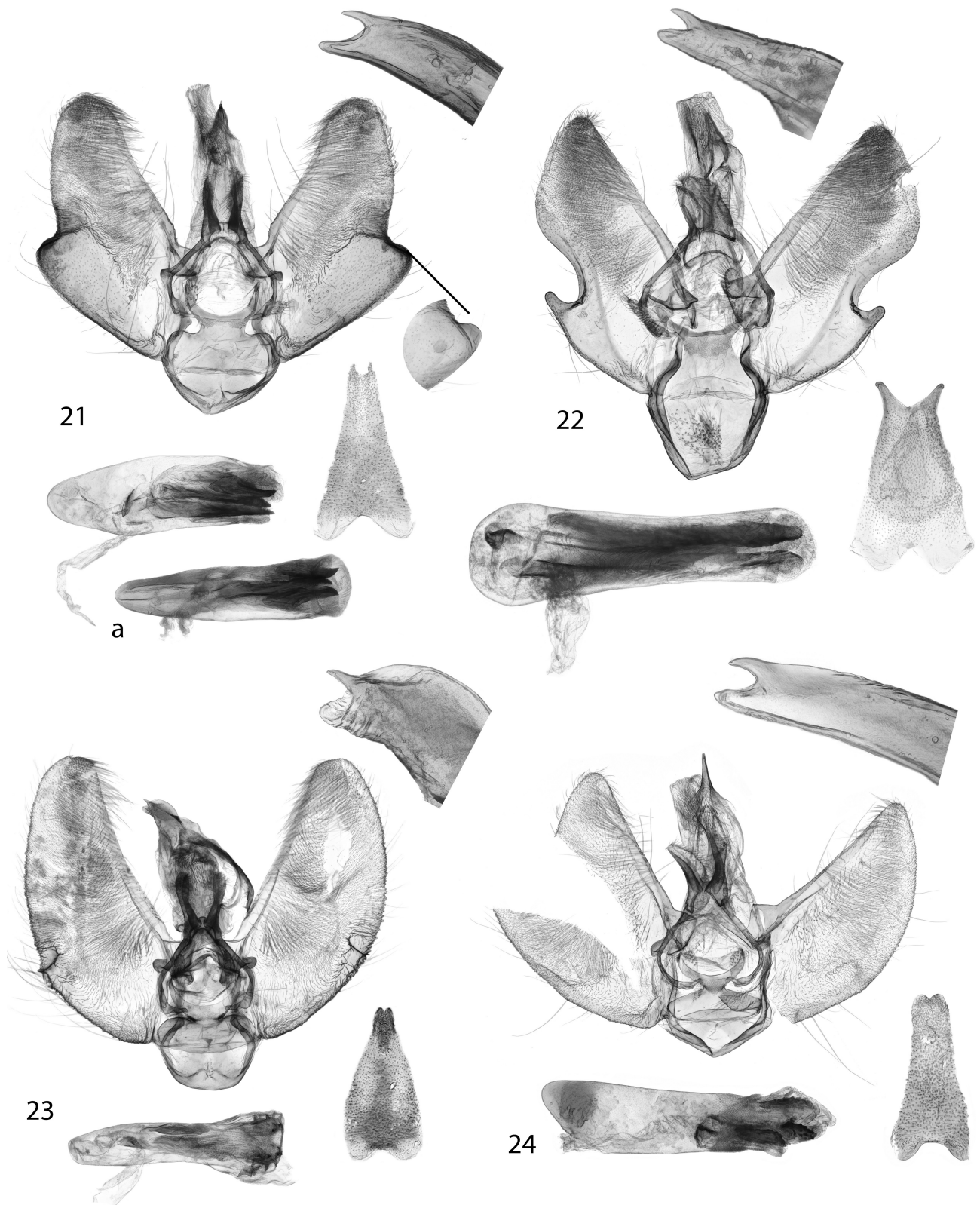
Male genitalia (Fig. 24). Uncus biapical. Valve shaped like an orange segment, unmodified, with slightly concave dorsal margin and evenly curved ventral margin; apex narrowly rounded; sacculus weakly sclerotized. Vinculum short and broad, semicircular. Papillae on the anterior arms of the labides slightly broadened to apices and covered with short setae. Aedeagus narrowed from ductus ejaculatorius base to anterior end. Vesica armed with three elongate apical dentate cornuti, and one folded, irregular cornutus closer to ductus ejaculatorius base. Sternite A8 peg-like, elongate, with two small, short, rounded apical lobes, broadened and bilobed basally; basal hollow relatively broad and deep.

Female. Unknown.

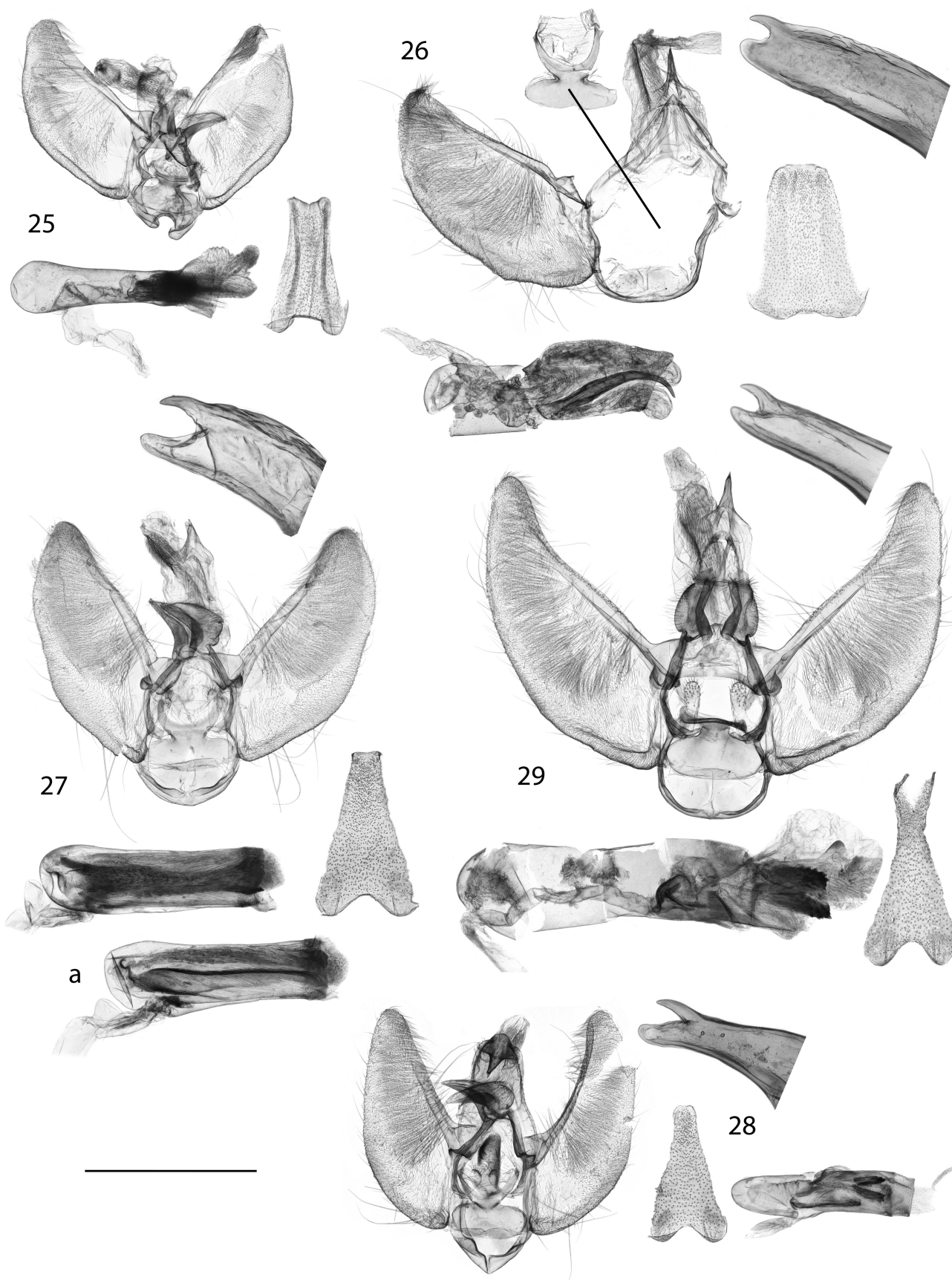
Bionomy. Host plant unknown. The holotype was collected by light in May at an elevation of 2900 m (Fig. 39).

Distribution. China. Known from Sichuan province.

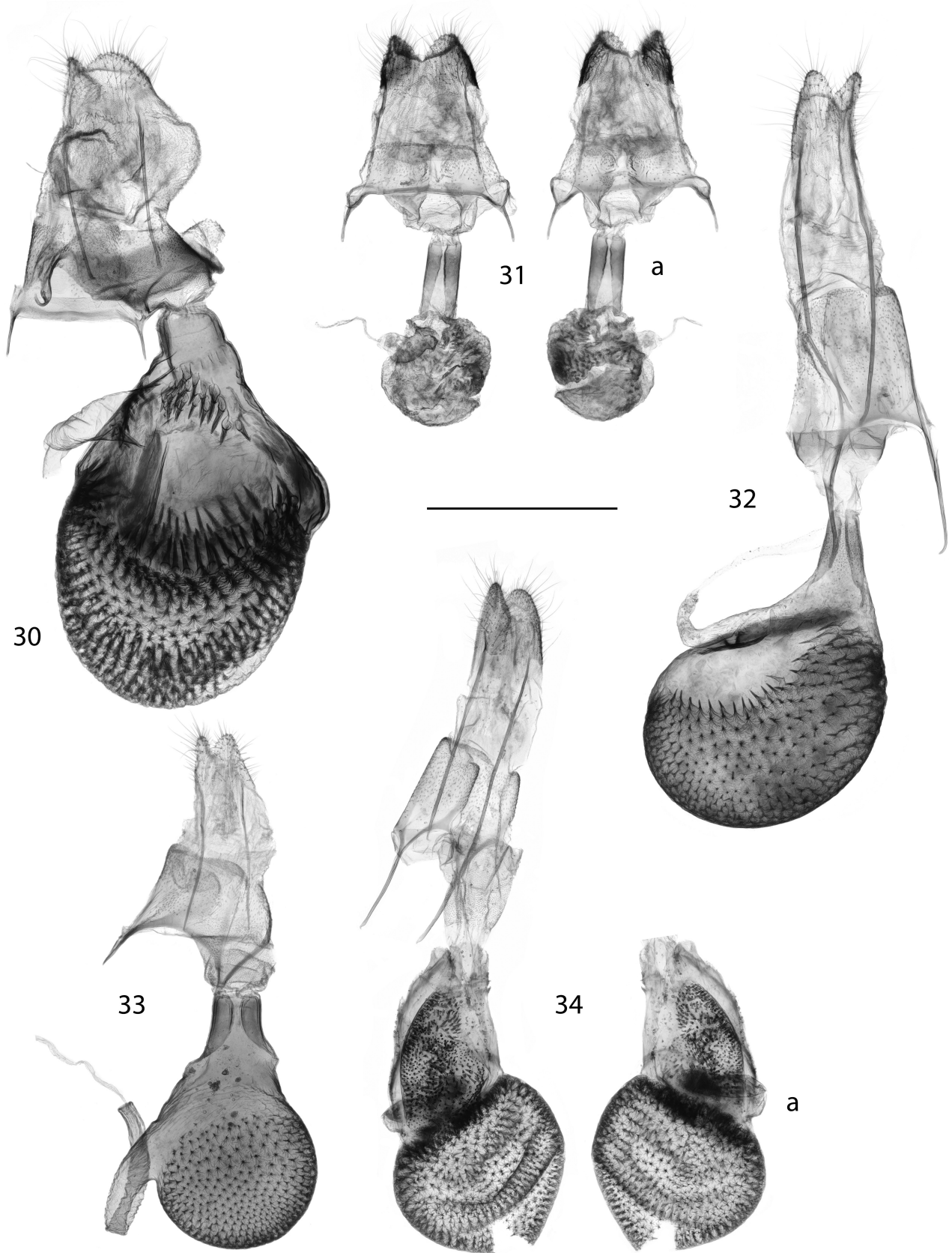
Etymology. From latin word “cementarius”—“a mason” in english .



FIGURES 21–24. Male genitalia and sternite A8 of *Eupithecia* species, holotypes (scale bar = 1 mm; detail of uncus enlarged). 21. *E. galsworthyi* sp. n.; 22. *E. fossaria* sp. n.; 23. *E. mediata* sp. n.; 24. *E. caementariata* sp. n.; a—other view.



FIGURES 25–29. Male genitalia and sternite A8 of *Eupithecia* species (scale bar = 1 mm; detail of uncus enlarged). 25. *E. cichisa* Prout, 1939; 26. *E. contraria* Vojnits, 1983; 27. *E. perendina* Vojnits, 1980; 28. *E. nobilitata* Staudinger, 1882; 29. *E. nephelata* Staudinger, 1897. a—view from a different angle.



FIGURES 30–34. Female genitalia of *Eupithecia* species (scale bar = 1mm). 30. *E. eremiata* sp. n. (holotype); 31. *E. panacea* sp. n. (holotype); 32. *E. lineisdistincta* Vojnits, 1981; 33. *E. peregovitsi* Mironov & Galsworthy, 2009; 34. *E. dealbata* Inoue, 1988. a—the opposite view.



FIGURES 35–39. Habitats of newly described *Eupithecia* species, China. 35. Qinghai, Laji Shan Mt., locality of *E. galsworthyi* sp. n.; 36. Yunnan, Nu Jiang valley, locality of *E. fossaria* sp. n.; 37. Sichuan, surroundings of Maoxian, locality of *E. eremiata* sp. n.; 38. Sichuan, surroundings of Batang, locality of *E. panacea* sp. n.; 39. Sichuan, Road Jiuzhaigou/Songpan, locality of *E. mediata* sp. n. and *E. caementariata* sp. n.

Previously described species

Eupithecia cichisa Prout, 1939 (Fig. 7)

E[*upithecia*] *cichisa* Prout, 1939, in A. Seitz, *The Macrolepidoptera of the World* 4 (Suppl.): 253, pl. 18: c. Holotype ♂ (BMNH; examined), **China** (west), Mt. Omei, Gipfel.

- Examined material:** 1 ♂, **China**, N. Yunnan, Ningjing Shan, 2100 m, Mekong Riv., Tse Kou, 28°01'59" N, 098°54'17" E, 5.–9.vi.2011, V. Major leg. Gen. prep. J. Procházka 20185, Photo J. Šumpich 22109 (NMPC).
- Note.** A species from the *haworthiata* species group. It is widespread in the provinces of China (Yunnan, Sichuan, Shaanxi, Beijing, Jiangsu, Hunan, Zhejiang, Jiangxi) and Taiwan (Mironov & Galsworthy 2014). Male genitalia (Fig. 25).
- Eupithecia lineisdistincta* Vojnits, 1981 (Fig. 8)
Eupithecia lineisdistincta Vojnits, 1981, *Acta zoologica Academiae Scientiarum Hungaricae* **27** (1-2): 217, figs 1, 2. Holotype ♂ (ZSM; examined), **Nepal**, Thodung, 3100 m.
- Examined material:** 1 ♀, **China**, W Sichuan, Shaluli Shan, 40 km NW from Daocheng, 29°17.401' N, 100°05.068' E, 16.–17.ix.2017, 4060 m, A. Saldaitis leg. Gen. prep. J. Procházka 20130, Photo J. Šumpich 22110 (NMPC). Female genitalia illustrated (Fig. 32).
- Note.** This species also belongs to the *haworthiata* species group and was described from Nepal. It was recorded from Yunnan province in China on the basis one specimen in the private collection of Mr. P. Skou (Mironov & Galsworthy 2014). A new species for Sichuan province.
- Eupithecia peregovitsi* Mironov & Galsworthy, 2009 (Fig. 9)
Eupithecia peregovitsi Mironov & Galsworthy, 2009, *Transactions of the Lepidopterological Society of Japan* **60** (2): 112, figs 14, 29, 32. Holotype ♀ (TTM; examined), **Vietnam**, prov. Lao Cai, Fan-Si-Pan Mts., 7 km W. Sa Pa, 2650 m.
- Examined material:** 1 ♀, **China**, NW Yunnan, Nu Jiang valley, Road Lushui/Gulang, 25°58.15" N, 98°47.40" E, 10.iii.2019, 2000 m, A. Saldaitis leg. Gen. prep. and photo J. Šumpich 22014 (NMPC).
- Note.** This species belongs to the *proterva* species group (Inoue 1979) (Mironov & Galsworthy 2014). It was previously known only from the northern Vietnamese province of Lao Cai. A new species for the fauna of China. The female genitalia of the Chinese specimen is illustrated (Fig. 33).
- Eupithecia dealbata* Inoue, 1988 (Fig. 10)
Eupithecia dealbata Inoue, 1988, *Bulletin of the Faculty of Domestic Sciences, Otsuma Women's University* **24**: 368, figs 28a-b. Holotype ♀ (BMNH; examined), [**Taiwan**], Chia Hsien, Fenchihu, 1600 m.
- Examined material:** 2 ♀, **China**, NE Sichuan, NE. Guangyuan, Longmen Shan, 630 m, 32°36.009' N, 105°31.913' E, 5.x.2016, leg. A. Floriani. Gen. prep. J. Procházka 20120, Photo J. Šumpich 22111 (NMPC).
- Note.** This species belongs to the *fletcherata* species group (Mironov & Galsworthy 2014). New for the Chinese province of Sichuan. Previously, it was found in the provinces of Shaanxi, Guangxi and in Taiwan. The female genitalia of the Sichuan specimen are illustrated (Fig. 34).
- Eupithecia contraria* Vojnits, 1983 (Fig. 11)
Eupithecia contraria Vojnits, 1983, *Acta zoologica Academiae Scientiarum Hungaricae* **29** (1-3): 263, figs 2, 4, 5. Holotype ♂ (ZSM; examined), **Nepal**, Tanga, 3800 m.
- Eupithecia fuscoferruginea* Inoue, 1987, *Bulletin of the Faculty of Domestic Sciences, Otsuma Women's University* **23**: 239, figs 63f, 65a & b. Holotype ♂ (coll. H. Inoue in BMNH; examined), [**Nepal**]: Kalbani, near Kalingandaki, 2400 m (synonymized in Inoue 2000).
- Examined material:** 1 ♂, [**China**], Tibet South-west Himalaya Mts., Nyalam, 3700–4200 m, 28.–30.vi.2004, V. Major leg. Gen. prep. J. Procházka 20179, Photo J. Šumpich 22112 (NMPC).
- Note.** A species from the *rajata* species group (Mironov & Galsworthy 2014). Recorded from China (Tibet), Nepal and Bhutan (Mironov & Galsworthy 2014). The male genitalia of this specimen are illustrated (Fig. 26).

Eupithecia perendina Vojnits, 1980 (Fig. 12)

Eupithecia perendina Vojnits, 1980, *Acta zoologica Academiae Scientiarum Hungaricae* **26** (4): 441, figs 9, 10, 21. Holotype ♂ (ZFMK; examined), [China], North Yunnan, A-tun-tse [Dêqên], Talsohle, 3000 m.

Examined material: 2 ♂, China, Yunnan, De-Quin, 3400 m, 28°30' N, 98°55' E, 30.v.–3.vi.2011, J. Klír. leg. Gen. prep. J. Procházka 20123, Photo J. Šumpich 22113 (NMPC).

Note. A species from the *graphata* species group (Schütze 1958), which has been recorded from the Chinese Provinces of Sichuan and Yunnan (Mironov & Galsworthy 2014). We cite here new material from Yunnan. Male genitalia (Fig. 27).

Eupithecia nobilitata Staudinger, 1882 (Fig. 13)

Eupithecia nobilitata Staudinger, 1882, *Entomologische Zeitung, Stettin* **43** (1-3): 76. Holotype ♂ (coll. O. Staudinger in MNHU; examined), [Kazakhstan], Lepsa.

Examined material: 4 ♂, China, Qinghai, 20 km N from Datong, 2730 m, 37°05.480' N, 101°34.422' E, 25.v.2017, A. Saldaitis leg. Gen. prep. J. Procházka 20127, Photo J. Šumpich 22114 (NMPC).

Note. Previously, this species was reported from the Chinese provinces of Tibet, Qinghai, Gansu, and also from Kazakhstan, Russia (Altai and Sajon Mts., Transbaikalia, Dahuria) and Mongolia (Mironov & Galsworthy 2014). The male genitalia of this specimen are illustrated (Fig. 28).

Eupithecia nephelata Staudinger, 1897 (Fig. 14)

Eupith[ecia] nephelata Staudinger, 1897, *Deutsche Entomologische Zeitschrift, Iris* [1896] **9** (2): 282. Syntypes 1 ♂, 1 ♀ (coll. O. Staudinger in MNHU; examined), [Mongolia], Uliassutai, Tumartin-Gol.

Examined material: 1 ♂, China, Kunlun Shan (west), 60 km north-west of Xaidulla City, 4000–4400 m, 19.–21.vii.2001, Gen. prep. J. Procházka 20183, Photo J. Šumpich 22115 (NMPC).

Note. A species distributed in the Chinese provinces of Xinjiang and Tibet, and also in Kyrgyzstan, Tajikistan, Afghanistan (NE), Pakistan/India (Jammu and Kashmir), and Mongolia (Mironov & Galsworthy 2014). The male genitalia of the cited specimen are illustrated (Fig. 29).

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