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FOUR NEW SPECIES OF THE GENUS *BARSINE* WALKER, 1854 (LEPIDOPTERA: EREBIDAE, ARCTIINAE) FROM ORIENTAL REGION

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Summary. The paper contains descriptions of four new species of the genus *Barsine* Walker, 1854: *Barsine midzhan* Volynkin, **sp. n.** (N Myanmar), *Barsine garo* Volynkin, **sp. n.** (NE India), *Barsine wernerthomasi* Volynkin, **sp. n.** (NE India and E Nepal) and *Barsine cernyi* Volynkin, **sp. n.** (N Myanmar). New synonymy is established: *Barsine prominens* (Moore, 1878) = *Lyclene delicata* Moore, 1878, **syn. n.** Two new combinations are proposed: *Barsine peraffinis* (Fang, 1991), **comb. n.** and *Barsine collina* (Černý, 2016), **comb. n.** The lectotype for *Lyclene prominens* Moore, 1878 is designated. Adults, male and female genitalia of the new and related species are illustrated.

Key words: Lepidoptera, Erebidae, Arctiinae, Lithosiini, Nudariina, lichen-moths, taxonomy, new species, Himalaya, Asia.

A. В. Вольтинкин. Четыре новых вида рода *Barsine* Walker, 1854 (Lepidoptera: Erebidae, Arctiinae) из Ориентальной области // Дальневосточный энтомолог. 2018. N 358. С. 1-18.

Резюме. Статья содержит описания четырех новых видов рода *Barsine* Walker, 1854: *Barsine midzhan* Volynkin, **sp. n.** (северная Мьянма), *Barsine garo* Volynkin, **sp. n.** (северо-восточная Индия), *Barsine wernerthomasi* Volynkin, **sp. n.** (северо-восточная Индия и восточный Непал) и *Barsine cernyi* Volynkin, **sp. n.** (северная Мьянма). Установлена новая синонимия: *Barsine prominens* (Moore, 1878) = *Lyclene delicata* Moore, 1878, **syn. n.** Предложены две новые комбинации: *Barsine peraffinis* (Fang, 1991), **comb. n.** и *Barsine collina* (Černý, 2016), **comb. n.** Выделен лектотип для *Lyclene prominens* Moore, 1878. Проиллюстрированы взрослые особи и гениталии обоих полов новых и родственных им видов.

INTRODUCTION

Barsine Walker, 1854 is one of the largest genera of lichen-moths belonging to the subtribe Nudariina (family Erebidae, subfamily Arctiinae, tribe Lithosiini). The genus is widespread in Oriental and Palaearctic Regions and includes about a hundred of valid species and subspecies many of which were described during last two decades (Fang, 2000; Holloway, 2001; Černý & Pinratana, 2009; Bucsek, 2012; Dubatolov & Bucsek, 2013; Černý, 2016; Kirti & Singh, 2016; Volynkin & Černý, 2016a; 2016b; 2016c; 2017a; 2017b; 2017c; 2017d). The present paper contains descriptions of four new species of the genus *Barsine* from Oriental Region (Nepal, northeastern India and northern Myanmar).

MATERIAL AND METHODS

The paper is based on the materials of the collections of Museum Witt / Zoologische Staatssammlung, München (MWM/ZSM, Munich, Germany), Natural History Museum, London (NHMUK, London, United Kingdom; formerly British Museum of Natural History, BMNH), and private collection of Karel Černý (CKC, Innsbruck, Austria). The genitalia were dissected and mounted in euparal on glass slides. Photos of imago were taken using the camera Nikon D3100/AF-S Nikkor, 18–55 mm. Photos of the genitalia were taken by same camera attached to a microscope with an LM-scope adapter.

TAXONOMY

Family Erebidae Leach, [1815]

Subfamily Arctiinae Leach, [1815]

Tribe Lithosiini Billberg, 1820

Subtribe Nudariina Börner, 1920

Genus *Barsine* Walker, 1854

Barsine Walker, 1854: 546.

Type species: *Barsine defecta* Walker, 1854, by subsequent designation (Kirby, 1892).

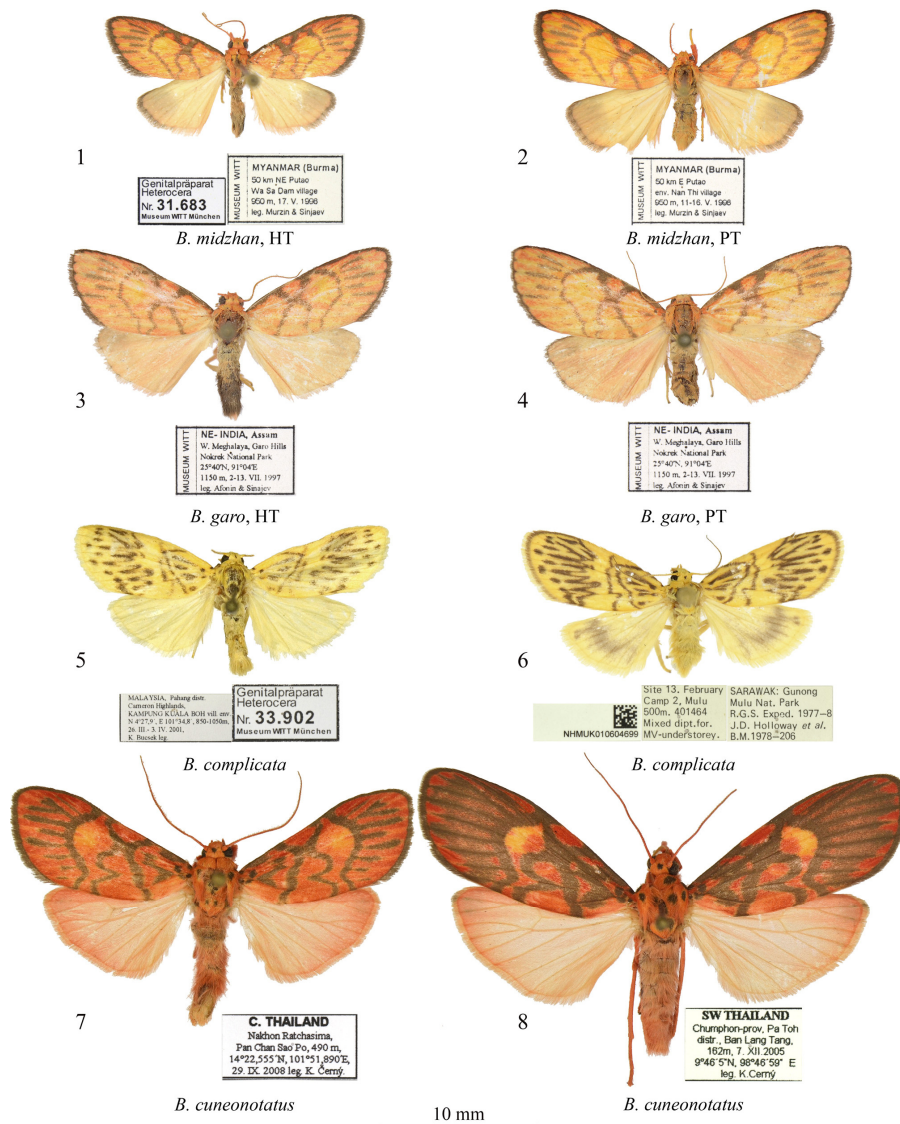
***Barsine midzhan* Volynkin, sp. n.**

Figs 1, 2, 21, 33

TYPE MATERIAL. **Holotype** (Figs 1, 21) – ♂, Myanmar (Burma), 50 km E Putao, env. Nan Thi village, 950 m, 11–16.V 1998, leg. Murzin & Sinjaev, slide MWM 31683 Volynkin (Coll. MWM/ZSM). **Paratypes**: same data as in the holotype, 9 ♂, 1 ♀, slides MWM 31767 (♂), MWM 31768 (♀) Volynkin (Coll. MWM/ZSM).

DIAGNOSIS. The new species is similar externally to *B. garo* (Figs 3, 4) and *B. cuneonotatus* (Walker, 1855) (Figs 7, 8), but differs from the both species by its significantly smaller size, more orange forewing ground color and ochreous hindwings, whereas *B. garo* and *B. cuneonotatus* are significantly larger and have more reddish coloration of fore- and hindwings. The male genitalia of *B. midzhan* (Figs 21) differ clearly from those of *B. cuneonotatus* (Fig. 24) and are similar to those of *B. garo* (Fig. 22), but differ by the much broader tuba analis, absence of medial process of juxta, slightly larger medial costal process, significantly larger dorsal subapical costal process, distally narrower distal saccular process, shorter aedeagus, broader, sack-like subbasal diverticulum with a cluster of small cornuti, and shorter and more robust cornuti of both clusters, whereas in *B. garo* the juxta with a long, conical medial process, medial costal process is slightly smaller, the dorsal subapical costal process is much smaller, the subbasal diverticulum is conical and has a small cluster of small cornuti, and the cornuti of both clusters are longer and thinner. The male genitalia of *B. midzhan* are also similar to those of *B. complicata* (Butler, 1877) (Fig. 23), but differ by the broader tuba analis, broader medial costal process, presence of distal costal process, much larger distal saccular process, and presence of two additional clusters of cornuti in vesica. In the female genitalia, *B. midzhan* (Fig. 33) differs from *B. garo* (Fig. 34) by its shorter apophyses anteriores, smaller lateral ostial ligula, broader and shorter postvaginal plate, stronger sclerotized appendix bursae and larger spinulose scobination of corpus bursae; from *B. complicata* (Fig. 35) differ by the presence of ostial ligula, much larger postvaginal plate, slightly shorter antrum, much smaller appendix bursae, much narrower corpus bursae with dense spinulose scobination medially and posteriorly (whereas in *B. complicata* the medial and posterior sections of corpus bursae are weakly sclerotized, rugose, with two sclerotized narrow bands), and larger signum.

DESCRIPTION. Adult (Figs 1, 2). Forewing length 7.5–8 mm, in males and 9.5 mm in females. Male antennae ciliate, female antennae filiform. Head and thorax brick orange; abdomen ochreous. Forewing ground color brick orange with reddish suffusion between veins; pattern thin, dark brown, consists of angled antemedial line, wavy medial line connecting with antemedial line in cell, strongly curved postmedial line connected with medial line at costal and tornal margins, a series of longitudinal stripes of different length between veins in submarginal area, and marginal line presented as a row of dots between veins; costa and cilia blackish brown. Hindwings ochreous, with slight pinkish suffusion, and wide dark suffusion at apex; cilia blackish at apex and pinkish ochreous at tornus and along anal margin.



Figs. 1–8. *Barsine* spp., adults. 1, 2 – *B. midzhan* sp. n.: 1 – holotype ♂, N Myanmar, Kachin State (MWM/ZSM); 2 – paratype ♀, N Myanmar, Kachin State (MWM/ZSM); 3, 4 – *B. garo* sp. n.: 3 – holotype ♂, NE India, W Meghalaya (MWM/ZSM); 4 – paratype ♀, NE India, W Meghalaya (MWM/ZSM); 5, 6 – *B. complicata*: 5 – ♂, Malaysia, Cameron Highlands (MWM/ZSM); 6 – ♀, Borneo, Sarawak (©NHMUK); 7, 8 – *B. cuneonotatus*: 7 – ♂, Central Thailand (CKC); 8 – ♀, South Thailand (CKC).

Male genitalia (Fig. 21). Uncus long, narrow, laterally flattened, curved, apically pointed; tuba analis very broad basally, scaphium thin and weakly sclerotized, subscaphium as a setose field; tegumen short and narrow; juxta shield-like; vinculum short, U-like. Valve long and narrow, costa weakly sclerotized, with short, pimple-like medial process directed ventrally and short and apically rounded subapical process directed dorsally; medial membranous lobe of valve small; sacculus narrow,



Figs. 9–14. *Barsine* spp., adults. 9–11 – *B. wernerthomasi* sp. n.: 9 – holotype ♂, NE India, Darjeeling (MWM/ZSM); 10 – paratype ♂, eastern Nepal (MWM/ZSM); 11 – paratype ♀, NE India, Darjeeling (MWM/ZSM); 12–14 – *B. prominens*: 12 – lectotype ♂ of *B. prominens*, NE India (©NHMUK); 13 – holotype ♀ of *Lyclene delicata* (= *B. prominens*) NE India, Darjeeling (©NHMUK); 14 – ♀, NE India, Darjeeling (MWM/ZSM).

weakly setose, with short and apically blunt distal process curved dorsally. Aedeagus medium long, narrow, slightly curved medially, with short coecum; vesica membranous, broad, consists of large, sack-like subbasal diverticulum armed with small cluster of very small cornuti, and several smaller medial diverticula and two clusters of short, but robust, trigonal cornuti.

Female genitalia (Fig. 33). Ovipositor short and broad, papillae anales quadrangular, with rounded angles; apophyses thin, apophyses posteriores ca. 1.5 times longer than apophyses anteriores; postvaginal plate broad and long; ostium broad, with small lateral ostial ligula; antrum short and broad, moderately sclerotized; anterior section of ductus bursae short, membranous, narrow. Corpus bursae globular, with strong spinulose scobination postero-medially and round signum anteriorly; appendix bursae small, conical, moderately sclerotized, situated latero-posteriorly.

DISTRIBUTION. Northern Myanmar (Kachin State).

ETYMOLOGY. Midzhan is a name of the beautiful woman, a character of the Myanmar folk tale 'Maun Koun'.

***Barsine garo* Volynkin, sp. n.**

Figs 3, 4, 22, 34

TYPE MATERIAL. **Holotype** (Figs 3, 22) – ♂, NE India, Assam, W Meghalaya, Garo Hills, Nokrek National Park, 25°40'N, 91°04'E, 1150 m, 2–13.VII 1997, leg. Afonin & Sinajev, slide MWM 31769 Volynkin (Coll. MWM/ZSM). **Paratypes**: same data as in the holotype, 1 ♂, 6 ♀, slide MWM 31770 (♀) Volynkin (Coll. MWM/ZSM).

DIAGNOSIS. The new species (Figs. 3, 4) is a closest relative of *B. midzhan* (Figs. 1, 2) but differs externally from it by its significantly larger size, more reddish forewing ground color and pinkish hindwings, The male genitalia of *B. garo* (Fig. 22) differ from those of *B. midzhan* (Fig. 21) by the much narrower tuba analis, presence of a long conical medial process of juxta, slightly smaller medial costal process, much smaller dorsal subapical costal process, more robust distal sacculus process, longer aedeagus, narrower, conical subbasal diverticulum without a cluster of cornuti, and longer and narrower cornuti of both clusters. The male genitalia of *B. garo* are also similar to those of *B. complicata* (Fig. 23), but differ by the broader tuba analis, broader medial costal process, presence of distal costal process, much larger distal sacculus process, longer aedeagus, and presence of one more cluster of spine-like cornuti in vesica. In the female genitalia, *B. garo* (Fig. 34) differs from *B. midzhan* (Fig. 33) by its larger lateral ostial ligula, narrower and significantly longer antrum, less sclerotized appendix bursae and weaker spinulose scobination of corpus bursae; from *B. complicata* (Fig. 35) differ by the presence of ostial ligula, much longer postvaginal plate, slightly longer and stronger sclerotized antrum, much smaller appendix bursae, much narrower corpus bursae with dense spinulose scobination medially and posteriorly (whereas in *B. complicata* the medial and posterior sections of corpus bursae are weakly sclerotized, rugose, with two sclerotized narrow bands), and larger signum. Externally, *B. garo* is also similar to

B. cuneonotatus (Figs 7, 8), but differs by its slightly thinner lines of pattern, post-medial line not angled outwards at tornus, darker, more reddish hindwings with dark suffusion at apex, dark hindwings cilia at apex, and the male and female genitalia structures.

DESCRIPTION. Adult (Figs 3, 4). Forewing length 10–10.5 mm, in males and 10–11 mm in females. Male antennae ciliate, female antennae filiform. Head and thorax brick orange; abdomen ochreous. Forewing ground color brick orange with intense reddish suffusion between veins; pattern thin, blackish brown; antemedial line angled; medial line angular-wavy, connects with antemedial line in cell; post-medial line strongly curved, connected with medial line at costal and tornal margins, submarginal area with a series of longitudinal stripes of different length between veins, marginal line interrupted, presented as a row of dots between veins; costa and cilia blackish brown. Hindwings ochreous pinkish, with slight dark suffusion at apex; cilia blackish at apex and pinkish ochreous at tornus and along anal margin.

Male genitalia (Fig. 22). Uncus long, narrow, laterally flattened, curved, apically pointed; tuba analis medium broad, scaphium thin and weakly sclerotized, subscaphium as a setose field; tegumen short and narrow; juxta shield-like, with large, conical medial process; vinculum short, U-like. Valve long and narrow, costa weakly sclerotized, with short, pimple-like medial process directed ventrally and very small and apically rounded subapical process directed dorsally; medial membranous lobe of valve small; sacculus narrow, weakly setose, with short but robust distal process curved dorsally. Aedeagus long, narrow, S-like curved, with short coecum; vesica membranous, broad, consists of large, conical subbasal diverticulum, and several smaller medial diverticula and two clusters of short, but robust, thorn-like cornuti.

Female genitalia (Fig. 34). Ovipositor short and broad, papillae anales quadrangular, with rounded angles; apophyses anteriores and posteriores moderately long, thin, equal in length; ostium broad, with trigonal, apically rounded lateral ostial ligula; postvaginal plate medium broad, elongated, heavily sclerotized; antrum short and broad; anterior section of ductus bursae short, membranous, narrow. Corpus bursae globular, with moderately strong spinulose scobination postero-medially, and very weak spinulose scobination and round signum anteriorly; appendix bursae small, conical, weakly sclerotized, situated latero-posteriorly.

DISTRIBUTION. The new species is known from northeastern India (Garo Hills in Meghalaya State).

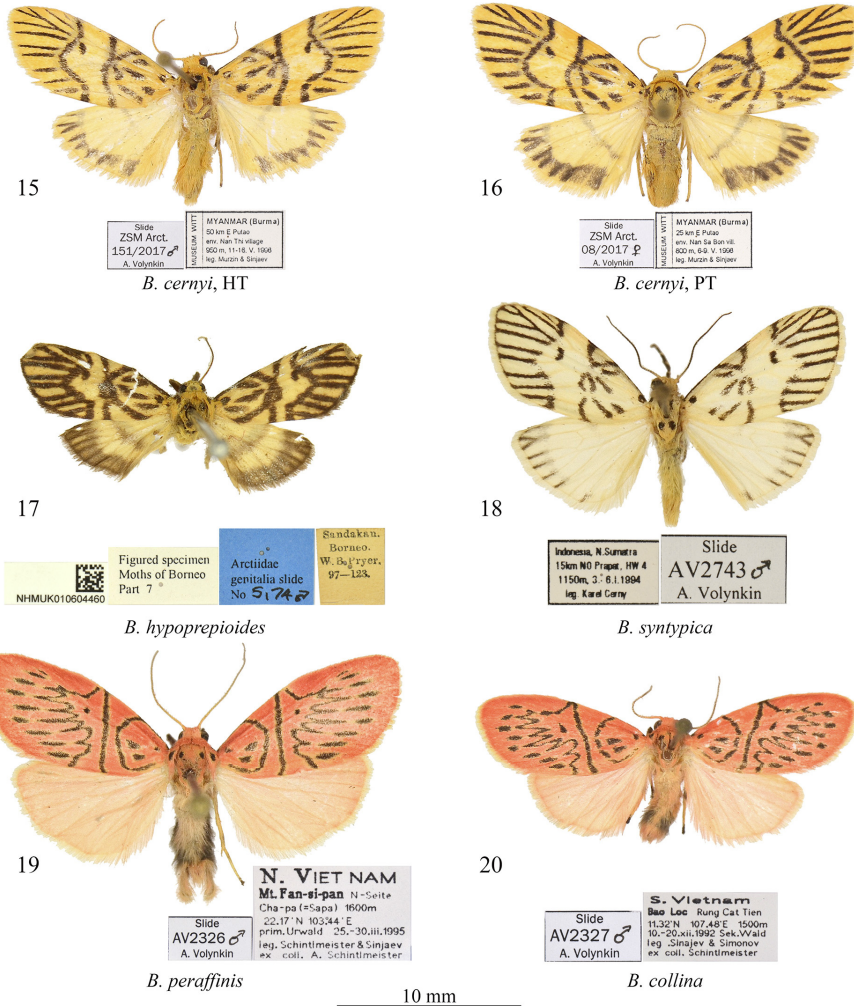
ETYMOLOGY. The species name is dedicated to the Garo people inhabiting its type locality, Garo Hills in Meghalaya State of India.

***Barsine wernerthomasi* Volynkin, sp. n.**

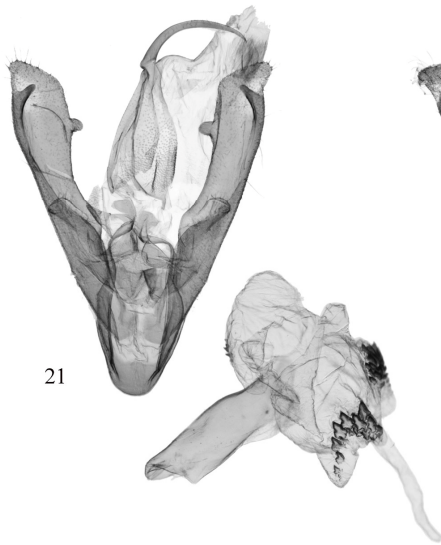
Figs 9–11, 25, 26, 37

TYPE MATERIAL. **Holotype** (Figs 9, 25) – ♂, India, Sikkim, Namchi, 1000 m, 2.VII 1986, leg. W. Thomas, slide MWM 31791 Volynkin (Coll. MWM/ZSM). **Paratypes:** same data as in the holotype, 2 ♀, slide MWM 31792 (♀) Volynkin (Coll.

MWM/ZSM); Gopaldhara, June 1918 (Stevens) / Rothschild bequest 1939.-I., 1 ♂, 1 ♀, (Coll. NHMUK); Sikkim (H. Stevens) / Rothschild bequest 1939.-I., 1 ♀, (Coll. NHMUK); Sikkim (H. Stevens), 1 ♂, 1 ♀, slides AV1916♂, AV1917♀ Volynkin (Coll. ZFMK); East Nepal, Kanchenjunga Himal, Khambachen, 4150 m, 28.VI.1998, leg. Márton Hreblay & Balázs Benedek, 6 ♂, 1 ♀, slide MWM 33576 (♂) Volynkin (Coll. MWM/ZSM).



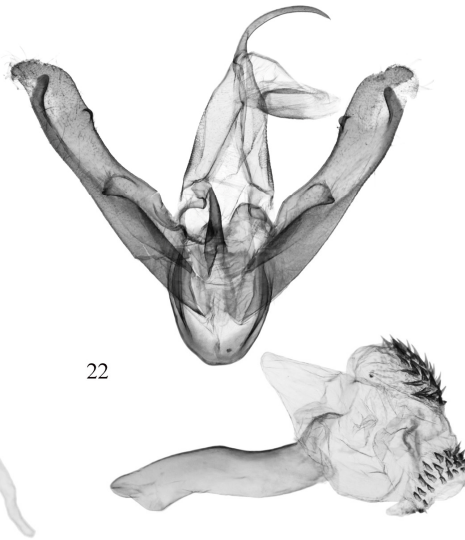
Figs. 15–20. *Barsine* spp., adults. 15, 16 – *B. cernyi* sp. n.: 15 – holotype ♂, N Myanmar, Kachin State (MWM/ZSM); 16 – paratype ♀, N Myanmar, Kachin State (MWM/ ZSM); 17 – *B. hypoprepioides*, ♂, Malaysia, Borneo (©NHMUK); 18 – *B. syntypica*, ♂, Indonesia, Sumatra (CKC); 19 – *B. peraffinis*, ♂, N Vietnam (CKC); 20 – *B. collina*, ♂, S Vietnam (CKC).



21

***B. midzhan*, HT**

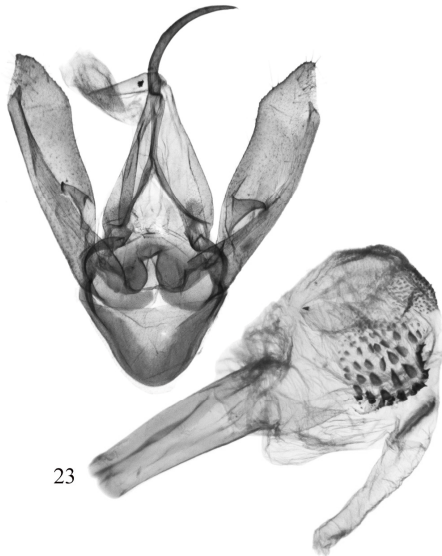
N Myanmar, Kachin State, slide MWM 31683



22

***B. garo*, HT**

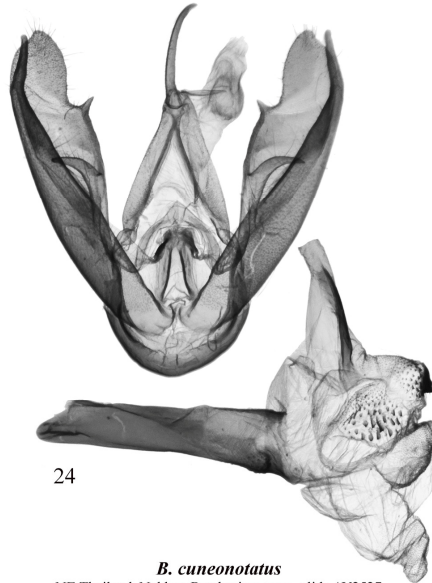
NE India, W Meghalaya, Garo Hills, slide MWM 31769



23

B. complicata

Malaysia, Malay Peninsula, Cameron Highlands, slide MWM 33902



24

B. cuneonotatus

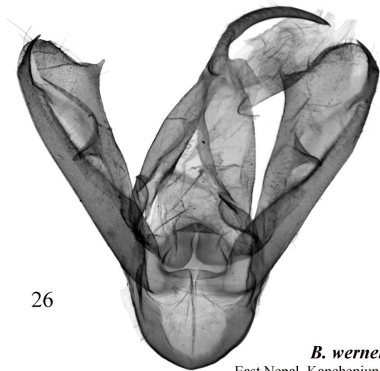
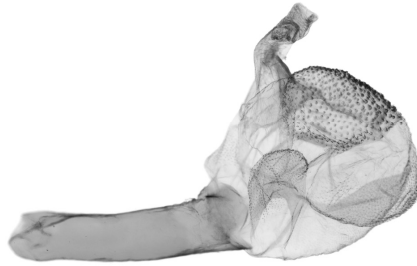
NE Thailand, Nakhon Ratchasima prov., slide AV2527

Figs. 21–24. *Barsine* spp., male genitalia. 21 – *B. midzhan* sp. n., holotype, N Myanmar; 22 – *B. garo* sp. n., holotype, NE India; 23 – *B. complicata*, Malaysia, Cameron Highlands; 24 – *B. cuneonotatus*, North-East Thailand.



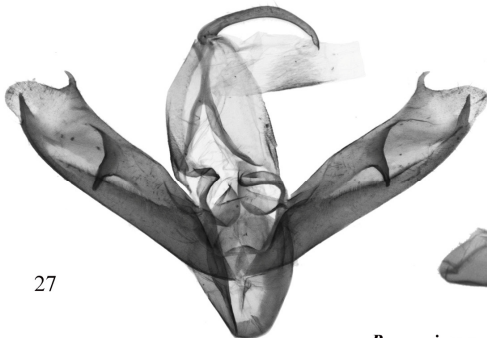
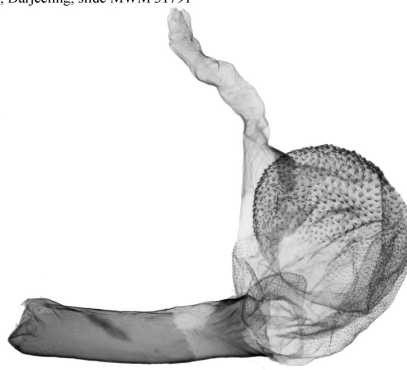
25

***B. wernerthomasi*, HT**
NE India, West Bengal, Darjeeling, slide MWM 31791



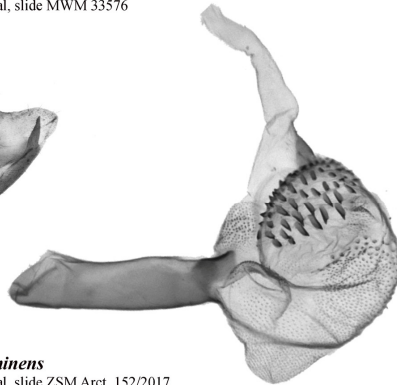
26

***B. wernerthomasi*, PT**
East Nepal, Kanchenjunga Himal, slide MWM 33576



27

B. prominens
East Nepal, Kanchenjunga Himal, slide ZSM Arct. 152/2017



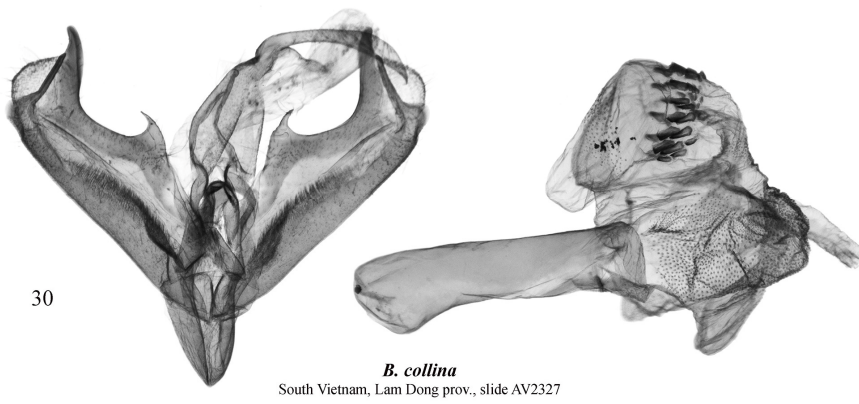
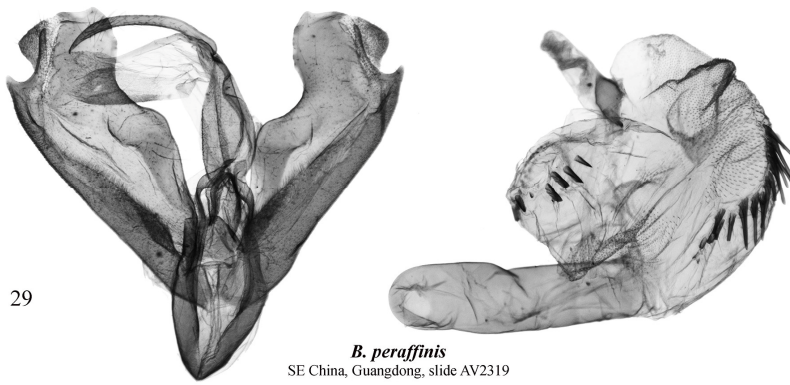
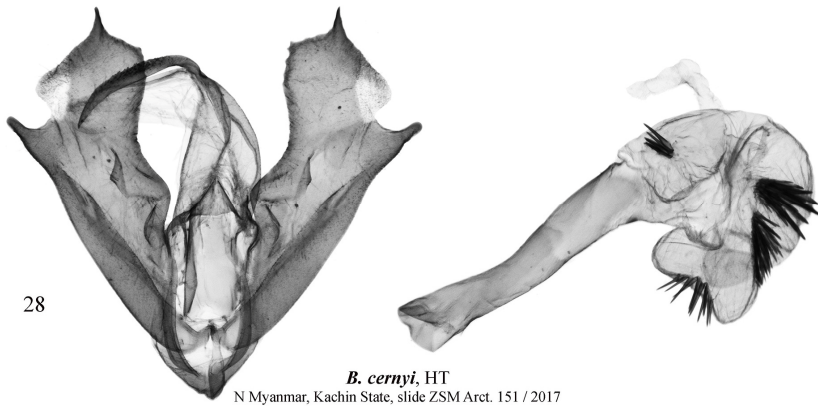
Figs. 25–27. *Barsine* spp., male genitalia. 25, 26 – *B. wernerthomasi* sp. n.: 25 – holotype, NE India, Darjeeling; 26 – paratype, eastern Nepal; 27 – *B. prominens*, eastern Nepal.

DIAGNOSIS. *B. wernerthomasi* belongs to the *Brasine prominens* species-group described by Volynkin & Černý (2016) and is a closest relative of *B. prominens* (Moore, 1878) distributed in Himalaya (India and Nepal). *B. wernerthomasi* (Figs. 9–11) is very similar externally to *B. prominens* (Figs 12–14), but differs by its much larger size and shorter blackish marginal stripes on veins of hindwings. The male genitalia of the new species (Figs 25, 26) differ from those of *B. prominens* (Fig. 27) by the distally broader valve with slightly longer distal section between apical costal process and valve apex, slightly weaker medial costal process, thinner and apically pointed distal saccular process, presence of very robust granulation in the distal diverticulum of vesica, and weaker granulation of lateral diverticula of vesica, whereas in *B. prominens* the valve is distally narrower and has slightly shorter distal section, the medial costal process is more robust, the distal saccular process is broader and apically tapered, the large apical diverticulum of vesica has a cluster of short, but robust cornuti, and the granulation of lateral diverticula of vesica is stronger. In the female genitalia, *B. wernerthomasi* (Fig. 37) differs from *B. prominens* (Fig. 38) by the much larger and heavily sclerotized postero-lateral sclerotized field of corpus bursae, and the much weaker spinulose scobination of corpus bursae, whereas in *B. prominens* the postero-lateral sclerotized field of corpus bursae is much smaller and weakly sclerotized, and the spinulose scobination is much more robust.

DESCRIPTION. Adult (Figs 9–11). Forewing length 15–17 mm, in males and 17–18 mm in females. Male antennae ciliate, female antennae filiform. Body yellow, thorax with two large lateral black spots. Forewing ground color pale yellow; pattern black, consists of four large subbasal spots, transverse lines, and lengthwise strokes on veins in outer part of forewing; antemedial line angled in the cell, interrupted, consists of three strips; medial line slightly curved and wavy; discal spot large, reniform; postmedial line strongly curved and irregularly dentate opposite the cell; cilia pale yellow. Hindwing pale yellow, lighter than forewing, with diffuse, thin, grayish, S-like curved medial band, thin, slightly wavy, diffuse, grayish submarginal line, and black stripes on veins between the submarginal line and wing margin; cilia pale yellow.

Male genitalia (Figs 25, 26). Uncus long, narrow, laterally flattened, curved, apically pointed; tuba analis narrow, scaphium very thin and weakly sclerotized; subscaphium presented as setose field; tegumen medium short and broad; manica with two sclerotized bands; juxta broad, shield-like; vinculum short, U-like. Valve narrow, distally broadened; costa moderately sclerotized, with large, narrowly trigonal medial process and thin, trigonal distal process directed dorsally; medial membranous lobe of valve short and broad; sacculus narrow, setose; distal saccular process curved dorsally, apically pointed. Aedeagus long and narrow; vesica broad, globular, with two small lateral diverticula with weak granulation, and large apical diverticulum with broad field of very robust granulation.

Female genitalia (Fig. 37). Ovipositor narrow, conical; papillae anales elongated, apically rounded; apophyses anteriores and posteriores moderately long, thin, equal in length; antrum broad, with membranous ventral margin and heavily sclerotized, horseshoe-shaped postvaginal plate; anterior section of ductus bursae short, narrow,



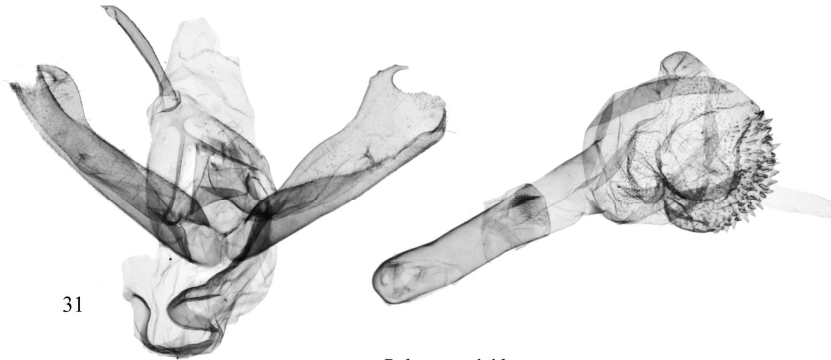
Figs. 28–30. *Barsine* spp., male genitalia. 28 – *B. cernyi* sp. n., holotype, N Myanmar; 29 – *B. peraffinis*, SE China, Guangdong; 30 – *B. collina*, S Vietnam.

membranous; corpus bursae broad, sack-like, with broad and heavily sclerotized postero-lateral plate, weak spinulose scobination which is much weaker anteriorly, and heart-like dentate sigum in anterior section; appendix bursae very short and broad, situated postero-laterally, with very weak spinulose scobination.

DISTRIBUTION. *B. wernerthomasi* is known from northeastern India (north of West Bengal, Sikkim) and eastern Nepal.

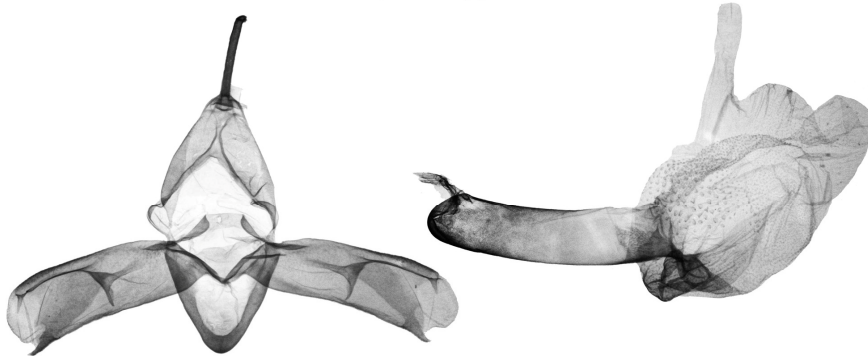
ETYMOLOGY. The species name is dedicated to Dr Werner Thomas, a famous researcher of Arctiinae of India, a collector of the part of the type series.

REMARK. The female genitalia of *B. wernerthomasi* were erroneously illustrated by Volynkin & Černý (2016b) as *B. prominens*.



31

B. hypoprepioides
Borneo, slide BMNH(E) Arct-5174



32

B. syntypica
Borneo, Sarawak, slide BMNH(E) Arct-4745

Figs. 31, 32. *Barsine* spp., male genitalia. 31 – *B. hypoprepioides*, Malaysia, Borneo (©NHMUK); 32 – *B. syntypica*, Borneo, Sarawak (©NHMUK).

***Barsine prominens* (Moore, 1878)**

Figs 12–14, 27, 38

Lyclene prominens Moore, 1878: 31, pl. III, fig. 3 (Type locality: "Cherra; Khasia hills").

Lyclene delicata Moore, 1878: 31 (Type locality: "Darjiling"), **syn. n.**

TYPE MATERIAL EXAMINED. **Lectotype** of *Lyclene prominens* (designated herein) (Fig. 12): ♂, handwritten label "N.E. Bengal ♂" (upper side) | "*Lyclene prominens* (Type) Moore" (under side) / printed label "Moore Coll. 94-106" / round printed label with a red ring "Type" / printed label with QR-code "NHMUK010200266" (Coll. NHMUK); **holotype** of *Lyclene delicata* (Fig. 13): ♀, handwritten label "Darjiling ♀ Grote" (upper side) | "*Lyclene delicata* ♀ (Type) Moore" (under side) / printed label "Moore Coll. 94-106" / round printed label with a red ring "Type" / printed label with QR-code "NHMUK010598489" (Coll. NHMUK).

REMARKS. In the original description, Moore (1878) reported both sexes from two localities ("Cherra; Khasia hills") therefore the existence of syntypes is obvious. Due to the close similarity of *B. prominens* and *B. wernethomasi*, the male lectotype is designated here to avoid any confusion in the future. The holotype of *Lyclene delicata* (Fig. 13) is a worn specimen of *B. prominens* only, thus the new synonymy is established here.

DISTRIBUTION. NE India, E Nepal. The record for SW China (Tibet) (Fang, 2000) needs a confirmation.

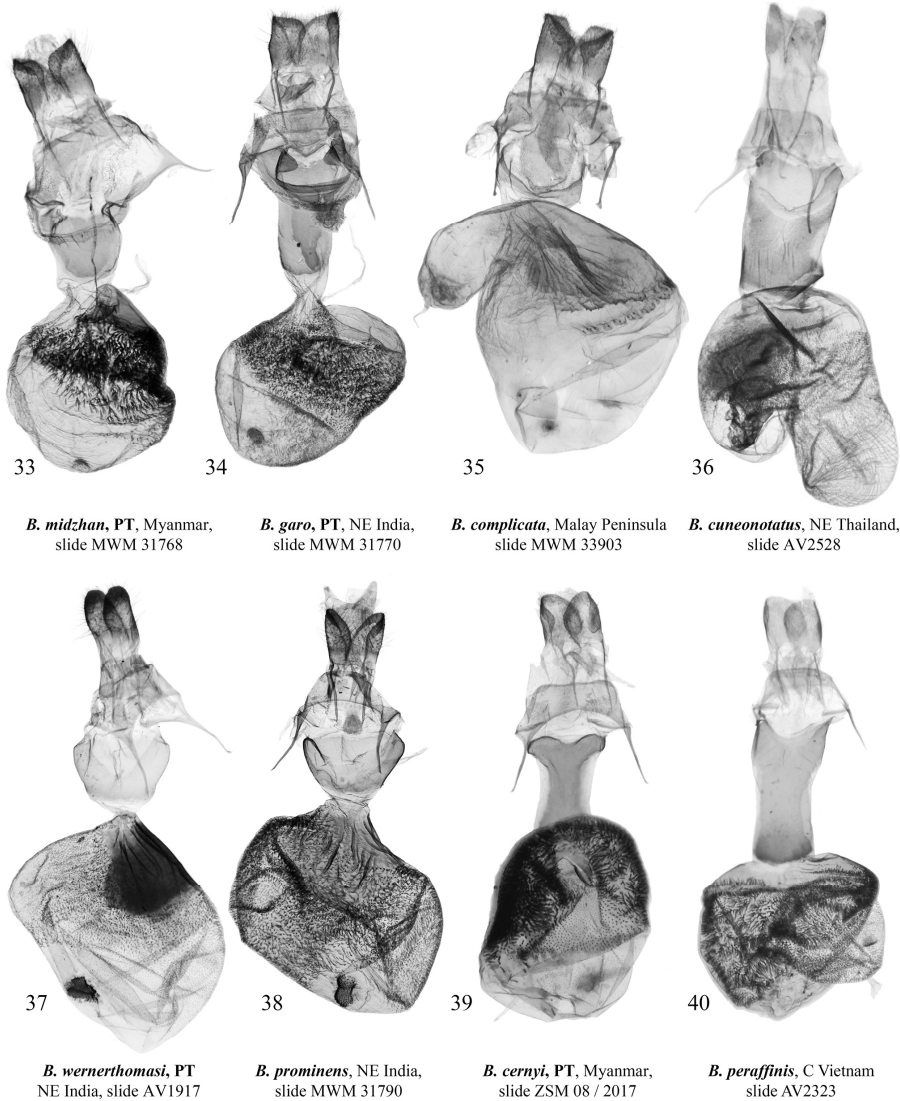
***Barsine cernyi* Volynkin, sp. n.**

Figs 15, 16, 28, 39

TYPE MATERIAL. **Holotype** (Figs 15, 28) – ♂, Myanmar (Burma), 50 km E Putao, env. Nan Thi village, 950 m, 11–16.V 1998, leg. Murzin & Sinjaev, slide ZSM Arct. 151/2017♂ Volynkin (Coll. MWM/ZSM). **Paratypes**: same data as in the holotype, 1 ♂, 1 ♀, slide ZSM Arct. 08/2017♀ Volynkin (Coll. MWM/ZSM).

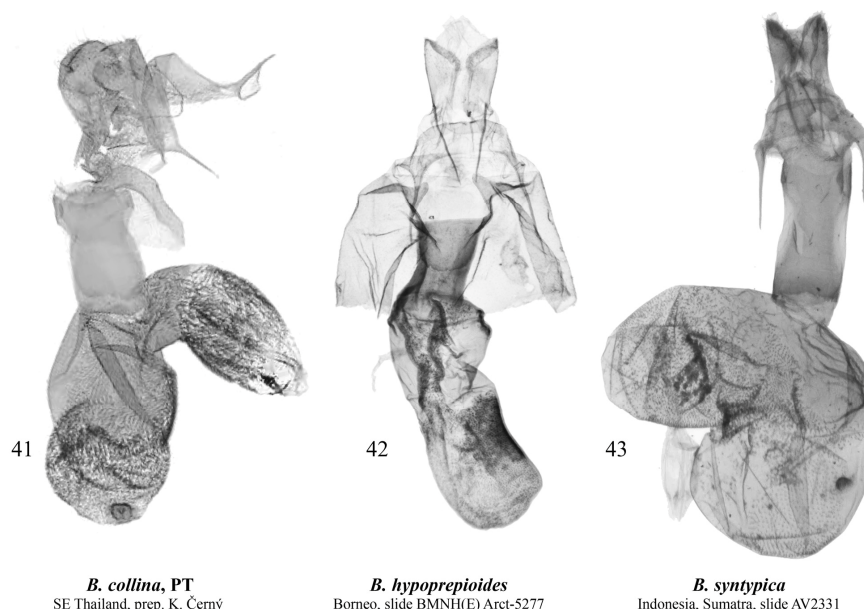
DIAGNOSIS. An unmistakable species. The forewing pattern resembles that of *B. hypoprepioides* (Walker, 1862) (Fig. 17) and *B. syntypica* Swinhoe, 1906 (Fig. 18), but *B. cernyi* (Figs 15, 16) differs clearly from the both species by its bright yellow wing coloration and smoothly curved medial line of forewing. The male and female genitalia of *B. cernyi* (Figs 28, 39) are very different from those of *B. hypoprepioides* (Figs 31, 42) and *B. syntypica* (Figs 32, 43) and more close to those of *Barsine peraffinis* (Fang, 1991) **comb. n.** (Fig. 19) and *Barsine collina* (Černý, 2016) **comb. n.** (Fig. 20), but differ from *B. peraffinis* (Fig. 29) by the presence of medial costal process, presence of a long pointed distal costal process, absence of a dorsal lobe of distal saccular process, and narrower vesica with four bunches of robust spines (whereas in *B. peraffinis* a medial costal process is absent, a distal costal process is very short and broadly trigonal, the distal saccular process is bilobate with a long dorsal lobe, and the vesica is significantly broader, with a long row of robust spines and a short row of short trigonal cornuti); from *B. collina* (Fig. 30) differ by the presence of medial costal process, absence of pointed costal process directed dorsally, much broader distal section of costa with a slenderer distal process, absence of a dorsal lobe of distal saccular process, and narrower vesica with four bunches of robust spines (whereas in *B. collina* a medial costal process is absent, the costal process directed dorsally is present, the distal saccular

process is bilobate with a long dorsal lobe, and the vesica is broader, with a cluster of short trigonal cornuti only). The female genitalia of *B. cernyi* (Fig. 39) differ from those of *B. peraffinis* (Fig. 40) and *B. collina* (Fig. 41) by the longer apophyses anteriores,



Figs. 33–40. *Barsine* spp., female genitalia. 33 – *B. midzhan* sp. n., paratype, N Myanmar; 34 – *B. garo* sp. n., paratype, NE India; 35 – *B. complicata*, Malaysia, Cameron Highlands; 36 – *B. cuneonotatus*, NE Thailand; 37 – *B. wernerthomasi* sp. n., paratype, NE India; 38 – *B. prominens*, NE India; 39 – *B. cernyi* sp. n., paratype, N Myanmar; 40 – *B. peraffinis*, Central Vietnam.

rounded lateral lobes of antrum directed laterally, shorter ductus bursae, more robust spinulose scobination of corpus bursae, and smaller appendix bursae (whereas in *B. peraffinis* and *B. collina* the apophyses anteriores are shorter, the lateral lobes of antrum are pointed apically and directed posteriorly, the ductus bursae is longer, the spinulose scobination of corpus bursae is weaker, the appendix bursae is much longer).



Figs. 41–43. *Barsine* spp., female genitalia. 41 – *B. collina*, paratype, SE Thailand; 42 – *B. hypoprepioides*, Malaysia, Borneo (©NHMUK); 43 – *B. syntypica*, Indonesia, Sumatra.

DESCRIPTION. Adult (Figs 15, 16). Forewing length 10 mm, in males and 11 mm in females. Male antennae ciliate, female antennae filiform. Body dark yellow, thorax with two large lateral black spots. Forewing ground color bright yellow; pattern black, consists of a subbasal spot and three strokes, W-like waved antemedial line, S-like curved medial line connected with antemedial line in the cell, comma-like discal spot, S-like curved postmedial line and lengthwise strokes on veins in outer part of forewing; cilia bright yellow. Hindwing pale yellow, medial band diffuse, grey, slightly wavy; submarginal area with intense black suffusion on veins and slight black suffusion between veins; cilia pale yellow.

Male genitalia (Fig. 28). Uncus long and narrow, laterally flattened, medially slightly broadened, apically pointed; tuba analis membranous; scaphium thin, moderately sclerotized; subscaphium not developed; tegumen medium long and broad; manica weakly sclerotized, setose; juxta broad, rectangular; vinculum short, V-like.

Valva elongated, distally broadened; costa S-like curved, distally broadened, with long, narrow, apically pointed distal process; medial costal process short and broad, trigonal, with pointed apex; sacculus narrow, setose; distal saccular process elongated, with broad base and rounded tip; aedeagus long, narrow, slightly S-like curved; vesica globular, with two large bunches of robust spines, broad subbasal diverticulum having a small bunch of spines, and a broad apical diverticulum with a row-like cluster of spines.

Female genitalia (Fig. 39). Ovipositor short, conical; papillae anales rectangular with rounded angles; apophyses of equal length, long and thin. Antrum broad, with short, rounded medial concavity and lateral rounded lobes directed laterally; ductus bursae long, dorso-ventrally flattened, heavily sclerotized, with weaker sclerotized lateral margins. Corpus bursae sack-like, with strong spinulose scobination medially and posteriorly; its anterior section with granulation; appendix bursae very short, conical.

DISTRIBUTION. The species is known only from its type locality, northern Myanmar (Kachin State).

ETYMOLOGY. The name is dedicated to Dr Karel Černý, a famous expert in the Oriental Arctiinae and author's friend.

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REFERENCES

- Bucsek, K. 2012. *Erebidae, Arctiinae (Lithosiini, Arctiini) of Malaya Peninsula–Malaysia*. Institute of Zoology SAS, Bratislava, 170 pp.
- Černý, K. 2016. A contribution to the knowledge of the *Mitochrista–Lyclene* genus group in South East Asia (Lepidoptera, Erebidae, Arctiinae, Lithosiini). *Nachrichten des entomologischen Vereins Apollo*, 37 (2/3): 93–107.
- Černý, K. & Pinratana, A. 2009. *Moths of Thailand. Vol. 6. Arctiidae*. Brothers of Saint Gabriel in Thailand, Bangkok, Thailand, 283 pp.
- Dubatolov, V.V. & Bucsek, K. 2013. New species of lichen-moths from South-East Asia (Lepidoptera, Noctuoidea, Lithosiini). *Tinea*, 22 (4): 279–291.
- Fang, C. 2000. *Fauna Sinica (Insecta) 19. Lepidoptera. Arctiidae*. Science Press, Beijing, 590 pp. [In Chinese with English summary]
- Holloway, J.D. 2001. The Moths of Borneo, part 7. Family Arctiidae, subfamily Lithosiinae. *Malayan Nature Journal*, 55: 279–486.
- Kirby, W.F. 1892. *A synonymic catalogue of Lepidoptera Heterocera. (Moths.), Vol. 1. Sphingines and Bombyces*. 951 pp.

- Kirti, J.S. & Singh, N. 2016. *Arctiid Moths of India. Vol. 2*. Nature Books India, New Delhi, 214 pp.
- Moore, F. 1878. A revision of certain genera of European and Asiatic Lithosidae with characters of new genera and species. *Proceedings of the general meetings for scientific business of the Zoological Society of London*, 1878: 3–37.
- Volynkin, A.V. & Černý, K. 2016a. *Barsine deliciosa*, a new species from China (Lepidoptera, Erebidae, Arctiinae). *Zootaxa*, 4200(1): 181–191. DOI: <http://doi.org/10.11646/zootaxa.4200.1.9>
- Volynkin, A.V. & Černý, K. 2016b. *Barsine amaculata*, a new species from Vietnam (Lepidoptera, Erebidae, Arctiinae). *Zootaxa*, 4200(2): 345–350. DOI: <http://doi.org/10.11646/zootaxa.4200.2.11>
- Volynkin, A.V. & Černý, K. 2016c. A review of the *Barsine flammealis* Moore, 1878 species-complex with description of a new species from Himalaya (Lepidoptera, Erebidae, Arctiinae). *Biological Bulletin of Bogdan Chmelnytsky Melitopol State Pedagogical University*, 6(3), 303–310. DOI: <http://dx.doi.org/10.15421/201699>
- Volynkin, A.V. & Černý, K. 2017a. On the taxonomy of the *Barsine delineata* species-complex (Lepidoptera, Erebidae, Arctiinae). *Zootaxa*, 4258(2): 138–144. DOI: <https://doi.org/10.11646/zootaxa.4258.2.3>
- Volynkin, A.V. & Černý, K. 2017b. A review of the *Barsine obsoleta* species-group with description of a new species from Vietnam (Lepidoptera, Erebidae, Arctiinae). *Zootaxa*, 4254 (2): 188–200. DOI: <https://doi.org/10.11646/zootaxa.4254.2.2>
- Volynkin, A.V. & Černý, K. 2017c. Revision of the *Barsine cardinalis–anomala* 'species-complex' (Lepidoptera, Erebidae, Arctiinae). *Zootaxa*, 4358 (3): 441–461. DOI: <https://doi.org/10.11646/zootaxa.4358.3.3>
- Volynkin, A.V. & Černý, K. 2017d. On the taxonomy of the genus *Barsine* Walker, 1854 (Lepidoptera: Erebidae: Arctiinae). *Far Eastern Entomologist*, 346: 17–32. DOI: <https://doi.org/10.25221/fee.346.3>
- Walker, F. 1854. *List of the specimens of lepidopterous insects in the collection of the British Museum*, 2. London, 775 pp.