

New species of lichen-moths from South-East Asia (Lepidoptera, Noctuoidea, Lithosiini)

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Abstract 14 new Lithosiinae species *Cernyia kosterini* sp. nov., *Poliosia solovyevi* sp. nov., *Nishada schintlmeisteri* sp. nov., *Lyclene zinchenkoi* sp. nov., *L. kosterini* sp. nov., *L. kepica* sp. nov., *L. kontumica* sp. nov., *Barsine honbaensis* sp. nov., *B. y-nigrum* sp. nov., *Chamaita hamata* sp. nov., *Aemene monastyrskii* sp. nov., *Eugoa nata* sp. nov., *Neoduma alexeikorshunovi* sp. nov. and *Cyclomilta cambodiaca* sp. nov. are described from South-East Asia. Holotypes of new species are deposited in the Institute of Systematics and Ecology of Animals (Novosibirsk, Russia). *Eilema arizana* (Wileman, 1910) from Taiwan and *E. furcatus* Fang, 2000 from Hainan are transferred into *Cernyia* Bucsek, 2012: *C. arizana* (Wileman, 1910), comb. nov., *C. furcatus* (Fang, 2000), comb. nov.

Introduction

During last 10 years, several Russian entomologists collected moths in different countries of South-East Asia, mainly in Thailand, Cambodia and Vietnam. This region was covered with comprehensive investigations of some Macrolepidoptera groups only in recent few years, and one of the first groups became Arctiidae, recently downgraded to a subfamily in the Noctuoidea family Erebidae (Zahiri et al., 2010). There are two main guides to Arctiinae, including Lithosiini, from this tropical territory: Černý & Pinratana (2009) for Thailand, and Bucsek (2012) for Malay Peninsula. Although they do not include the male genitalia figures of all species, it became possible to identify tiger- and lichen-moths from Indochina. In the course of treatment of lichen-moths collected in Indochina and adjacent territories from the collection of Institute of Systematics and Ecology of Animals (Novosibirsk, Russia), several new species have been discovered. Their descriptions are given below; the holotypes are deposited in the mentioned Institute collection.

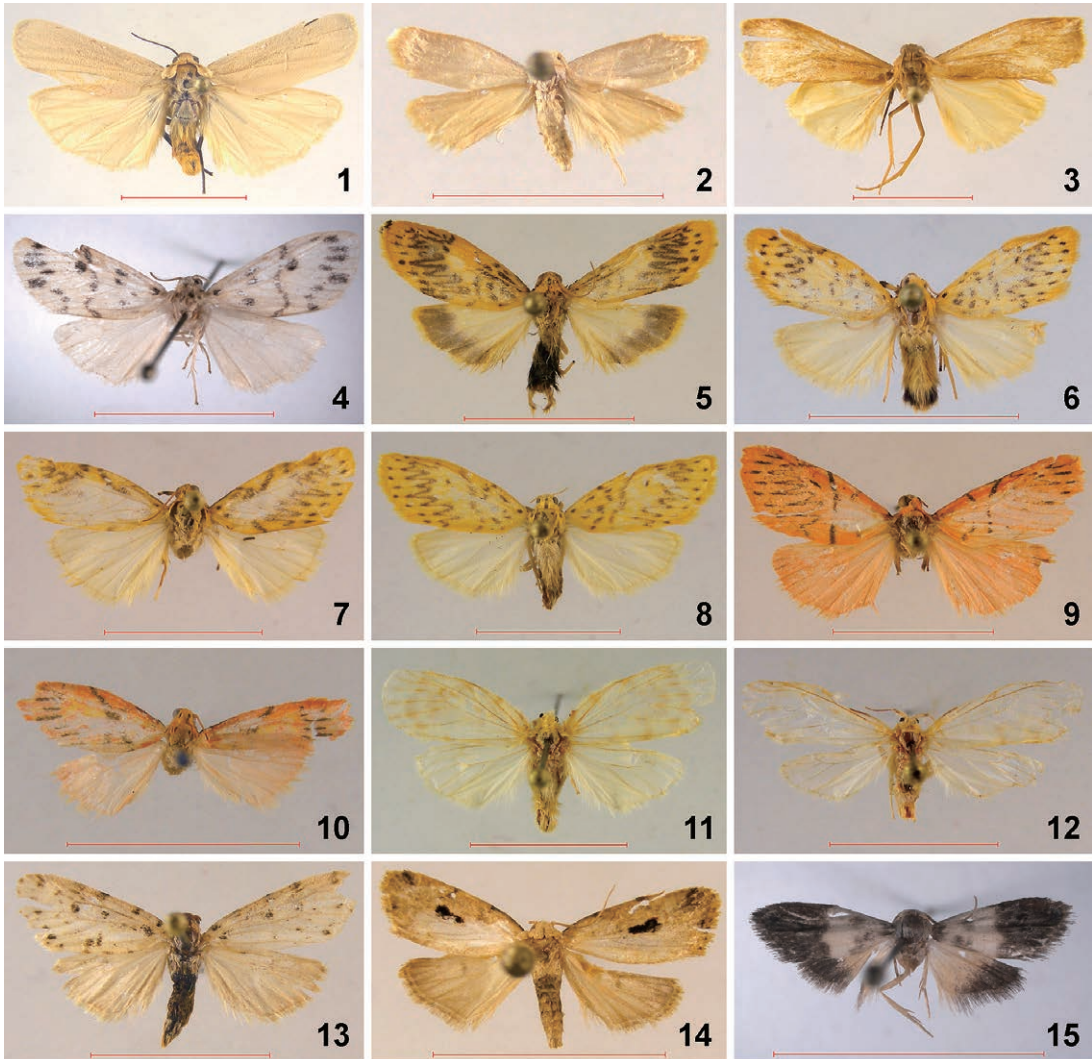
Cernyia kosterini Dubatolov & Bucsek, sp. nov. (Figs 1, 16)

Material. Holotype: ♂, "CAMBODIA, Kampot Prov. / Bokor Hill Station, h = 1030 m / 10°37'37"N 104°01'33"E / O.E.Kosterin leg. / 18.VIII.2011".

Description. Forewing length 13 mm. Forewing costal margin straight, hind margin noticeably convex, greyish yellow. Hindwing light yellow. Head and thorax yellow. Abdomen greyish yellow in basal half, bright yellow in apical half.

Male genitalia (Fig. 16). Uncus hook-like, very robust at basal 2/3 but narrow and curved downwards at apical 1/3. Valves broadly ovate, with a broad oval fold on inner surface. Sacculus ventral margin straight but roundly curved at the base of apical process. The latter long, strongly curved upwards, and then inwards subapically. Saccus nearly quadrangular, its apical margin rounded. Aedeagus elongate, broad, with a triangular keel-like protuberance subapically. Vesica long, its apical half rounded, scobinate and bears a small triangular tooth.

Remarks. The genus *Cernyia* Bucsek, 2012 (type species *Eilema pseudocretacea* Holloway, 2001), according to original description, includes also *C. longpala* (Holloway, 2001). However, according to the male genitalia structure (Figs 36-37, 39), two additional species should be transferred into this genus: *Cernyia arizana* (Wileman, 1910), **comb. nov.** from Taiwan (the species described as *Ilema arizana* Wileman, 1910), and *Cernyia furcatus* (Fang, 2000), **comb. nov.** from China, Hainan (the species described as *Eilema furcatus* Fang, 2000). According to the wing shape and colour, the new species is similar to *Cernyia arizana*, *C. furcatus* and *C. pseudocretacea*. The male genitalia



Figs 1-15. New species of lichen-moths from South-East Asia, holotypes. 1. *Cernyia kosterini* sp. nov.; 2. *Poliosia solovyevi* sp. nov.; 3. *Nishada schintlmeisteri* sp. nov.; 4. *Lyclene zinchenkoi* sp. nov.; 5. *Lyclene kosterini* sp. nov.; 6. *Lyclene kepica* sp. nov.; 7-8. *Lyclene kontumica* sp. nov.; 9. *Barsine honbaensis* sp. nov.; 10. *Barsine y-nigrum* sp. nov.; 11-12. *Chamaita hamata* sp. nov.; 13. *Aemene monastyrskii* sp. nov.; 14. *Eugoa nata* sp. nov.; 15. *Neoduma alxeikorshunovi* sp. nov. 8, 12: females, paratypes; others. males, holotypes. Scales bars = 5 mm.

structure of these species also show three main synapomorphic characters: presence of a broad oval fold on the inner surface of the valve, a keel-like process at the aedeagus apex, and presence of a single small tooth on the apical lobe of the vesica. Among these species, only *C. kosterini* sp. nov. have a single apical process of the succulus, others have a bifid saccular process. *C. arizana* (Figs 36-37) and *C. pseudocretacea* (Holloway, 2001: Fig. 105) are very similar and slightly differ from each other in the aedeagus subapical keel structure only; their saccular processes are nearly straight and acute at the apices. *C. furcatus* (Fig. 39) is known by the original description with only a figure of the male genitalia of a poor quality. According to this figure (Fang, 2000: 257, fig. 177); it has quite a different bifid saccular process: the dorsal branch strongly curved upwards, the ventral one is covered with small teeth and is not acute at apex. The vesica is not everted on the original figure, but

a single narrow cornutus is well visible. The subapical keel on the aedeagus is broadly triangular, not trapezoid like as in *C. arizana*.

Etymology. The species is named in the honor of Dr. O.E. Kosterin (Novosibirsk, Russia), a collector of some lichen-moths in Cambodia.

***Poliosia solovyevi* Dubatolov & Bucsek, sp. nov.** (Figs 2, 17)

Material. Holotype: ♂, “Vietnam, Dong Nai / Vinh Cuu Nat. Res. / Phu Ly, Dakinde / 11.41203°N, 107.10508°E / h=106 m, 26-29.vi.2011 / leg. S.Nedoshivina, / S. Pugaev, A.Solovyev”.

Description. Forewing length 6.5 mm. Wing without any pattern, forewings, head and thorax greyish yellow, hindwings and abdomen yellow.

Male genitalia (Fig. 17). Uncus long, straight. Valves elongate, costal margin slightly convex at basal 1/3, ventral margin straight. Cucullus membranose, constricted and rounded at apex; sacculus sclerotized, simple, curved upwards apically. Juxta small, simple. Saccus long, roughly rectangular with rounded angles. Aedeagus stout, slightly longer than valve, curved upwards at proximal part.

Remarks. The new species differs from other representatives of the genus by the yellowish coloration of wings, so there is no lightening along the forewing costa. In the male genitalia structure, the new species has the most elongated valves like in the *muricolor* Walker group (Holloway, 2001: Fig. 34), but a long narrow saccus like in the *marginata* Hampson group (Holloway, 2001: Fig. 29). The uncus structure without a sharp constriction at the apex is probably unique in the genus, but absence of a strong cornutus in the aedeagus is a common character with *Poliosia quadrifida* Holloway, 2001 from Malaysia (Bucsek, 2012: Fig. Mal184).

Etymology. The species is named in the honor of Dr. A.V. Solovyev (Ul’yanovsk, Russia), a collector of some lichen-moths in Vietnam.

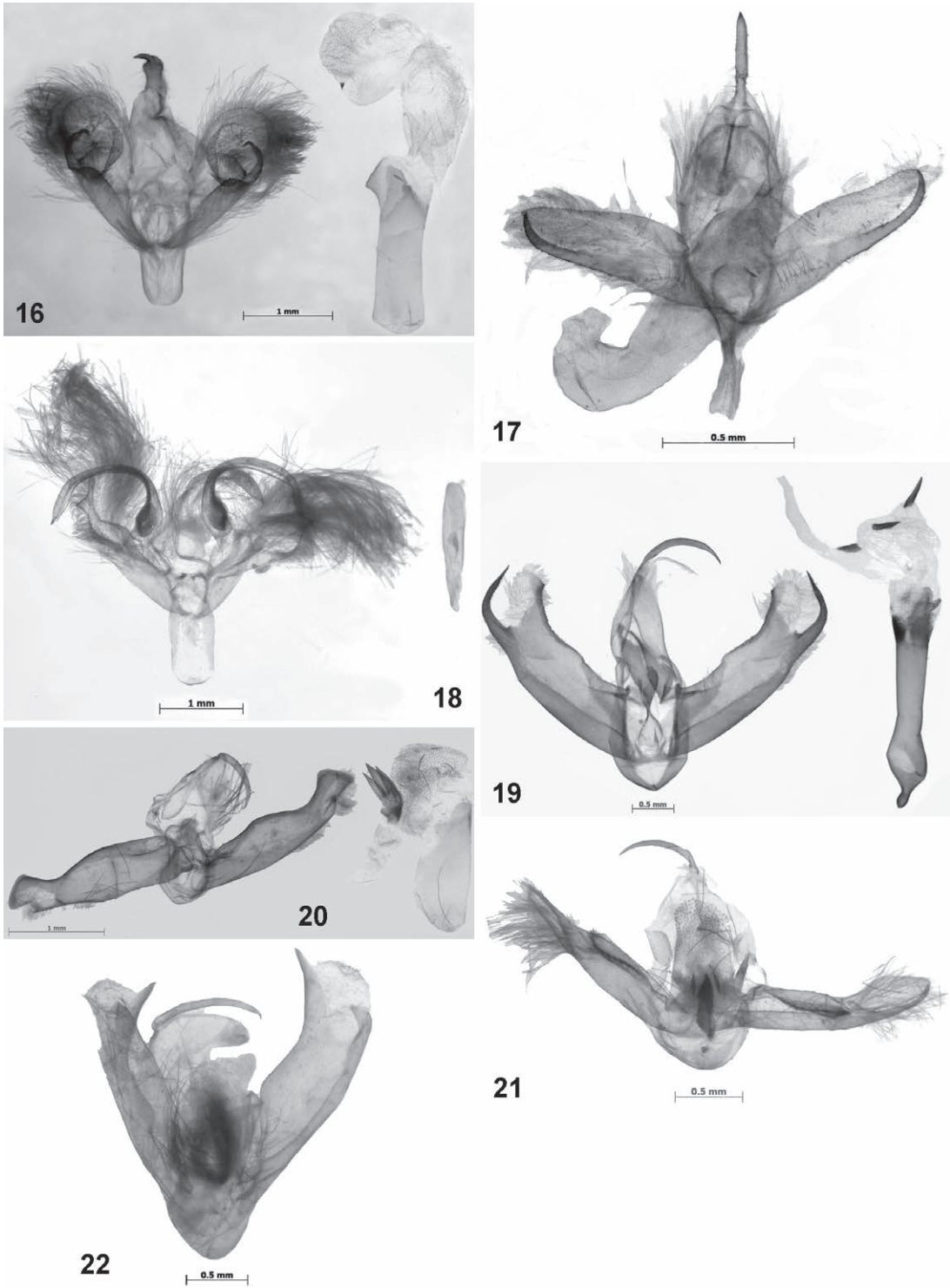
***Nishada schintlmeisteri* Dubatolov & Bucsek, sp. nov.** (Figs 3, 18)

Material. Holotype: ♂, “North Sumatra/Pakkat / 98°33’ö.L.; 2°10’n.B. / 17.-18.VIII.1979 / Mittelgebirgsurwald 4-600m / leg.DIEHL & SCHINTLMEITER”, received from A. Schintlmeister.

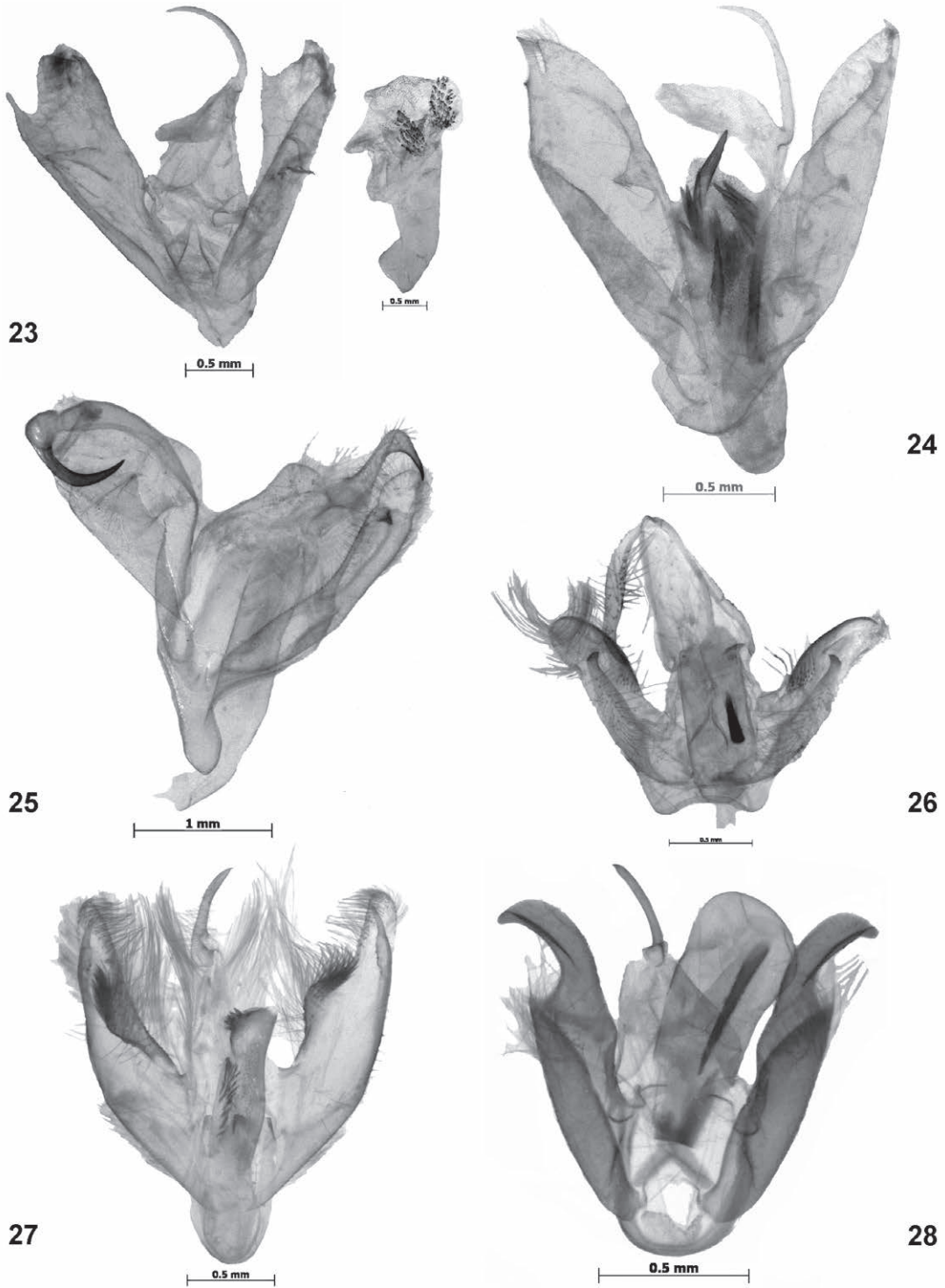
Description. Forewing length 14 mm. Forewings buff, with a darker coloration beyond discal cell, at vein M₃ base, and along outer margin. Hindwings light yellow. Head and thorax buff.

Male genitalia (Fig. 18). Uncus evenly curved downwards. Cucullus membranose, short, oval, covered with long hairs. Valve base with a long arch-like process, enlarged at base, and with a light broadening before apex, the latter with a short spine. Sacculus sclerotized, its apex with a broad triangular prominence on ventral side. Juxta small. Saccus roughly rectangular with rounded angles; twice as long as wide. Aedeagus short, straight.

Remarks. Among the species of the genus with known male genitalia, several species have the long arch-like process at valve base: *Nishada chilomorpha* (Snellen, 1877) (Bucsek, 2012: Fig. Mal171), *N. rotundipennis* (Walker, 1862) (Holloway, 2001: Fig. 45) ranging from NE Himalaya towards Borneo, *N. syntomioides* (Walker, 1862) (Holloway, 2001: Fig. 46) from Borneo, and *N. cameronensis* Bucsek, 2012 (Bucsek, 2012: Fig. Mal172) from Malay Peninsula. Among them, *N. syntomioides* differs from all species by a contrasted wing pattern (Holloway, 2001), *N. chilomorpha* and *N. rotundipennis* have a long straight apical part of the basal process of valve, and only *N. cameronensis* is closely related species to *N. schintlmeisteri* sp. nov.: both having similar male genitalia structure. However, these species could be distinguished by the following characters: the new species has a strong yellow tint in the wing coloration, while in *N. cameronensis* the forewings are ochre-brown and the hindwings are light yellow; the tegumen of the new species is short, while in *N. cameronensis* it is twice longer; the basal process of valve in the new species with a light broadening subapically, while in *N. cameronensis* it is narrow there; the apical process of the sacculus with a triangular prominense ventrally in the new species, and with a broad oval prominence in *N. cameronensis*; the aedeagus is 4



Figs 16-22. Male genitalia of new species of lichen-moths from South-East Asia, holotypes. 16. *Cernyia kosterini* sp. nov.; 17. *Poliosia solovyevi* sp. nov.; 18. *Nishada schintlmeisteri* sp. nov.; 19. *Lyclene zinchenkoi* sp. nov.; 20. *Lyclene kosterini* sp. nov.; 21. *Lyclene kepica* sp. nov.; 22. *Lyclene kontumica* sp. nov. Scales bars = 0.5 mm.



Figs 23-28. Male genitalia of new species of lichen-moths from South-East Asia, holotypes. 23. *Barsine honbaensis* sp. nov.; 24. *Barsine y-nigrum* sp. nov.; 25. *Chamaita hamata* sp. nov.; 26. *Aemene monastyrskii* sp. nov.; 27. *Eugoa nata* sp. nov.; 28. *Neoduma alxeikorshunovi* sp. nov. Scales bars = 0.5 mm.



Figs 29-31. Lichen-moths from South-East Asia. 29. *Cyclomilta cambodiaca* sp. nov., paratype, male; 30. *Cyclomilta melanolepia* (Dudgeon et Hampson), Laos, male; 31. *Barsine dentifascia* (Hampson), East India, Arunachal Pradesh, Etalin vicinity.

times longer than wide in the new species, and 5 times longer than wide in *N. cameronensis*.

Etymology. The species is named in the honor of Dr. A. Schintlmeister (Germany), a collector of some lichen-moths in Indonesia.

***Lyclene zinchenkoi* Dubatolov & Bucsek, sp. nov.** (Figs 4, 19)

Material. Holotype: ♂, "Thailand, Phitsanulok / Prov., 18 km N Nakhon / Tai Vil., h=426M, 17°15,7'N, / 100°51,4'E, na svet [on light]. / V.Zinchenko, A.Korshunov / 21-22.08.2009".

Description. Forewing length 9 mm. Forewings yellow with a black pattern. Wing base with a dot, antemedial row consists of 3 spots, two in discal cell, one at anal vein, one more spot situated beyond discal cell proximally of antemedial row. Medial line continuous, straight from costa towards vein Cu_1 base, then with a convex curve directed distally. Discal spot round. Zigzag line separated into longitudinal strokes, most expressed along M_3 , M_1 and R_5 . Hindwing light yellow.

Male genitalia (Fig. 19). Uncus long, narrow, evenly curved downwards. Valve elongate, its costal margin slightly inflated at middle. Apical process of cucullus triangular; on ventral side fused with a membranose projection. Apical process of sacculus long, curved upwards at right angle, its vertical part straight and constricted to apex. Saccus short, broad. Aedeagus straight. Vesica with two strong spine-like cornuti and a sclerotized plate.

Remarks. By the male genitalia structure, the new species resembles *Lyclene xanthopera* (Hampson, 1907) (Holloway, 2001: Fig. 156) from Indochina and Sundaland by the apical process of the cucullus fused ventrally with a membranose lobe, but this process is twice longer and narrower in *L. xanthopera*. Another common character is a similar curve of the apical process of the sacculus, but these processes are symmetrical in the new species and asymmetrical in *L. xanthopera*. Both species differ in presence (in the new species) or absence (in *L. xanthopera*) of a sclerotized plate-like cornutus, in addition to two spine-like cornuti. Forewing pattern is also different in both species.

Etymology. The species is named in the honor of Dr. V.K. Zinchenko (Novosibirsk, Russia), a collector of some lichen-moths in Thailand.

***Lyclene kosterini* Dubatolov & Bucsek, sp. nov.** (Figs 5, 20)

Material. Holotype: ♂, "CAMBODIA, Kampot Prov. / Bokor Hill Station, h = 1030 m / 10°37'37"N 104°01'33"E / O.E.Kosterin leg. / 18.VIII.2011". Paratypes: 3 ♀, the same label as in the holotype.

Description. Forewing length 10 mm in male, 9.5-11.5 mm in females. Male forewing ochre-yellow with a brown pattern. Its basal 1/3 with a group of brown spots and strokes; it is outlined distally by a rounded line. Wing medial part lacks any pattern at costa and in apical half of the discal cell. Postdiscal zigzag line contiguous, its proximal angles rounded, distal sharp; this line encloses a brown stroke at costa; at proximal side it is accompanied by small submarginal spots. Curvations of

this line dusted with brown scales. Outer margin lacks any pattern. Hindwings light yellow, with a broad greyish brown margin, fringe ochre yellow. Head, thorax and base of abdomen ochre yellow, other part of abdomen black. Females have similar wing pattern but a broad grayish brown margin on hindwing narrower, less expressed.

Male genitalia (Fig. 20). Uncus long, narrow, curved downwards. Valves elongate, with noticeably convex costal and light convex ventral margins, in subapical part noticeably narrowed. Cucullus apex trapezoidally inflated and truncated. Sacculus apex very small on left valve and well visible on right valve. Juxta simple. Saccus short, broad. Aedeagus stout, short. Vesica globular, covered with fine scobination, apically with a single plate of three strong spike-like cornuti fused at bases.

Remarks. The new species is well characterized by a dark margin on hindwings.

Etymology. The species is named in the honor of Dr. O.E. Kosterin (Novosibirsk, Russia), a collector of some lichen-moths in Cambodia.

***Lyclene kepica* Dubatolov & Bucsek, sp. nov.** (Figs 6, 21)

Material. Holotype: ♂, “Cambodia, Kep Province, / Kep, Treetop Bungalow, / 10.494°N, 104.296°E, 51 m / O. Kosterin / 5.12.2010”.

Description. Forewing length 8 mm. Forewings bright yellow with a blackish-brown pattern. Basal one-third of forewings with small separate spots: one at costa near base, other grouping into two rows. Medial transversal line separated into an irregular row of spots. Discal spot small, situated at fore end of discal vein. Postdiscal zigzag line contiguous, with distal angles enlarged into small spots; it strongly bent proximally at costa. Submarginal row of spots complete, irregular. Hindwings light yellow, with darker margin. Tegulae with small brown dots. Body bright yellow, abdomen with black hairs subapically.

Male genitalia (Fig. 21). Uncus long, strongly constricted at apex. Valve long, narrow, its costa with a broad oval fold at middle part and slight broadening before apex. Costal process not separated from valve main body. Saccular process finger-like, slightly curved. Aedeagus vesica has few massive claw-like cornuti.

Remarks. By the forewing pattern separated into many dots in the basal part, the new species resembles *Lyclene obsoleta* Moore, 1878 (Bucsek, 2012: pl. 10, fig. 128) described from Darjiling, the Eastern Himalaya, but differs from it by the medial transversal line not strongly curved; additionally, *L. obsoleta* lacks dark hairs on abdomen. *L. angulifera* Holloway, 2001 from Malaysia and Sumatra has the medial line contiguous and much more curved. According to the male genitalia structure, the new species differs from *L. angulifera* (Holloway, 2001: Fig. 187) by the apical process of sacculus which is noticeably longer than the cucullus apex.

***Lyclene kontumica* Dubatolov & Bucsek, sp. nov.** (Figs 7, 8, 22)

Material. Holotype: ♂, “VIETNAM, Ngoc Linh, / Kon Tum Prov. / 14°45'-15°15'N / 107°21'-108°20'E / Monastyrski leg. / III-IV 2006”. Paratypes: 2 ♂, 2 ♀, with the same label.

Description. Forewing length 9-9.5 mm in males, 11 mm in females. Forewings bright yellow with a blackish-brown pattern. Forewing basal 1/3 with small separate spots: one at costa near base, three forming subbasal row, and a complete irregular antemedial row of short strokes. A line in wing middle part also irregular but continuous; connected to costal and dorsal margins at sharp angles. Discal spot dot-like. Postmedial zigzag line contiguous, with elongated outer angles, strongly bent proximally at costa. Submarginal row of spots complete, irregular. Hindwing light yellow, with a darker margin. Tegulae with small brown spots. Body bright yellow, abdomen with black hairs subapically.

Male genitalia (Fig. 22). Uncus long, narrow, slightly curved downwards, constricted apically. Valve costa with a slight angle near base. Costal process distinct, sharp, slightly curved upwards. Short and broad saccular process curved upwards. Aedeagus vesica has few massive claw-like cornuti.

Remarks. By the forewing pattern, the new species is similar to *L. cuneifera* Walker, 1862 from Sundaland and Indochina. However, it differs significantly from this species (Bucsek, 2012: fig. Mal196) by the male genitalia structure: the new species has a distinctly separated apical process of the cucullus, and a very small apical process of the sacculus, while in *L. cuneifera* the apical process of the cucullus is completely reduced, while the apical process of sacculus is robust. Two other similar species, *L. lutara* Moore, 1879 and *L. classeigera* Holloway, 2001, from Sundaland and Indochina, have the male genitalia much more different (Bucsek, 2012: fig. Mal070, Mal064).

***Barsine honbaensis* Dubatolov & Bucsek, sp. nov.** (Figs 9, 23)

Material. Holotype: ♂, “VIETNAM, Hon Ba, / Khanh Hoa Prov. / 12°12'-15°N / 108°57'-109°05'E / Monastyrski leg. / 20-21.IV 2006”.

Description. Fore wing length 10 mm. Forewings rose-red with a blackish-grey pattern. Spots at wing base not visible because the pattern is washed out here. Antemedial line convex. Medial line straight, slightly bent distally at costa but perpendicular at dorsal margin. Discal stroke short, longitudinal. Postdiscal zigzag line contiguous; its distal angles sharp, proximal ones slightly rounded; this line strongly bent basally at costa and slightly at dorsal margin. Submarginal line consists of strokes opposite to sharp angles of zigzag line. Hindwings rose, lighter at base.

Male genitalia (Fig. 23). Uncus long, narrow, slightly bent downwards. Valve with a short apical process and a straight finger-like apical process of sacculus; between these processes there is a membranous lobe. Saccus rounded. Aedeagus straight, slightly curved upwards at proximal end. Vesica globular, with two plates of strong spiniculi and weak apical granulation.

Remarks. By the wing pattern the new species is similar to *B. dentifascia* (Hampson, 1894) (Fig. 31) from East India, Indochina, and South China, but differs by a shorter costal branch of a zigzag line at the forewing costa. However, their male genitalia differ noticeably: in the new species the saccular apical process is short, straight, constricted but not pointed at apex, while the short costal apical process is acute. *B. dentifascia* (Fig. 34) has the saccular apical process long, strongly curved upwards, while the short costal apical process is constricted but not pointed at apex. The vesica structure also differs in these species: the new species has two plates of strong spiniculi, while in *B. dentifascia* the spiniculi are much weaker.

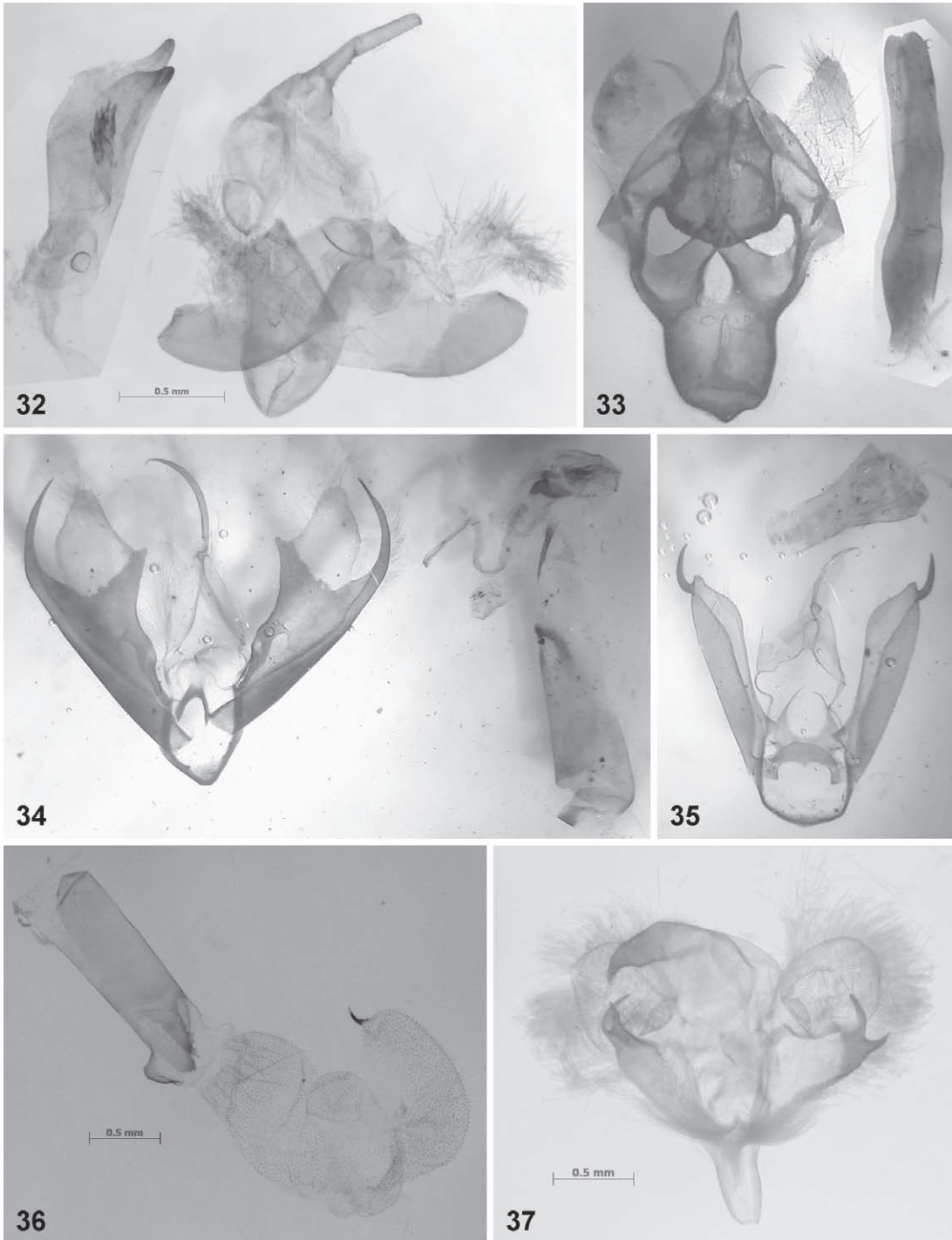
***Barsine y-nigrum* Dubatolov & Bucsek, sp. nov.** (Figs 10, 24)

Material. Holotype: ♂, “VIETNAM, Ngoc Linh, / Kon Tum Prov. / 14°45'-15°15'N / 107°21'-108°20'E / Monastyrski leg. / III-IV 2006”.

Description. Forewing length 7 mm. Forewings rose-red with a brownish-black pattern. Medial bands form an upside down turned “y” in medial part of the wing. Postdiscal zigzag line reduced to a series of strokes with an interlacing of longer and shorter strokes. Hindwing yellow with a rose tint.

Male genitalia (Fig. 24). Uncus long, narrow curved downwards at apical ¼. Valves oval, their costal margin with a triangular process on inner side that is directed downwards. Cucullus constricted at apex. Sacculus with an acute apical process that is slightly longer than cucullus apex; and with a small spine on ventral side at its base; cucullus apical part is slightly downturned. Saccus broad, rounded. Aedeagus with three strong spine-like cornuti, and a number of smaller ones.

Remarks. The untypical wing coloration is the best way to identify the species, although the X-shape figure on forewings is sometimes present in various *Barsine* species. However, the valve and aedeagus structure of the new species are not typical for *Barsine*. The slightly downturned sacculus is known only in *Barsine pallinflexa* Holloway, 2001 (Holloway, 2001: Fig. 256) from Borneo, the genitalia of this and new species also have a similar cucullus apex, and an additional costal spine of the valve inner side but different cornuti structure, in *B. pallinflexa* there are no strong cornuti but spiniculi groups only.



Figs 32-37. Male genitalia of new species of lichen-moths from South-East Asia, 32. *Cyclomilta cambodiaca* sp. nov., holotype; 33. *Cyclomilta melanolepia* (Dudgeon et Hampson), Laos; 34. *Barsine dentifascia* (Hampson), East India, Arunachal Pradesh, Etalin vicinity; 35. *Neoduma kuangtungensis* (Daniel), Malaysia, Pahang district, Endau Rompin State Park; 36-37. *Cernyia arizana* (Wileman), Taiwan (36. aedeagus, 37. genitalia without aedeagus).

Chamaita hamata Dubatolov & Bucsek, **sp. nov.** (Figs 11, 12, 25)

Material. Holotype: ♂, “VIETNAM, Ngoc Linh, / Kon Tum Prov. / 14°45'-15°15'N / 107°21'-108°20'E / Monastyrski leg. / III-IV 2006”. Paratype: 1 ♀, with the same label.

Description. Forewing length 9,5 mm in both specimens. Wings hyaline, forewing costal margin strongly convex. Scales at forewing base and along outer margin washed out, so pattern is invisible here. In postdiscal part of forewing, two diffuse light brown transversal bands are visible, as well as traces of submarginal row of spots. Hindwings yellowish-white, body yellow.

Male genitalia (Fig. 25). Uncus hook-like, rounded rectangularly bent at middle. Valves asymmetrical: left one swollen, broad, oval, with an apical strong hook-like process; right one narrow, its sacculus apex with a short spine. Juxta simple. Saccus broadly finger-like. Aedeagus straight, without spines or cornuti.

Remarks. According to the male genitalia structure, the new species belongs to the group of Oriental species *Ch. neuropteroides* Hampson, 1894 (Bucsek, 2012: Fig. Mal025) and *Ch. sundanympha* Holloway, 2001 (Holloway, 2001: Fig. 281); these species have the costal valve process well developed, but it is not so asymmetrical as in the new species, it is broad in the first one, and narrow in the second one. A strong curve of the uncus looks to be a unique character in the genus.

Aemene monastyrskii Dubatolov & Bucsek, **sp. nov.** (Figs 13, 26)

Material. Holotype: ♂, “VIETNAM, Ngoc Linh, / Kon Tum Prov. / 14°45'-15°15'N/107°21'-108°20'E / Monastyrski leg. / III-IV 2006”.

Description. Forewing length 9 mm. Forewings light grey with blackish spots. Scales on forewings of the holotype are partly smashed and the pattern is not fully visible; so we abstain from the wing pattern description. In any case, it looks similar to that of *A. sordida* Butler, 1877, widely distributed in the Oriental Region, and *A. somodyi* Bucsek, 2012 from Malay Peninsula; however, position of the submarginal spots close to the wing margin resembles the latter species.

Male genitalia (Fig. 26). Uncus long, broader before middle, slightly s-curved, with apex directed downwards. Cucullus with sclerotized costal margin, ovaly rounded at apex. Sacculus not longer than 1/4 from valve apex; stout, curved upwards apically and reaching middle part of valve. Juxta broad, oval. Saccus broad, with a broad hollow at apex. Aedeagus stout, short, straight, with a single spine-like cornutus inside.

Remarks. According to the male genitalia structure, the new species resembles mainly *A. mesozonata* Hampson, 1898 (Bucsek, 2012: Fig. Mal199) from the North-Eastern Himalaya, Thailand and Malaysia. However, the cucullus of this species and *A. somodyi* Bucsek, 2012 (Bucsek, 2012: Fig. Mal207) is much narrower and longer, and the apical process of the sacculus is long, narrow and extends behind costal margin of valve. Vesica of these species bears a plate of spiniculi, while in the new one – a single spine-like cornutus. Another related species is *A. punctigera* Leech, 1899 (Fig. 38) from China and Thailand; it also has a strong spine-like cornutus, as well as a group of spiniculi, but its apical process of the sacculus is long and straight, curved upwards at base only; this process nearly reaches the valve costal margin.

Etymology. The species is named in the honor of Dr. Monastyrski (Vietnam), a collector of some lichen-moths in Vietnam.

Eugoa nata Dubatolov & Bucsek, **sp. nov.** (Figs 14, 27)

Material. Holotype: ♂, “CAMBODIA, Koh Kong Prov. / Tatai Vill., 13 m / 11°33'50”N 103°07'29”E/ O.E.Kosterin leg. / 22-25.VIII.2011”.

Description. Forewing length 7 mm. Forewings light brown. The most remarkable is a black stroke in the apical part of the discal cell, adjoining to the medial vein; this stroke is broader at its distal part. Other elements of the pattern are presented by two small dark brown spots at middle part of the costa,

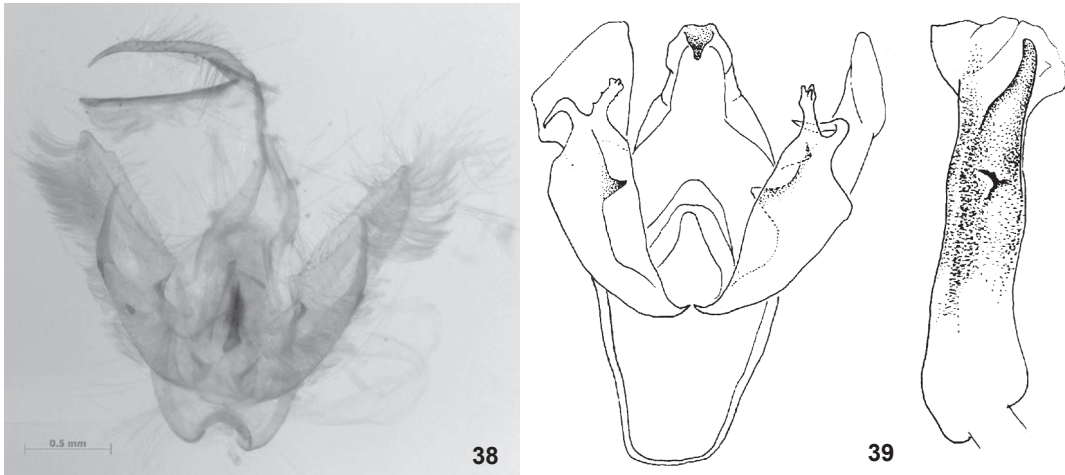


Fig. 38. Male genitalia of *Aemene punctigera* (Leech), China, Guangdong.

Fig. 39. Male genitalia of *Cernyia furcatus* (Fang), China, Hainan, from the original description (Fang, 2000),

and a diffuse subapical dash. A small dark brown dot is visible at the tip of vein M_2 . The forewing fringe also contains small black dots. Hindwings light brown, with darker apex. Hindwing fringe with a darker line at middle.

Male genitalia (Fig. 27). Uncus hook-like, slightly curved downwards. Valve elongate, its costal margin swollen at middle (here covered with strong chaeta); ventral margin slightly convex. Cucullus apex ovaly rounded, medium in width. Sacculus apical process broader at basal half, finger-like in apical half. Juxta simple. Aedeagus straight, but with two light constrictions in subapical and subbasal parts; apically with at least 6 strong spines on dorsal surface. Vesica with a row of a dozen of spine-like cornuti.

Remarks. According to the wing pattern, the new species mainly resembles *Eugoa apexinigra* Bucsek, 2008 (Bucsek, 2008: Figs 52, 106) from Thailand and Malay Peninsula, and less *E. grandipuncta* Bucsek, 2008 (Bucsek, 2008: Figs 49, 102) and *E. ellipsis* Bucsek, 2008 (Bucsek, 2008: Figs 50, 104). Among them, *E. grandipuncta* has a large oval black spot in the apical part of the discal cell; all others have the forewing pattern similar to that of the new species. All the cited species described by Bucsek (2008), have the valve costal margin swollen at the base, while the new one – at the middle part. The cornuti shape and their number differ as well: there are 3-4 long (equal in length or longer than the aedeagus diameter) cornuti in three Bucsek's species, and a dozen of smaller (less than 1/3 of the aedeagus diameter) cornuti in the new one.

Etymology. *Nata*, a noun in apposition, is a pet name of Natalya (also “daughter” in Latin); the species is named after Natalya Priyda, the collector's wife and companion in his first Cambodian expedition.

***Neoduma alexeikorshunovi* Dubatolov & Bucsek, sp. nov.** (Figs 15, 28)

Material. Holotype: ♂, “Thailand, Phitsanulok / Prov., 18 km N Nakhon / Tai Vil., h=426M, 17°15,7'N, / 100°51,4'E, na svet [by light]. / V.Zinchenko, A.Korshunov / 21-22.08.2009”.

Description. Forewing length 5.2 mm. Forewings bicolorous: apical half black, basal half light yellow. The latter with a blackish base, a diffuse spot in central part of discal cell, and two adjoining diffuse black spots at dorsal margin beyond spot in cell. Border between light yellow and black parts of wing with a triangular curving towards outer margin between cell and anal vein. Hindwings light

yellow at base and middle part; outer margin with a diffuse border, black, narrowing towards tornal angle.

Male genitalia (Fig. 28). Uncus simple, slightly curved downwards, constricted at tip. Valves oval, with a broad crescent-like process apically. Juxta X-shaped. Saccus short, broad. Aedeagus stout, slightly constricted towards apex, with a long spine-like cornutus.

Remarks. Among all other species of the genus (Bucsek, 2012), the new one resembles only *N. nigra* Bucsek, 2012 from Malay Peninsula by presence of a strong black coloration on the forewings; however, in the latter species the wings are unicolorous black, while in the new one they have light yellow medial and basal parts. Moreover, the new species is the only in the genus with a broad apical process on the valve; in other species such process is narrow: *Neoduma ectozona* Hampson, 1918 (Holloway, 2001: Fig. 444); *Neoduma nigra* Bucsek, 2012 (Bucsek, 2012: Fig. Mal205), *Neoduma kuangtungensis* (Daniel, 1951) (Fig. 35). Presence of a spine-like cornutus is also a difference from *N. nigra*, which has a broader plate-like cornutus.

Etymology. The species is named in the honor of Mr. Alexey Korshunov (Kemerovo, Russia), an organizer of entomological collecting in Thailand.

Cyclomilta cambodiaca Dubatolov & Bucsek, sp. nov. (Fig. 29)

Material. Holotype: ♂, “CAMBODIA, / Koh Kong Prov. / Tatai vill., h=13 m / 11°33'50”N 103°07'29”E / O.E.Kosterin leg. / 17-18.IV.2010”. Paratypes: 1 ♂, “SW CAMBODIA / 20 km SE Koh Kong, / Tatai river, 11°34'N, 103°07'E, / 3.-19.V.2005, 50-300 m. / leg. E.Jendek & O.Šauša”; 2 ♂, “SE THAILAND / 50 km SE Trat, 11°52'N, 102°48'E, / Hat Ban Chuen env. / 21.-22.V.2005, 0-5 m, / leg. E.Jendek & O.Šauša”.

Description. Forewing length 9 mm. Forewing yellow with a black spot in discal cell just proximally of its middle, and a brownish band in wing external part. This band begins at ½ of costa and ends at dorsal margin at about ¼ from tornal angle. Internal edge of this band with a noticeable ledge at middle part. Hindwings unicolorly yellow.

Male genitalia (Fig. 32). Uncus straight and relatively robust. Cucullus membranous, covered with long thin hair-like chaetae. Saccus well sclerotized, broad and rounded at apex. Aedeagus apically with two sclerotized lateral plates.

Remarks. By wing pattern, the new species looks like *C. fangchenglaiae* Dubatolov, Kishida et Wang, 2012 by a narrow forewing external band. However, the internal margin of this band has noticeable ledge in the new species but is nearly straight in all other species of the genus. Moreover, *C. ravus* Bucsek, 2012 (Bucsek, 2012: pl. 7, fig. 91, 91a) from Malaysia has an additional small black submarginal dots of the forewings; the external band on forewings of *C. melanolepia* (Dudgeon et Hampson, 1899) (Fig. 30) from East India and South-West China is broad (Dubatolov et al., 2012). The broad and rounded saccus is the main distinguishing character of the new species; in the *C. melanolepia* saccus is long hook-like (Fig. 33), in the *C. fangchenglaiae* saccus is short hook-like (Dubatolov et al., 2012: Fig. 84), in *C. ravus* (Bucsek, 2012: fig. Mal057) the saccus lacks a hook-like apex; it is twice narrower than in the new species and constricted at apex.

Acknowledgements

The authors are thankful to Drs S. Nedoshivina, A. Solovyev, Mr S. Pugaev and Dr A. Monastyrski for donation of lichen-moths collected in South Vietnam, to Dr A. Schintlmeister – for lichen-moths collected in Sumatra, to Dr V. Zinchenko and Mr A. Korshunov – for lichen-moths collected in Thailand, to Dr O. Kosterin – for lichen-moths collected in Cambodia and language correction in the manuscript.

References

- Bucsek, K. 2008: Contribution to the knowledge of the genus *Eugoa* Walker, 1858 (Lepidoptera: Arctiidae, Lithosiinae). *Entomofauna* **29** (26): 417-468.
- Bucsek, K. 2012: *Erebidae, Arctiinae (Lithosiini, Arctiini) of Malay Peninsula – Malaysia*. 170 pp., 23+26+2 pls. Bratislava.
- Černý, K. & Pinratana, A. 2009: Arctiidae. *Moths of Thailand* **6**: 1-283. Bangkok.
- Daniel, F. 1951: Beiträge zur Kenntnis der Arctiidae Ostasiens unter besonderer Berücksichtigung der Ausbeuten von Dr. h. c. H. Höne aus diesem Gebiet (Lep.-Het.). *Bonn. zool. Beitr.* **2** (3-4): 291-327, Taf. I.
- Dubatolov, V.V., Kishida, Y. & Wang, M. 2012. New records of lichen-moths from the Nanling Mts., Guangdong, South China, with descriptions of new genera and species (Lepidoptera, Arctiidae: Lithosiinae). *Tinea* **22**: 25-52.
- Dudgeon, G.C., 1899. A catalogue of the Heterocera of Sikhim and Bhutan. With notes by H.J. Elwes, F.Z.S., F.E.S. & C., and additions by Sir George F. Hampson, Bart., B.A., F.E.S., & C. Part VII. *J. Bombay nat. Hist. Soc.* **13**: 77-85, pl. II.
- Fang, Ch. 2000: Lepidoptera. Arctiidae. *Fauna Sinica. Insecta* **19**: 590 pp., 20 pls., Science Press, Beijing (in Chinese).
- Hampson, G.F. 1894: *The fauna of British India, including Ceylon and Burma* **2** (Moths): I-XXII, 1-609 pp. London.
- Hampson, G.F. 1898: The moths of India. Supplementary paper to the volumes in "The fauna of British India." Part II. *J. Bombay nat. Hist. Soc.* **11**: 438-462.
- Hampson, G.F. 1907: Descriptions of new genera and species of Syntomidae, Arctiidae, Agaristidae and Noctuidae. *Ann. Mag. nat. Hist. (7)* **19**: 221-257.
- Hampson, G.F. 1918: Descriptions of new genera and species of Amatidae, Lithosidae, and Noctuidae. *Novit. zool.* **25** (1): 93-217.
- Holloway, J. D. 2001: The Moths of Borneo, part 7: family Arctiidae, subfamily Lithosiinae. *Malayan Nat. J.* **55**: 279-486. URL: <http://www.mothsofborneo.com/part-7/>
- Leech, J.H. 1899: Lepidoptera Heterocera from Northern China, Japan, and Corea. Part II. *Trans. ent. Soc. Lond.* **1899**: 99-215.
- Moore, F. 1878: A revision of certain genera of European and Asiatic Lithosiinae, with characters of new genera and species. *Proc. sci. Meetings zool. Soc. Lond.* **1878**: 3-37, pl. 1-3.
- Snellen, P.C.T. 1877: Lepidoptera, op Sumatra verzameld, voornamelijk in Atchin, door J.J. Korndörffer, Kapitein 1ste klasse, Oud-Kommandant van het Detachement Mariniers in Atchin, met beschrijving van eenige nieuwe soorten. *Tijdsch. Ent.* **20**: 65-79, pl. 5-6.
- Walker, F. 1862: Catalogue of the Heterocerous Lepidopterous Insects collected at Sarawak, in Borneo, by Mr. A. R. Wallace, with descriptions of new species. *J. Proc. Linnean Soc. Zool.* **6**: 82-198.
- Wileman, A.E. 1910: New Lepidoptera-Heterocera from Formosa. *Entomologist* **43**: 220-223.
- Zahiri, R., Kitching, I.J., Lafontaine, J.D., Mutanen, M., Kaila, L., Holloway, J.D. & Wahlberg, N. 2010. A new molecular phylogeny offers hope for a stable family level classification of the Noctuoides (Lepidoptera). *Zoologica Scripta*. P. 1-16. doi:10.1111/j.1463-6409.2010.00459.x