

# A contribution to the knowledge of the *Miltochrista-Lyclene* genus group in South East Asia (Lepidoptera, Erebidae, Arctiinae, Lithosiini)

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**Abstract:** Seventeen new species and two subspecies of the *Miltochrista-Lyclene* genus group from South-East Asia are described and figured: *Miltochrista collina* sp. n. from the lowland of Thailand which is similar to *M. dentifascia* HAMPSON, 1894; *Miltochrista lycenoides* sp. n. from Laos, similar to *Lyclene undulosa* WALKER, 1854; *Barsine miloslavae* sp. n. from Vietnam, which is very specific; *Barsine elongata* sp. n. from Vietnam, similar to *B. punicea melanandra* ČERNÝ, 2009; *Barsine melaninflexa* sp. n. from Thailand, similar to *B. pallinflexa* HOLLOWAY, 2001; *Barsine marcelae* sp. n. from Sumatra is similar to *B. carbonisata* ČERNÝ 1995 from Mindanao; *Barsine sieglingae* sp. n. from Laos is similar to *B. cornicornutata* HOLLOWAY, 1982; *Barsine melanovena* sp. n. from Thailand is similar to *Barsine citrona* HAMPSON, 1907; *Barsine helenae* sp. n. from Myanmar is similar to *Barsine radians* MOORE, 1878; *Lyclene testata* sp. n. was found in Vietnam; *Lyclene zorae* sp. n. was discovered in Sumatra; *Lyclene calcicola* sp. n. from Laos is related to *L. weidenhofferi* ČERNÝ, 2012; *Lyclene jaroslavae* sp. n. from Thailand is similar to *L. congerens* FELDER, 1874; *Lyclene evae* sp. n. from Thailand is similar to *L. conjunctana* WALKER, 1866; *Lyclene nataliae* sp. n. from Vietnam is similar to *Lyclene modesta* LEECH, 1899; *Lyclene dagmarae* sp. n. from Laos similar to *Lyclene calamaria* MOORE, 1888; and the very specific *Disasuridia nakaoi* sp. n. from Thailand; as well as the subspecies *Barsine sieglingae coloraria* ssp. n. from Laos, similar to the above described *B. marcelae* sp. n.; and *Lyclene weidenhofferi maritima* ssp. n. found in Vietnam. All holotypes are in coll. Museum Witt, Munich; most holotypes are males, except for *B. miloslavae*, “*B.*” *helenae*, *L. evae*, *L. nataliae* and *D. nakaoi*, which are females.

## Ein Beitrag zur Kenntnis der Gattungsgruppe *Miltochrista-Lyclene* in Südostasien (Lepidoptera, Erebidae, Arctiinae, Lithosiini)

**Zusammenfassung:** Siebzehn neue Arten und zwei Unterarten des *Miltochrista-Lyclene*-Gattungskomplexes aus Südostasien werden beschrieben und abgebildet: *Miltochrista collina* sp. n. von Thailand, ähnlich der *M. dentifascia* HAMPSON, 1894; *Miltochrista lycenoides* sp. n. aus Laos ist ähnlich wie *Lyclene undulosa* WALKER, 1854; *Barsine miloslavae* sp. n. aus Vietnam ist unverwechselbar; *Barsine elongata* sp. n. aus Vietnam ist ähnlich wie *B. punicea melanandra* ČERNÝ, 2009; *Barsine melaninflexa* sp. n. aus Thailand ist ähnlich wie *B. pallinflexa* HOLLOWAY, 2001; *Barsine marcelae* sp. n. aus Sumatra ist ähnlich wie *B. carbonisata* ČERNÝ, 1995 aus Mindanao; *Barsine sieglingae* sp. n. aus Laos ist ähnlich *B. cornicornutata* HOLLOWAY, 1982; *Barsine melanovena* sp. n. aus Thailand ist ähnlich wie *Barsine citrona* HAMPSON, 1907; *Barsine helenae* sp. n. aus Myanmar ist ähnlich *Barsine radians* MOORE, 1878; *Lyclene testata* sp. n. wurde in Vietnam entdeckt; *Lyclene zorae* sp. n. wurde auf Sumatra gefunden; *Lyclene calcicola* sp. n. aus Laos ist verwandt mit *L. weidenhofferi* ČERNÝ, 2012; *Lyclene jaroslavae* sp. n. aus Thailand ist ähnlich wie *L. congerens* FELDER, 1874; *Lyclene evae* sp. n. aus Thailand ist ähnlich wie *L. conjunctana* WALKER, 1866; *Lyclene nataliae* sp. n. aus Vietnam ist ähnlich wie *Lyclene modesta* LEECH, 1899; *Lyclene dagmarae* sp. n. aus Laos ist ähnlich wie *Lyclene calamaria* MOORE, 1888; dazu die unverwechselbare *Disasuridia nakaoi* sp. n. aus Thailand; sowie die Unterarten *Barsine sieglingae coloraria* ssp. n. aus Laos, ähnlich wie die oben beschriebene *B. marcelae* sp. n.; und *Lyclene weidenhofferi maritima* ssp. n., entdeckt in Vietnam. Alle Holotypen sind in coll. Museum Witt, München; die meisten davon sind Männchen, bis auf die von *B. miloslavae*, “*B.*” *helenae*, *L. evae*, *L. nataliae* und *D. nakaoi*, die Weibchen sind.

*suridia nakaoi* sp. n. aus Thailand; sowie die Unterarten *Barsine sieglingae coloraria* ssp. n. aus Laos, ähnlich wie die oben beschriebene *B. marcelae* sp. n.; und *Lyclene weidenhofferi maritima* ssp. n., entdeckt in Vietnam. Alle Holotypen sind in coll. Museum Witt, München; die meisten davon sind Männchen, bis auf die von *B. miloslavae*, “*B.*” *helenae*, *L. evae*, *L. nataliae* und *D. nakaoi*, die Weibchen sind.

## Introduction

Intensive studies of recent years helped me to identify many formerly unknown species of the family Erebidae (subfamily Arctiinae, tribe Lithosiini). In the present contribution 17 new species and 2 new subspecies of the group of the genera *Miltochrista* HÜBNER, 1819, *Barsine* WALKER, 1854 and *Lyclene* MOORE, 1859 found in Thailand, Laos, Vietnam and on the Indonesian island of Sumatra are presented.

## Abbreviations

CASD	coll. Alexander SCHINTLMEISTER, Dresden.
CKC	coll. Karel ČERNÝ, Innsbruck.
CMWM	coll. Museum Thomas WITT, München (Munich), dedicated to ZSM, Munich.
exp.	expansion (wing span).
fw.	forewing.
GP [no.]	genitalia preparation slide/vial [no.].
HT	holotype.
hw.	hindwing.
lfw.	length of fw.
PT	paratype.
uns.	underside.
ups.	upside.
ZSM	Zoologische Staatssammlungen, München (Munich, Germany).

## 1. *Miltochrista collina* sp. n.

(Figs. 1a, b, c, d, e, f, g.)

HT: ♂, SE Thailand, Prov. Ubon Ratchatani, 220 m, border of Nam Yuem NP, 14°25.37' N, 104°52.07' E, 2.–3. xi. 2010 leg. K. ČERNÝ, CMWM.

PTs (in total 17 ♂♂, 17 ♀♀): 10 ♂♂, 10 ♀♀, same data as HT, but CKC. 3 ♂♂, SE Thailand, Prov. Buri Ran, 300 m, 14°9.2' N, 102°39.38' E, 31. x. 2010, leg. K. ČERNÝ. 2 ♂♂, 1 ♀, E. Thailand, Sakon Nakhon, Phu Pan NP, 320 m, 7°5.767' N, 102° 59.907' E, 5.–7. xi. 2010, leg. K. ČERNÝ. 1 ♀, same data, but 10.–13. x. 2007, leg. T. IHLE. 1 ♀, C. Thailand, Nakhon Ratchasima, 490 m, 14°22.555' N, 101° 51.890' E, 29. ix. 2008, leg. K. ČERNÝ. 1 ♂, SE Thailand, Prov. Surin, 225 m, Ban Cham-Baeng, 14°28.53' N, 103° 49.16' E, 1. xi. 2010, leg. K. ČERNÝ. 1 ♂, C. Thailand, Phetchabun, 580 m, border of Nam Nao NP, 16°44.05' N, 101°23.14' E, 10. xi. 2010, leg. K. ČERNÝ. 4 ♀♀, SE Thailand, Prov. Ubon Ratchatani, 220 m, border of Nam Yuem NP, 14° 25.37' N, 104°52.07' E. ex ♀, 3. xi. 2010, reared ex ovo, K. ČERNÝ. All PTs in CKC.

**Etymology:** The name describes the preference of the species for its occurrence in lower hills [Lat. COLLIS = hill], whereas the very similar and probably closely related species *M. dentifascia* HAMPSON, 1894 prefers higher montane forests.

**Male:** The head is red with black eyes, the palpi are red, the antennae are red, finely ciliated. The tegulae and patagia are red, on patagia there is a black dot. The thorax is red with a black dot in its caudal part, the legs are red with black tarsi. The abdomen is pink with some black hair terminally.

Ext. 18 mm, lfw. 9 mm. The ground colour of the fw. is brick red with black markings, which consists of three subbasal dots, the most basal of them is rounded, the other two are triangular, a subbasal black line arising at costa, excurved in the radial area and bent to the base near of the inner margin, a slightly sinuous transversal band, a spot in the discoidal area, a postmedial zic-zac transversal band and a series of eight elongate submarginal spots. The fringes are red.

The uns. of the fw. is pink with a few visible black markings in the basal and medial part, 5 of the submarginal black spots are well visible.

The hw. is pink with pink fringes.

The female is similar, with the lfw. of 10,5 mm slightly larger.

**Variability:** The subbasal transversal line occasionally touches the medial one. The wing markings are sometimes slightly reduced. The wing span varies in ♂♂ between 16 and 19 mm (most common 18 mm), in ♀♀ between 19 and 20 mm.

**Genitalia, ♂** (GP T 169, T 190, T 191, T 192, T 193): Sacculus and costa are sclerotised, but the terminal part of valva is weak. The sacculus is terminated with a rectangular, dorsally arising projection. The costa is excurved subbasally, with a sclerotised hook-like projection in a third of the length and an additional terminal one, slightly bent projection. Uncus is long, slightly bent. Phallus is straight, at the vesica there are a basal and a terminal scobinations and in the middle there is a transversal band of about 25 short, strongly sclerotised, particularly pointed teeth.

**♀** (GP T 170): The ductus bursae is short and wide, strongly sclerotised. The bursa copulatrix is constricted in the middle and has a lateral bubble. The bursa's terminal part and the lateral bubble are covered with short thorns, in the terminal part there is a small signum.

**Distribution:** The species was recorded in the lower hills of Thailand.

**Similar species:** *Mitochrista dentifascia*, which is paler, rather pink, the subbasal transversal line is at costa and at inner margin not so strongly bent, and the medial line is slightly bent inwards. The dot in the discoidal area is usually rounded in *M. collina* sp. n., whereas comma-like in *M. dentifascia*. There are good differences in the male

genitalia, which is in *M. dentifascia* larger, with a simple valva and a long costal projection. In the female of *M. dentifascia* the bursa copulatrix bears terminally a long lateral projection which is in *M. collina* sp. n. replaced by the short lateral bladder.

## 2. *Mitochrista lycenoides* sp. n.

(Figs. 2a, b, c, d, e, f, g.)

**HT:** ♂, Laos, prov. Khammouane, Muang Gnomarat, 150 m, 17°33.259' N, 105°9.778' E, reared ex ovo from ♀ found 1. vi. 2014, leg. et cult. K. ČERNÝ, in CMWM.

**PTs** (in total 48 ♂♂, 49 ♀♀): Laos, prov. Khammouane: 35 ♂♂, 29 ♀♀, data as in HT, but in CKC. 10 ♂♂, 18 ♀♀, Muang Khai, 160 m, 17°27.681' N, 104°54.980' E, 27.–29. v. 2014, leg. K. ČERNÝ, CKC. 2 ♂♂, 2 ♀♀, Khoun Ngeun, Sala Viewpoint, 480 m, 18°10.7' N, 104°29' E, 30.–31. v. 2014, leg. K. ČERNÝ, CKC. — 1 ♂, Laos, prov. Bolikhamxai, 5 km west Khoun Kham, 550 m, 10. viii. 2010, ex coll. Kenichiro NAKAO, no. 100810049, CKC.

**Etymology:** The species is very similar to the genus *Lyclene* MOORE, 1859, especially to *L. undulosa* WALKER, 1854.

**Male:** The head with the basal part of the antennae are cream white, the eyes are black, the palpi are dorsally black, ventrally cream white, the tegulae and patagia are cream white with some black scales, the thorax is cream white, the first pair of legs is grey with cream white hairs, the second and third pairs are cream white, terminally banded with grey. The abdomen is dorsally dirty white, ventrally black, with a black caudal shock of hair.

Ext. is 17 mm, lfw. 8,5 mm. The ground colour of the fw. is cream white, the costa is basally black, apically orange, merging into the orange fringes. The black markings consist of two small black spots at the root, a rounded black spot in the middle near of base, a subbasal excurved series of five irregular spots, an antemedian line, which is wide proximally and turns narrow caudally, a transversal line in the median area and an irregular zic-zac line in the outer part of the wing, which is edged along the costa and outer margin with ten spots. The central part of the uns. is suffused with black scales, the apical part of the costa and the outer edge are orange. The black markings of the ups. are visible.

The hw. is pale yellow with darker fringes and some black scales in the apical part, which are more numerous at the uns.

The female is very similar, the uns. is less suffused with black scales and at the there is no black hair on the abdomen.

**Variability:** The markings are rather invariable, the exp. varies between 14 and 18 mm in ♂♂ and between 18 and 22 mm in ♀♀.

**Genitalia, ♂** (GP T 346): The costal part of valvae is rounded, weak, the sacculus is sclerotised, with a slightly bent, pointed terminal part. The uncus is very long, equally wide, bent. The phallus is straight. At the everted vesica there is a group of six sclerotised needles and another one group of about 60 smaller ones needles.

**♀** (GP T 347): Bursa copulatrix with a scobination and three groups of needles, the first one with about 20

short, the second one with about 50 long and the third one with about 40 long spines, the last two groups are conjoined.

**Distribution:** The species is only known from the limestone areas in the province Khammouane (Laos).

**Similar species:** *Lyclene undulosa* WALKER, 1854, in which the ground colour is rather pale yellow and the wing drawings differ slightly. At the phallus vesica *Miltochrista lycenoides* sp. n. has two groups of spines, *Lyclene undulosa* has two cornuti.

### 3. *Barsine miloslavae* sp. n.

(Figs. 3c, d, g.)

HT: ♀, Vietnam, Prov. Ninh-Binh, Res. Cúc Phương: Dang foret tropic. pluv., 200 m, à la lumière, 12. X. 1963, T. Pócs-VIEN, CMWM. — No PT.

**Etymology:** The species is dedicated to my fellow student Miloslava KÁBOVÁ.

**Female:** The head with the basal part of the antennae is red, the eyes, palpi and the tips of the antennae are black, the palpi are black. The tegulae and patagia are red, thorax with legs and abdomen are black. The exp. is 21 mm, the lfw. 10 mm. The fw. is brick red with a big black triangular patch in the area between  $\frac{1}{4}$  of the wing and the tornus. The uns. of the fw. is black, except of the costal margin which is red. The hw. is black with black fringes.

The male is not known so far.

**Genitalia, ♀ (T 350):** In the bursa copulatrix there are two small signa, a large scobination in the basal lobe and a strip of approximately 25 shark tooth-like spines.

**Distribution:** Only known from the type locality in Vietnam.

**Similar species:** There is no similar species and no confusion appears to be possible.

### 4. „*Barsine*“ *helenae* sp. n.

(Figs. 4c, d, g.)

HT: ♀, N. Thailand, Chiang Rai, 1090 m, road 1150, km 17 from Wiang Pa Pao, 19°18'45" N, 99°23'24" E, 27. v. 2011, leg. K. ČERNÝ; CMWM.

PT: 1 ♀, N. Thailand, Phayao prov., Ban Sra, 385 m, Tham Pa Tup Forest park, 18°55'22" N, 100°12'27" E, 29. v. 2011 leg. K. ČERNÝ, KKC.

**Etymology:** The species is dedicated to Helena SLÁDKOVÁ, my fellow student.

**Female:** The head is yellow with brown palpi, the antennae are pale yellow basally and turning brown terminally.

The tegulae, patagia, thorax and abdomen are pale yellow dorsally and dirty yellow ventrally, the dirty yellow legs are striated with black.

The exp. is 33 mm, the lfw. 17 mm. The fw. is very pale yellow with black markings consisting of an irregular basal spot, a transversal series of three subbasal spots of which the costal one is the largest, an additional transversal series of three spots, of which the costal one is the

longest, a medial transversal band angled in the cubital area and a rounded spot in the discoidal area. The white veins in the submarginal and marginal area of the wing are widely edged with black, the fringes are white. The uns. of the fw. is pale yellow, the black markings correspond with the ups. but they are less expressive, suffused.

The hw. is pale yellow, the white veins in the marginal area are edged with black, especially near of apex. At the uns. there is a black transversal band in the middle of the wing, most expressive near of inner margin.

The male is not yet known.

**Variability:** The PT is very similar to the HT.

**Genitalia, ♀ (T 344):** The wide ductus bursae is strongly sclerotised, in the bursa copulatrix is a small signum.

**Distribution:** Only known from northern Thailand.

**Similar species:** *Barsine radians* MOORE, 1878 from India and China, which is smaller, has the median line straight and divided into three fragments.

### 5. „*Barsine*“ *melanovena* sp. n.

(Figs. 5a, b, c, d, e, f, g.)

HT: ♂, Myanmar (Burma), 50 km E Putao, env. Nan Thi village, 950 m, 11.–16. v. 1998, leg. MURZIN & SINJAEV, CMWM.

PTs (in total 13 ♂♂, 35 ♀♀): 10 ♂♂, 27 ♀♀, same data and deposition as HT. 3 ♂♂, 8 ♀♀ same data as HT, but in KKC.

**Etymology:** The name describes the typical pattern in the marginal part of the fw. (melanos [ancient Greek] = dark, VENA [Latin] = vein).

**Female:** The head is yellow with black eyes, yellow palpi and brown antennae, the tegulae and patagia are yellow, prothorax and mesothorax are dorsally yellow with four black dots, the uns. of the thorax is yellow, the legs are pale yellow with grey areas, the abdomen is dorsally yellow, ventrally with black transversal bands.

The exp. is 28 mm, the lfw. 14 mm.

The ground colour of the fw. is yellow with black markings, consisting of a basal dot, a series of three subbasal dots, an excurved interrupted subbasal transversal line, an antemedian, slightly excurved interrupted line, a renal shaped spot in the discoidal area and a five times jagged postmedian line. Between the last one line and the outer margin the veins are coloured with black. The fringes are white, but in the prolongation of the veins they are black.

The uns. of the fw. is yellow, the markings in the basal part are reduced to a comma rectangular to the costa in the medial area. In the outer part of the wing there is the black spot in the cell. The area among the black veins in the submarginal and marginal area is suffused with black.

The hw. is pale yellow with a wide black edge and black fringes. On the ups. there is a black shadow in the middle of the wing near of the inner margin. The black veins in the marginal area are particularly confluent.



The male is very similar but smaller and the dark colouration of the veins in the submarginal area is more apparent.

**Variability:** The lfw. in ♂♂ varies between 12 and 13 mm, in ♀♀ between 14 and 15 mm. The dark markings of the veins in the submarginal area is in the ♂♂ often widened, the lines become confluent and occasionally form a dark submarginal field, as on the hw. The black spot in the discoidal area is sometimes moon-like. It touches in the ♀♀ occasionally, in the ♂♂ usually the postmedian transversal line.

**Genitalia, ♂ (T 380):** The sacculus is straight with a short terminal projection, the costa has two short lateral projections. The uncus is thin and apparently bent. The phallus is oblong, at the phallus vesica there is extensive scobination.

♀ (T 341, T 342): Bursa copulatrix has a signum in the middle and a lateral lobe with scobination.

**Distribution:** Only recorded from the type locality in northern Myanmar (Burma).

**Similar species:** *Barsine citrona* HAMPSON, 1907 from Sumatra and Malaysia, which is smaller, has no dark markings at the thorax, the median transversal line is more rounded and the dark markings on the hw. are reduced.

## 6. *Barsine elongata* sp. n.

(Figs. 6a, b, e, f.)

HT: ♂, S. Vietnam, Bao Loc, Rung Cat Tien, 11°32' N, 107°48' E, 1500 m, 10.–20. XII. 1992, sec. Wald, leg. SINJAEV & SIMONOV, ex CASD, CMWM.

PT: 1 ♂, data as HT, but in CKC.

**Etymology:** The name describes the unusual form of the fw. (ELONGATUS, -A, -UM [Lat.] = elongated).

**Male:** The head is dark red with red palpi and brown eyes, the black antennae are ciliate.

The tegulae are red, patagia red with black dot, thorax dorsally dark red with a black streak in the middle and two black dots on the prothorax laterally. The uns. of the thorax is red with red legs, the abdomen is black dorsally and dark red ventrally.

The exp. is 18 mm, the lfw. 9 mm. The ground colour of the fw. is dark red with black markings and fringes. The basal streak is surrounded by a line which is arising at the base, running to costa at a quarter of the lfw., then oblique to the radial area where it is bent rectangularly and running oblique to the inner margin. Along the inner margin it reaches the base. The oblique transversal band is straight, in the discoidal area there is a rounded dot. The marginal part of the wing is widely edged with black. The uns. of the fw. is in the basal two thirds dark red with inexpressive markings, the outer part is black with black fringes. The hw. is black with black fringes, the proximal part is dark red along the costa.

The female is not known.

**Variability:** The PT is similar to the HT.

**Genitalia, ♂ (T 314):** The valva is rounded with a pointed projection arising rectangularly from the sacculus and a pointed lobe at costa, the uncus is long, slightly bent. The phallus is straight, at the vesica there is an inapparent scobination.

**Distribution:** The species was recorded in Vietnam only.

**Similar species:** ♂♂ of *Barsine punicea melanandra* ČERNÝ, 2009, which have the fw. much shorter. There are good differences in the genitalia, as the genitalia in *B. punicea melanandra* are significant smaller and the valvae are polygonal, whereas they are rounded in *M. elongata* sp. n.

## 7. *Barsine melaninflexa* sp. n.

(Figs. 7a, b, c, d, e, f, g.)

HT: ♂, W. Thailand, Kanchanaburi, Drei-Pagoden-Pass, 348 m, sec. forest, 15°18.401' N, 98°23.912' E, 21. IX. 2008, leg. K. ČERNÝ; CMWM.

PTs (in total 17 ♂♂, 8 ♀♀): 4 ♂♂, 5 ♀♀, data as HT, but CKC. 3 ♂♂, W. Thailand, Tak, Doi Mussoe, 821 m, 16°45.317' N, 98°55.438' E, 26.–27. IX. 2008, leg. K. ČERNÝ, CKC. 3 ♂♂, same locality, but 10.–18. XI. 2009, leg. T. IHLE, CKC. 2 ♂♂ same locality, but 4. X. 2012, CKC. 2 ♂♂, same locality, but v. 2014, CKC. 3 ♂♂, 3 ♀♀, same locality, but 11.–12. XI. 2010, CMWM.

**Etymology:** The name describes the difference of the new species in comparison to the similar and closely related species *Barsine pallinflexa* HOLLOWAY, 2001.

**Male:** The head is yellow, palpi ochreous with some dark hair dorsally, the pale brown antennae are ciliated, a black dot at vertex, the tegulae and patagia are pale ochreous with black dots, the thorax is dorsally pale ochreous with a medial black line and two lateral black spots, ventrally pale ochreous with pale ochreous legs, the abdomen is pale ochreous. The exp. is 22,5 mm, the lfw. 11 mm. The ground colour of the fw. is yellow with red strips and black markings, distributed like in the very similar *Barsine pallinflexa* but much more expressively. The fringes are black, the uns. of the fw. is dirty reddish brown with reduced markings, the hw. is reddish brown, suffused with black scales in the marginal area, with black veins in the outer third of the wing and black fringes.

The female is very similar to the male but with an exp. of 26 to 27 mm larger.

**Variability:** The specimens from the province of Tak have the dark wing markings more extensive.

**Genitalia, ♂ (T 175, T 178, T 228):** The costal part of the valvae is rounded, weak, the saccular part is at three quarters of the length obliquely cut, its terminal projection is pointed. The uncus is very long, equally wide. The phallus is long, straight. At the three lobes of the vesica there are apparent scobinations.

♀ (T 176): The ductus bursae is long and straight, at the bursa copulatrix there is a series of 5 stigmata, the first and the last one of them are larger.

**Distribution:** The species was recorded in the provinces of Tak and Kanchanaburi only.

**Similar species:** *Barsine pallinflexa* HOLLOWAY, 2001, which has the wing colouration much less expressive and its hw. is white.

*Barsine inflexa* MOORE, 1878, in which the black markings on the fw. are reduced, the hw. is pale yellow without markings. The armature of the male genitalia is similar to that of *B. inflexa*, but significantly smaller. In the females the genitalia is in *B. melaninflexa* sp. n. more delicate, especially the ductus bursae. The signa on the bursa copulatrix of *B. pallinflexa* are confluent to a strip.

### 8. *Barsine marcelae* sp. n.

(Figs. 8a, b, e, f.)

HT: 1 ♂, [Indonesia], Sumatra-N, Simalungun, Prapat, HW 3, 22. III. 1985, Dr. DIEHL leg., CMWM.

PTs (in total 10 ♂♂), all from Indonesia, Sumatra: 1 ♂, Prapat, HW 3, 20. VI. 1982, leg. Dr. DIEHL. 1 ♂, Prapat, 22.–26. VI. 1982, leg. Dr. DIEHL. 1 ♂, N., Prapat, HW 3, 20. VI. 1982, leg. DIEHL. 1 ♂, N, Simalungun, Prapat, HW 3, 27. II. 1982, Dr. DIEHL leg.. 1 ♂, same locality, but 10. VI. 1983. 4 ♂♂, same locality, but 21. X. 1982. 1 ♂, N, Prapat, HW 3, 28. IV. 1985, Dr. DIEHL leg.; all in CKC.

**Etymology:** The species is dedicated to my fellow student Marcela ANDERSOVÁ.

**Male:** The head is pale ochreous with black eyes, the pale ochreous palpi bear brown hair terminally, the ciliate antennae are brown. Patagia are pale ochreous, edged with black, tegulae are pale ochreous with black dots, edged with black, thorax is dorsally pale ochreous with a large black spot at metathorax, the uns. of the thorax and legs are pale ochreous, the abdomen is dorsally black, ventrally pale ochreous with black top.

The exp. is 23 mm, the lfw. 11,5 mm. The ground colour of the fw. is dark brown, the markings consists of red spots which are sometimes edged with yellow and of an yellow discoidal spot. The fringes, the uns. of the fw. and the hw. are black.

The female is not known.

**Variability:** Some specimens have the terminal part of the wings more conspicuously red striated. The expanse varies between 22 and 24 mm.

**Genitalia, ♂ (T 312):** The sacculus is strongly sclerotised, sharply pointed, with a long, bent, sharply pointed projection in the middle. The costal edge is excurved, strongly sclerotised, with a sharply pointed projection in the middle. The terminal part of the valve is weak. The uncus is sclerotised, terminally wider, short pointed. The phallus is slightly bent, at the vesica there is a series of six sclerotised teeth and a termino-lateral scobination.

**Distribution:** The species was recorded in Sumatra only.

**Similar species:** *Mitochrista carbonisata* ČERNÝ, 1995 from Mindanao, which has, however, different genitalia and no red markings on the wings.

### 9. *Barsine sieglindae* sp. n.

(Figs. 9a, b, e, f; A.)

HT: ♂, Laos, prov. Khammouane, Muang Gnomarat, 150 m, 105°9.778' E, 17°33.259' N, 1. VI. 2014, leg. K. ČERNÝ, CMWM.

PTs (in total 12 ♂♂): 7 ♂♂, data as HT, but CKC. 5 ♂♂ Laos, prov. Khammouane, Muang Khai, 160 m, 104° 54.980' E, 17°27.681' N, 27.–29. V. 2014, leg. K. ČERNÝ, CKC.

**Etymology:** The species is dedicated to Sieglinde WALDVOGL, who helped me with the collecting of the specimens (Latinised: SIEGLINDA).

**Male:** The head with the basal part of antennae are yellow with a greyish spot at vertex, the palpi and the terminal part of antennae are ochreous, the eyes are dark brown. The patagium is yellow with a greyish shadow in the central part, the tegula is yellow with a dark brown patch in the middle. At the yellow dorsal part of thorax there are two lateral grey spots at prothorax and another two medially at the mesothorax and metathorax, the ventral part of thorax is pale yellow with pale yellow legs. The abdomen is pale yellow with a reddish touch.

The lfw. is 12 mm with the wingspan of 23 mm. The ground colour of the fw. is yellow with dark brown, slightly with white hairs suffused markings, consisting of a streak at costa, three basal spots, an excurved antemedian line, a straight median line touching the antemedian one, a postmedian line sharp bent in the cell and a series of radial lines in the submarginal area reaching the margin. In the yellow areas among the dark marking there are irregular red streaks and spots. The fringes are dark brown.

The hw. is red, widely edged with black.

**Variability:** The wing markings vary slightly, the exp. varies between 20 and 24 mm.

**Genitalia, ♂ (T 332):** The costal part of the valvae is sclerotised, with a triangular projection in the middle, the sclerotised part of the valvae is cut and terminated with a short sclerotised projection and a weak cucullus, the sacculus has a long, bent projection. The uncus is long, equally wide, slightly bent. The phallus is short, straight sclerotised. At the vesica there are extended scobinations and two groups of flat sclerotised tooth-like structures, the first one with three, the second one with six spines.

The female is so far not known.

**Distribution:** The new species is known from the limestone region of the Laotian province Khammouane only.

**Similar species:** *Barsine cornicorutata* HOLLOWAY, 1982, which has the wing pattern less contrasting, the hw. pink, and there are significant differences in the form of the cornuti on the phallus vesica.

### 10. *Barsine sieglindae coloraria* ssp. n.

(Figs. 10a, b, e, f; B.)

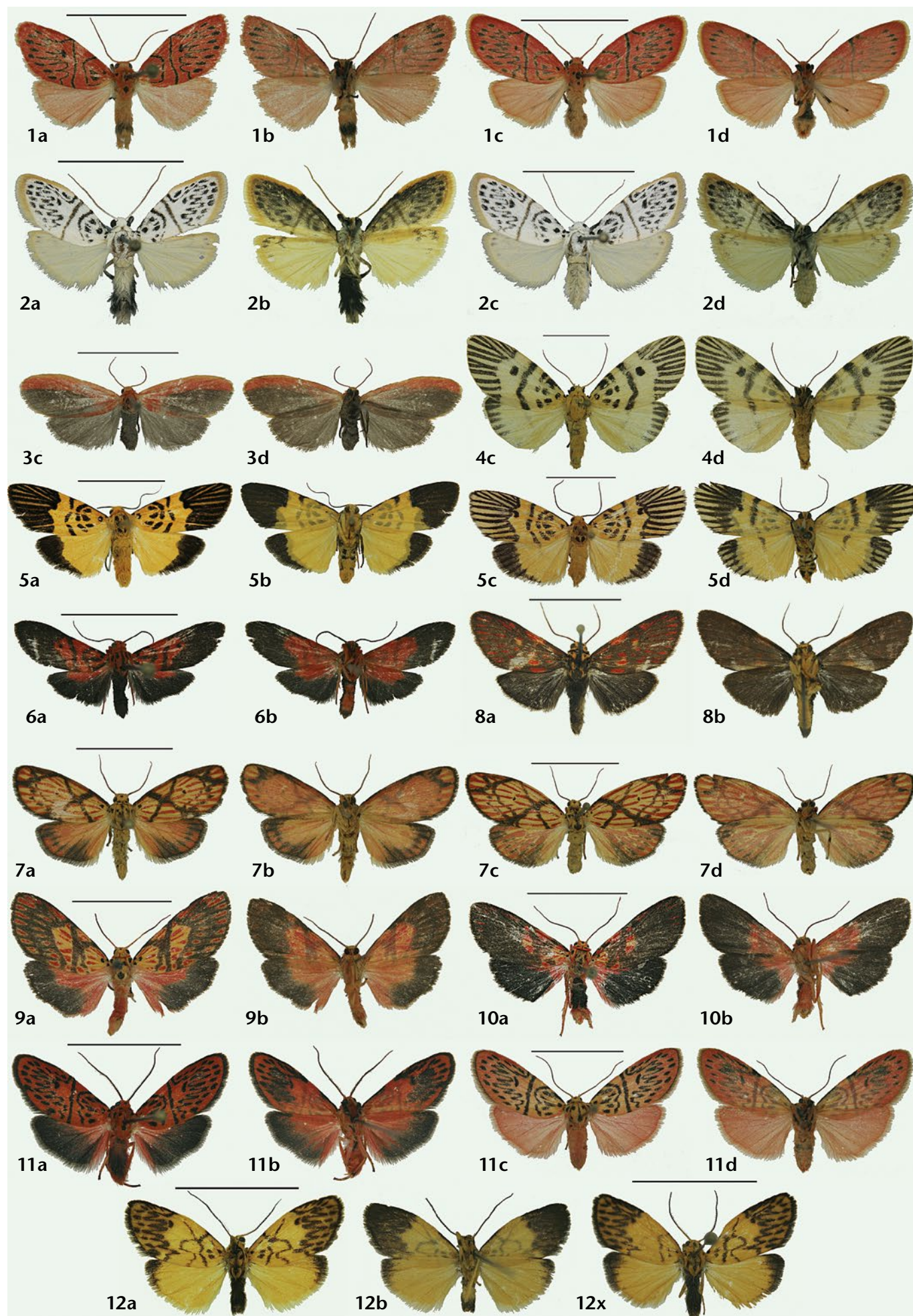
HT: ♂, Laos, prov. Khammouane, Khoun Ngeun, Sala View-point, 480 m, 104°29' E, 18°10.7' N, 30.–31. V. 2014, leg. K. ČERNÝ, CMWM.

PTs: 2 ♂♂, data as HT, but in CKC.

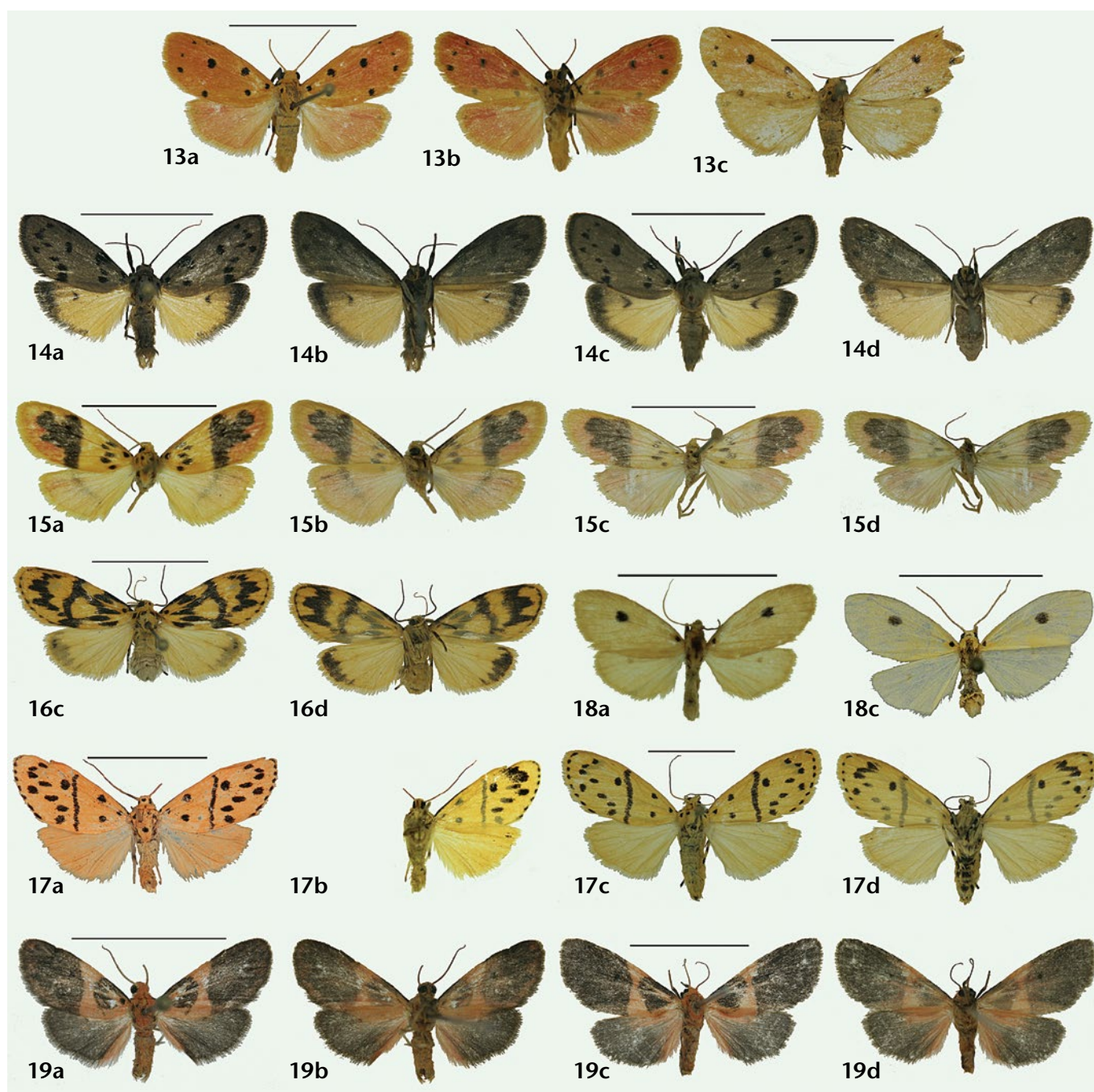
**Etymology:** COLORARIUS, -A, -UM [Lat.] = colourful, darkened.

**Male:** The head with the basal part of the antennae is dirty yellow with a greyish spot at vertex, the palpi and the terminal parts of antennae are ochreous, the eyes



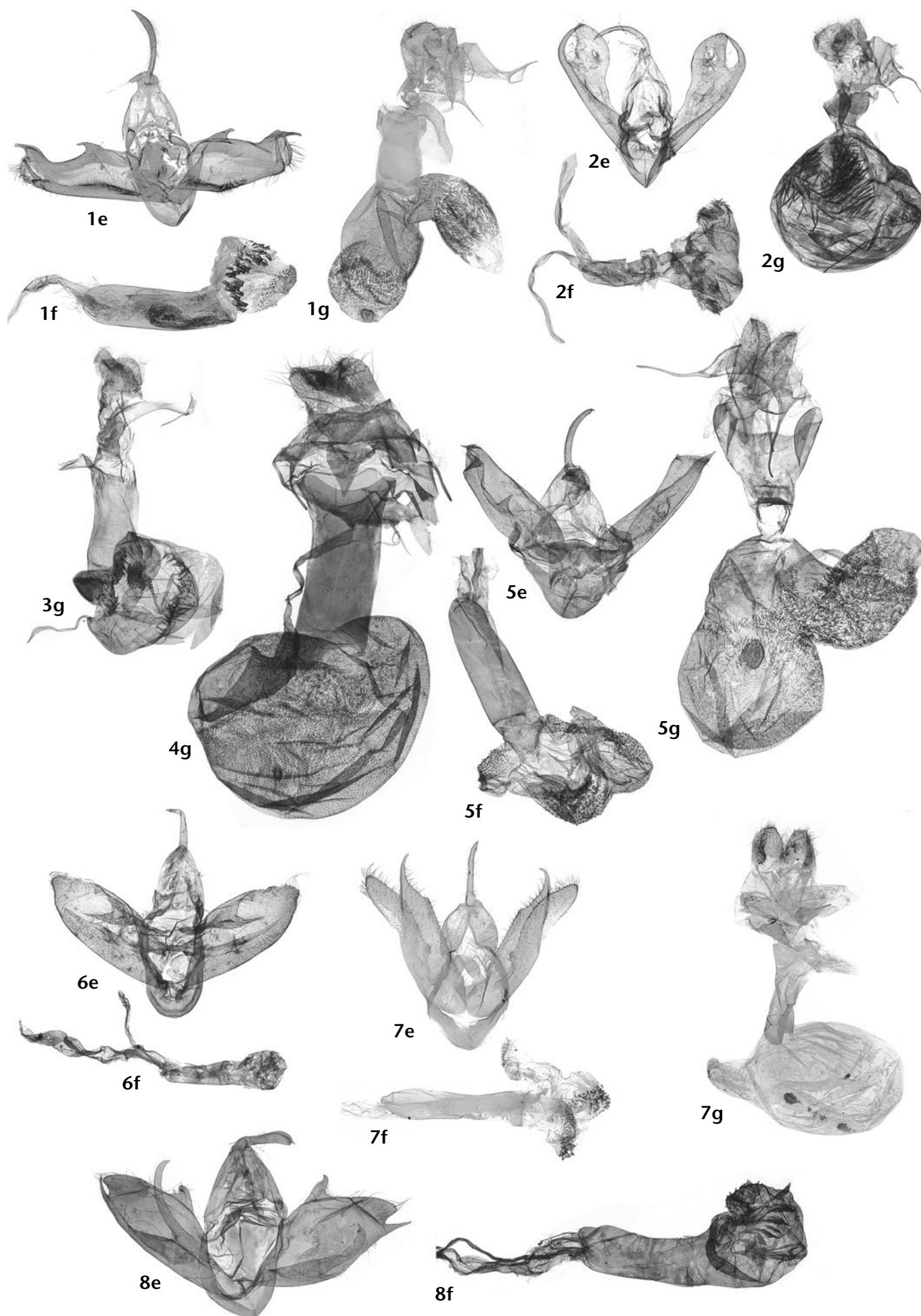




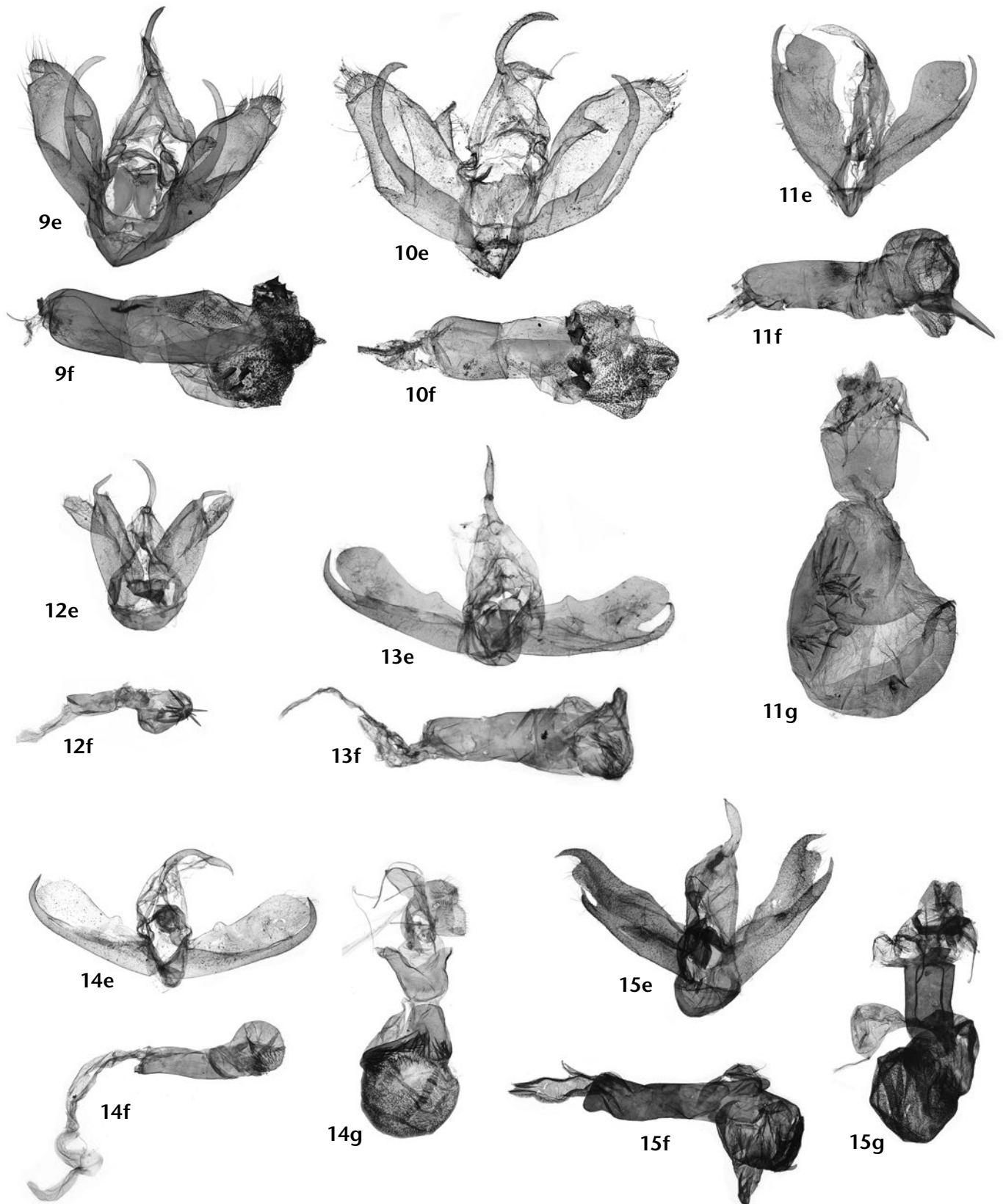


**Colour plate 1:** Set specimens, not to the same scale. Scale bars (where present) = 1 cm, valid only for the specimen where the scale bar is added above. — **Figs. 1a–1d:** *Mitochrista collina* sp. n. **Figs. 1a, 1b:** HT ♂, SE Thailand, 2.–3. xi. 2010 leg. K. ČERNÝ, CMWM. **Figs. 1c, d:** PT ♀, same locality as HT, cult. ex ovo, mother leg. 3. xi. 2010, K. ČERNÝ, CKC. — **Figs. 2a–2d:** *Mitochrista lycenoides* sp. n. **Figs. 2a, 2b:** HT ♂, Laos, mother leg. 1. vi. 2014, cult. ex ovo K. ČERNÝ, CMWM. **Figs. 2c, 2d:** PT ♀, same locality and data as HT, CKC. — **Figs. 3c, 3d:** *Barsine miloslavae* sp. n., HT ♀, Vietnam, 12. x. 1963, T. PÓCS-VIEN, CMWM. — **Figs. 4c, 4d:** „*Barsine*“ *helenae* sp. n., HT ♀ N. Thailand, 27. v. 2011, leg. K. ČERNÝ, CMWM. — **Figs. 5a–5d:** „*Barsine*“ *melanovena* sp. n. **Figs. 5a, 5b:** HT ♂, Myanmar (Burma), 11.–16. v. 1998, leg. MURZIN & SINJAEV, CMWM. **Figs. 5c, 5d:** PT ♀, same data as HT, CKC. — **Figs. 6a, 6b:** *Barsine elongata* sp. n., HT ♂, S. Vietnam, 10.–20. xii. 1992, leg. SINJAEV & SIMONOV, ex CASD, CMWM. — **Figs. 7a–7b:** *Barsine melaninflexa* sp. n. **Figs. 7a, 7b:** HT ♂, W. Thailand, 21. ix. 2008, leg. K. ČERNÝ, CMWM. **Figs. 7c, 7d:** PT ♀, same data, CKC. — **Figs. 8a, 8b:** *Barsine marcelae* sp. n., HT ♂, [Indonesia], N. Sumatra, 22. iii. 1985, E. DIEHL leg., CMWM. — **Figs. 9a, 9b:** *Barsine sieglindae* sp. n., HT ♂, Laos, 1. vi. 2014 leg. K. ČERNÝ, CMWM. — **Figs. 10a, 10b:** *Barsine sieglindae coloraria* ssp. n., HT ♂, Laos, 30.–31. v. 2014 leg. K. ČERNÝ, CMWM. — **Figs. 11a–11d:** *Lyclene testata* sp. n. **Figs. 11a, 11b:** HT ♂, S. Vietnam, mother leg. 8. x. 2013, cult. ex ovo K. ČERNÝ, CMWM. **Figs. 11c, 11d:** PT ♀, same data as HT, CKC. — **Figs. 12a, 12b, 12x:** *Lyclene zorae* sp. n. **Figs. 12a, 12b:** HT ♂, Indonesia, N. Sumatra, 10. i. 1994, leg. K. ČERNÝ, CMWM. **Fig. 12x:** ♂ variation, same data as HT, CKC.

**Colour plate 2:** **Figs. 13a–13c:** *Lyclene weidenhofferi maritima* ssp. n. **Figs. 13a, 13b:** HT ♂, S. Vietnam, 3.–8. x. 2013 leg. K. ČERNÝ, CMWM. **Fig. 13c:** PT ♀, same data as HT, CKC. — **Figs. 14a–14d:** *Lyclene calcicola* sp. n. **Figs. 14a, 14b:** HT ♂, Laos, mother 27.–29. v. 2014, ex ovo K. ČERNÝ, CMWM. **Fig. 14c, Fig. 14d:** PT ♀ (2 specimens), same data as HT, leg. K. ČERNÝ, CKC. — **Figs. 15a–15d:** *Lyclene jaroslavae* sp. n. **Figs. 15a, 15b:** HT ♂, C. Thailand, 14.–27. ix. 2009 leg. T. IHLE, CMWM. **Figs. 15c, 15d:** PT ♀, Thailand, 15. xi. 1998, leg. T. CSÖVARI & L. MIKUS, ex CMWM, CKC. — **Figs. 16c, 16d:** *Lyclene evae* sp. n., HT ♀, SE Thailand, 14. x. 2005, leg. K. SUKHUMALIND, ex CKC, CMWM. — **Figs. 18a, 18c:** *Lyclenae dagmarae* sp. n. **Fig. 18a:** HT ♂, Laos, 27.–29. v. 2014 leg. K. ČERNÝ, CMWM. **Fig. 18c:** PT ♀, same data as HT, CKC. — **Figs. 17a–17d:** *Lyclenae nataliae* sp. n. **Figs. 17a, 17b:** PT ♂, Nord-Vietnam, 14.–18. xi. 1994; leg. V. SINJAEV; ex CMWM, CKC. **Figs. 17c, 17d:** HT ♀, N. Vietnam, 5.–10. xi. 1994, leg. SINJAEV & SIMONOV, ex CASD, CMWM. — **Figs. 19a–19d:** *Disasuridia nakaai* sp. n. **Figs. 19a, 19b:** PT ♂, N. Thailand, 18. v. 2009 leg. T. IHLE, CKC. **Figs. 19c, 19d:** HT ♀, Thailand, 25. ix. 2008, leg. K. NAKAO, CMWM.







**Genitalia plate A:** Male and female genitalia, not exactly to the same scales (approximately 15× natural size). Details see in text. — Figs. 1e–1g: *Mitochrista collina* sp. n. Figs. 1e, 1f: ♂, GPT193. Fig. 1g: ♀, GPT170. — Figs. 2e–2g: *Mitochrista lycenoides* sp. n. Figs. 2e, 2f: ♂, GPT346. Fig. 2g: ♀, GPT347. — Fig. 3g: *Barsine miloslavae* sp. n., ♀, GPT350. — Fig. 4g: „*Barsine*“ *helenae* sp. n., ♀, GPT344. — Figs. 5e–5g: „*Barsine*“ *melanovena* sp. n. Figs. 5e, 5f: ♂, GPT380. Fig. 5g: ♀, GPT342. — Figs. 6e, 6f: *Barsine elongata* sp. n., ♂, GPT314. — Figs. 7e–7g: *Barsine melaninflexa* sp. n. Figs. 7e, 7f: ♂, GPT228. Fig. 7g: ♀, GPT176. — Figs. 8e, 8f: *Barsine marcelae* sp. n., ♂, GPT312.

**Genitalia plate B:** Figs. 9e, 9f: *Barsine sieglindae* sp. n., ♂, GPT332. — Figs. 10e, 10f: *Barsine sieglindae coloraria* ssp. n., ♂, GPT333. — Figs. 11e–11g: *Lyclene testata* sp. n. Figs. 11e, 11f: ♂, GPT316. Fig. 11g: ♀, GPT316. — Figs. 12e, 12f: *Lyclene zorae* sp. n. ♂, GPT340. — Figs. 13e, 13f: *Lyclene weidenhofferi maritima* ssp. n. ♂, GPT367. — Figs. 14e–14g: *Lyclene calcicola* sp. n. Figs. 14e, 14f: ♂, GPT338. Fig. 14g: ♀, GPT339. — Figs. 15e–15g: *Lyclene jaroslavae* sp. n. Figs. 15e, 15f: ♂, GPT303. Figs. 15g: ♀, GPT302.





**Colour plate 3, Figs. A–D:** type localities of some of the new taxa described here. — **Fig. A:** Type locality of *Barsine sieglindae* sp. n. (at the foot of the rock): Laos, prov. Khammouane, Muang Gnomarat, 150 m, 17°33,259' N, 105°9,778' E, 1. vi. 2014. **Fig. B:** Type locality of *Barsine sieglindae coloraria* ssp. n.: Laos, prov. Khammouane, Khoun Ngeun, Sala Viewpoint, 480 m, 18°10,7' N, 104°29' E, 30.–31. v. 2014. **Fig. C:** Type locality of *Lyclene testata* sp. n. and *Lyclene weidenhofferi maritima* ssp. n.: S. Vietnam, Nha Trang region, Ninh Phuoc, 150 m, 12°24,57' N, 109°18,39' E, 3.–8. x. 2013. **Fig. D:** Type locality of *Lyclene dagmarae* sp. n. and *Lyclene calcicola* sp. n.: Laos, prov. Khammouane, Muang Khai, 160 m, 17° 27,681' N, 104°54,980' E, ♀ 27.–29. v. 2014.

dark brown. The patagia are dirty yellow with a greyish spot in the central part, the tegulae are dirty yellow with a black elongate patch in the middle of each. At the dirty yellow dorsal part of the thorax there is an elongate black patch in the middle of the mesothorax. The metathorax is dorsally black. The ventral part of thorax is ochreous, with ochreous legs. The abdomen is dorsally black with brown caudal tufts of hair.

The lfw. is 11 mm, the wingspan 21 mm. The ground colour of the fw. is yellow with strongly widened dark brown markings. In the yellow field in the subbasal area there are three black dots and five irregular red streaks. In the antemedian area there are two red patches, slightly suffused with yellow at the edge, the first one at costa, the second one at the inner margin. In the middle of the wing there is a yellow patch, suffused with brown. In the outer part of the wing is a lot of small red patches, some of them slightly suffused with yellow. The fringes are dark brown.

The hw. is red near base, very widely edged with black.

The uns. of the wings is red, widely edged with black.

**Variability:** The wing markings vary slightly, the exp. varies between 21 and 23 mm.

**Genitalia,** ♂ (T 333): like in the nominotypical subspecies.

The female is not yet known.

**Distribution:** The species is known from the northern part of the limestone region in the province Khammouane (Laos) only.

**Similar species:** *B. sieglindae coloraria* ssp. n. looks like *Barsine marcelae* sp. n., but near the wing base there are remains of the markings of the nominotypical subspecies, which are missing in *Barsine marcelae* sp. n. There are significant differences in the genitalia.

### 11. *Lyclene testata* sp. n.

(Figs. 11a, b, c, d, e, f, g; C.)

**HT:** ♂, S. Vietnam, Nha Trang region, Ninh Phuoc, 150 m, 12°24.57' N, 109°18.39' E; mother of the eggs collected 8. x. 2013, reared ex ovo K. ČERNÝ, ex CKC, in CMWM.

**PTs** (in total 78 ♂♂, 68 ♀♀): 67 ♂♂, 54 ♀♀ data as HT, but CKC. 3 ♂♂, 7 ♀♀, S Vietnam, Nha Trang region, Ninh Phuoc, 150 m, 12°24.57' N, 109°18.39' E, 3.–8. x. 2013, leg. K. ČERNÝ. 2 ♂♂, 1 ♀ S Vietnam, Nha Trang region, Ninh Phuoc, 20 m, 12°25.646' N, 109°27.340' E, 30. ix.–8. x. 2013, leg. K. ČERNÝ; all these in CKC. — 1 ♂ S. Vietnam, Kon Tum Province, Dac Glei, 15°7' N, 107°42' E, 700 m, 8. viii. 1996, leg. SINIAEV & AFONIN, ex CASD. 1 ♂, 2 ♀♀, N. Vietnam 16[00]–1800 m, Mt. Fan-si-pan (West), Cha-pa, Sekundärwald, 22°20' N, 103°40' E (cult.), iv. 1995, leg. SINIAEV & einh. Slr. 3 ♀♀, 1 ♂, Vietnam, Tam Dao, 60 [km] NW Hanoi, 21.34° N, 105.20° E, 1200 m, 1.–5. v. 1993, sek. Wald, leg. SINIAEV & SIMONOV, ex CASD. 1 ♂, N. Vietnam, 1600 m, Mt. Fan-si-pan (Nord), Cha-



pa, Primärurwald, 22°17' N, 103°44' E, 20.–30. iv. 1995, leg. V. SINJAEV & einh. Slr. 2 ♂♂, 1 ♀, S. Vietnam, Bao Loc, Rung Cat Tien, 11°32' N, 107°48' E, 1500 m, 10.–20. xii. 1992, sec. Wald, leg. SINJAEV & SIMONOV; all these in CMWM.

**Etymology:** The ground colour of the fw. in ♂♂ is brick-red (TESTA [Lat.] = brick).

**Male:** The head is brick-red with black eyes and a black dot at the vertex, the palpi are medially red and laterally black, the bipectinate antennae are black with dark red hair. The tegulae and patagia are brick-red with black dots, the thorax is dorsally brick-red with some black dots, the uns. of the thorax is paler, the legs of the prothorax are brick-red, tipped with black, the second and third pair are pale brownish red. At the abdomen there are dorsally the black hair mixed with the brick-red ones, the uns. is brick-red.

The exp. is 19 mm, the lfw. is 9,5 mm.

The ground colour of the fw. is brick-red with black markings and fringes: a basal spot, a twice excurved subbasal series of six spots, the first one of them at costa, a twice excurved antemedial line, a straight medial line, an moon-like spot in the cell, a strongly excurved postmedian zic-zac line and a submarginal series of 9 elongate spots. The uns. of the fw. is brick-red, the wing markings are in the basal half deminished, in the outer half suffused. The hw. is black with black fringes, the basal third is pink.

The female has the antennae filiform, the black markings are like in the male but the ground colour of the fw. is pale ochreous, whereas the hw. and the abdomen are pink.

**Variability:** The variability of the wing markings is in the reared specimens little expressed. The expanse varies considerably between 17 and 21 mm in ♂♂ and between 20 and 23 mm in ♀♀.

**Genitalia, ♂** (T 308, T 316): The valve is weak, wide, without specific structures, the sacculus is terminated with a pointed projection. The uncus is long, slightly bent. At the phallus vesica there is a strong sclerotised cornutus.

**♀** (T 309, T 317): The ductus bursae is bell-shaped, in the bursa copulatrix there are about 25 sclerotised spines in three groups.

**Distribution:** The species is known from Vietnam only.

**Similar species:** The ♂♂ are similar to *Barsine punicea* MOORE, 1878, but the markings on the fw. correspond to those of the group of *M. miniata* FORSTER, 1771.

The ♀ is similar to *Lyclene undulosa* WALKER, 1854, but the ground colour is pale ochreous whereas it is cream white in *Lyclene undulosa*. The fw. is edged with a black line in *Lyclene testata* sp. n., which is missing in *Lyclene undulosa*.

**Development:** The rearing of the larvae is easy with algae on tree bark.

## 12. *Lyclene zorae* sp. n.

(Figs. 12a, b, e, f, x.)

**HT:** ♂, Indonesia, N. Sumatra, Berastagi, Mt. Sibayak, 1500 m, 10. i. 1994, leg. K. ČERNÝ, CMWM.

**PTs** (in total 32 ♂♂), all from Indonesia, Sumatra: 8 ♂♂, same data as HT, but CKC. 6 ♂♂, N., 20 km NÖ Sipirok, Lake Marsabut, 1350 m, 8. i. 1994, leg. K. ČERNÝ. 4 ♂♂, N., 15 km NÖ Prapat, HW 4, 1150 m, 1.–3. i. 1994, leg. K. ČERNÝ. 1 ♂, W., Mt. Talang, 0.57° S, 100.24° E, 18. ix. 1991, 12 km E Padang, Sekundärwald, 1600 m, leg. GRAUL & SCHINTLMEISTER. 1 ♂, Dolok Merangir, 2.–21. v. 1983, leg. Dr. DIEHL. 1 ♂, Dolok Merangir, 17. iv. 1983, leg. Dr. DIEHL. 2 ♂♂, West, Balinka, 15 km S Matur, Sekundärwald, 1200 m, 18. ii. 1995, leg. H. DEUMER & M. SCHAARSCHMIDT. 1 ♂, Dairi, 1500 m, 8./9. xi. [19]80, Dr. DIEHL leg. 2 ♂♂, (NW-Aceh), Mt. Silawa (600 m), 84 km östlich Banda Aceh, 23./28./29. iii. [19]93, Dr. R. BRECHLIN. 1 ♂, South, Lake Ranau, Tebah Hemi, 4°56'3" S, 103°53'15" E, 18. xi. 2003, leg. K. ČERNÝ. 1 ♂, Simalungun, Prapat, HW 3, 14. xi. 1982, Dr. DIEHL leg. 1 ♂, same data, but 27. viii. [19]84, Dr. DIEHL leg. 1 ♂, Sitahoan, 10. v. 1981, Dr. DIEHL leg. 1 ♂, Sitahoan, 1.–2. viii. 1981, Dr. DIEHL leg. 1 ♂, Aek Tarum, Gunung Malayu, 8. v. 1983, Dr. DIEHL leg. All these in CKC.

**Etymology:** The species is dedicated to my fellow student ZORA BAYEROVÁ.

**Male:** The head is yellow with black spots, the palpi are haired with black and yellow hair, the bipectinate antennae are black. The tegulae and patagia are yellow with black dots, the prothorax and mesothorax are dorsally yellow. The uns. of the thorax is ochreous, the legs are ochreous, banded with black. The abdomen is dorsally black, ventrally yellow with some black hair caudally.

The exp. is 18 mm, the lfw. is 8,5 mm. The fw. is in the basal two thirds yellow, in the outer third brownish red, with black markings and fringes. Near the base there are 3 black spots, the subbasal transversal line is twice excurved, the antemedian transversal line is strongly incurved in the radial area, where it touches the subbasal one, excurved in the medial part of the wing and incurved in the cubital area; an elliptical spot in the discoidal area, a slightly excurved postmedian zic-zac line and a series of 9 elongate submarginal spots. The uns. of the fw. is yellow with a weak markings in the basal half and black in the outer half, the fringes are black. The hw. is yellow with a black area and black fringes near of apex.

The female is not yet known.

**Genitalia, ♂** (T 214, T 215, T 340): The valve with a sharp pointed terminal projection, the uncus is long, slightly bent. At the phallus vesica there is a group of 5–7 long and some additional short spines.

**Distribution:** The species is known from Sumatra only.

**Similar species:** There is no similar species.

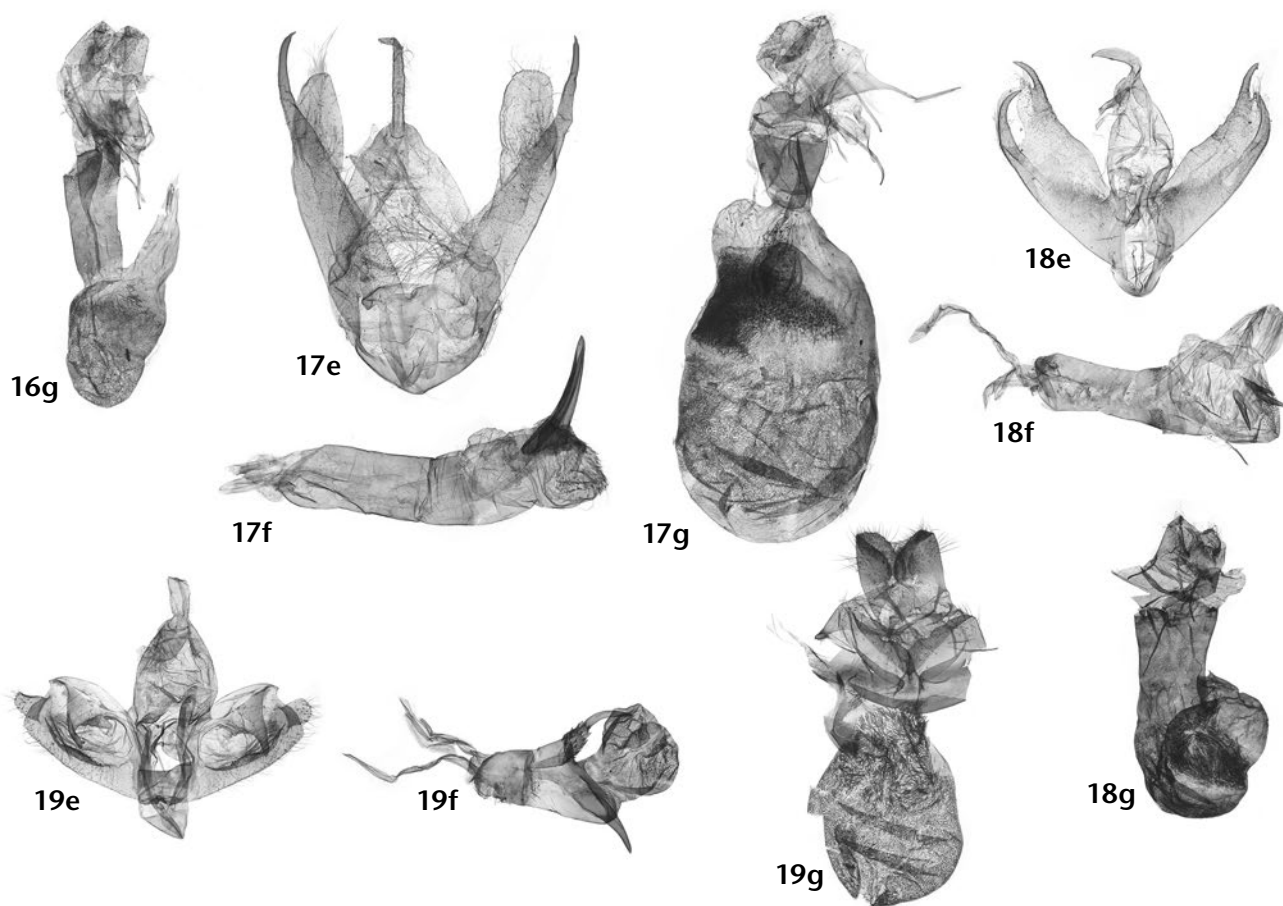
## 13. *Lyclene weidenhofferi maritima* ssp. n.

(Figs. 13a, b, c, e, f; C.)

**HT:** ♂, S. Vietnam, Nha Trang region, Ninh Phuoc, 150 m, 12°24.57' N, 109°18.39' E, 3.–8. x. 2013 leg. K. ČERNÝ, CMWM.

**PTs** (in total 6 ♂♂, 1 ♀♀), all from S. Vietnam, Nha Trang region: 4 ♂♂, 1 ♀, data as in HT, but CKC. 1 ♂, data as in HT, ex ♀ 8. x. 2013, reared ex ovo K. ČERNÝ, CKC. 1 ♂, Ninh Phuoc, 20 m, 12°25.646' N, 109°27.340' E, 30. ix.–8. x. 2013, leg. K. ČERNÝ, CKC.

**Etymology:** The few known specimens were observed in the bush vegetation near the sea.



**Genitalia plate C:** Fig. 16g: *Lyclene evae* sp. n., ♀, GP T345. — Figs. 17e–17g: *Lyclenae nataliae* sp. n. Figs. 17e, 17f: ♂, GP T381. Fig. 17g: ♀, GP T343. — Figs. 18e–18g: *Lyclenae dagmarae* sp. n. Figs. 18e, 18f: ♂, GP T362. Fig. 18g: ♀, GP T368. — Figs. 19e–19g: *Disasuridia nakaoi* sp. n. Figs. 19e, 19f: ♂, GP T348. Fig. 19g: ♀, GP T349.

**Male:** The antennae are filiform, orange, the head is orange with black eyes, palpi are yellow, tegulae are orange, thorax is orange, patagia are orange with a black spot, legs are orange, banded with black, abdomen is ochreous.

The exp. is 20 mm (lfw. 9,5 mm), the ground colour of the fw. is orange with a basal black spot, two black spots in the antemedian area, a black spot in cell and another one at the inner margin near tornus and a bent series of four black spots near apex, the costal one of them consists of some diffusely distributed black scales.

The uns. is dirty orange with a yellow band along the inner margin, the visibility of the dark spots is diminished with exception of one spot in the cell and three spots near the apex.

The hw. is orange with a fine yellow marginal line and whitish fringes.

The female is very similar to the male. Its exp. is 22 mm.

**Variability:** The known specimens are rather invariable.

**Genitalia, ♂** (T 307, T 315, T 367): The armature is very similar to *Lyclene weidenhofferi weidenhofferi* ČERNÝ, 2012, but slightly differing, having at the phallus vesica one or two short spines, whereas in the nominotypical subspecies there is only one very long spine at the same place.

♀ (T 335): The genitalia is more delicate as in the nominotypical subspecies but the differences in the form are not significant.

**Distribution:** The subspecies is known from the type locality only.

**Note:** *Lyclene weidenhofferi maritima* ssp. n. differs from the nominotypical subspecies (described from Thailand) in having the dots at the uns. of the fw. less expressive, no marginal black band at the hw. and yellow abdomen in both sexes. The differences in genitalia and in the immature stages are, however, too small to justify a classification of the population of Vietnam as a separate species.

**Ethology:** ♂♂ and ♀♀ come to artificial light during the night in the secondary habitats like bushland or the edges of [degraded] forest.

**Development:** The female can be fed with mango or grape vine fruits. The caterpillars are very similar to *Lyclene weidenhofferi weidenhofferi* and can be reared with algae on tree bark.

#### 14. *Lyclene calcicola* sp. n.

(Figs. 14a, b, c, d, e, f, g; D.)

HT: ♂ Laos, prov. Khammouane, Muang Khai, 160 m, 104°54.980' E, 17°27.681' N, mother-♀ 27.–29. v. 2014, reared ex ovo K. ČERNÝ, CMWM.



PTs (in total 17 ♂♂, 20 ♀♀), all from Laos, prov. Khammouane: 7 ♂♂, 10 ♀♀, data as in HT, but CKC. 8 ♂♂, 9 ♀♀, Muang Khai, 160 m, 104°54.980' E, 17°27.681' N, 27.–29. v. 2014, leg. K. ČERNÝ, CKC. 1 ♀, Khoun Ngeun, Sala Viewpoint, 480 m, 104°29' E, 18°10.7' N, 30.–31. v. 2014, leg. K. ČERNÝ, CKC. 2 ♂♂, Muang Gnomarat, 150 m, 105°9.778' E, 17°33.259' N, 1. vi. 2014, leg. K. ČERNÝ, CKC.

**Etymology:** All known specimens were observed in connection with the limestone rocks in the province Khammouane and we suppose that in nature the caterpillars live at the rocks (and not on tree bark etc.).

**Male:** The antennae are filiform, of black colour, the head is grey with black eyes and a black dot at vertex, palpi are grey, tegulae are grey, thorax is grey with two black spots dorsally, patagia are grey with a black spot, legs are grey, abdomen is grey.

The exp. is 20 mm (lfw. 10 mm), the ground colour of the fw. is grey with a black basal spot, a series of three sub-basal black spots, one discoidal black spot, a sinuous series of seven submarginal spots and a black dot in the middle of the outer margin. The fringes are grey. The hw. is pale yellow with a black V in the cell. The black edge is most wide proximally and gets narrower distally. The uns. of the fw. is black with a few expressive black dots in the cell, the pale yellow uns. of the hw. is proximally suffused with black, the markings are like on the upperside.

**Female:** Very similar to the male. The expanse is about 22 mm in the collected specimens.

**Variability:** The wing markings are rather invariable, only the black band on the hw. of the ♀♀ is sometimes missing and occasionally so well developed like in ♂♂. The reared specimens of the F<sub>2</sub> and F<sub>3</sub> generations are on average larger than the collected ones.

**Genitalia, ♂** (T 337, T 338): The valve is weak, with a short projection at costa, sacculus is more sclerotised, its terminal projection is pointed. The uncus is very long, in the middle most wide. The phallus vesica is spherical, with an area of about twenty spines and a sclerotised cornutus.

**♀** (T 336, T 339): Ductus bursae is bell-shaped, the basal part of bursa copulatrix is sclerotised, with a series of about forty long spines. The rest of bursa copulatrix is covered with a lot of very short spines.

**Distribution:** The species is only known from the limestone area in the province of Khammouane (Laos).

**Similar species:** *Lyclene calcicola* sp. n. cannot be confused with any other known species in South East Asia.

**Biology:** ♂♂ and ♀♀ fly in the early evening and in the early morning to the light in all habitats bordering on the limestone rocks.

**Development:** The ♀ imago should be fed with mango or grape-vine fruit juice. The duration of the egg stage is about 6 days. The dark brown haired caterpillars with some grey hairs were fed with algae on tree bark and grew rather slowly. They build a cocoon from their hairs

on the tree bark. The duration of the chrysalis is about 10 days.

### 15. *Lyclene jaroslavae* sp. n.

(Figs. 15a, b, c, d, e, f, g.)

**HT:** ♂, C. Thailand, Phetchabun, 580 m, border of Nam Nao NP, 16°44.05' N, 101°23.14' E, 14.–27. ix. 2009 leg. T. IHLE, CMWM.

**PTs** (in total 1 ♂, 1 ♀), all from Thailand: 1 ♂, N., Chiang Mai, Chiang Dao, 19°24.232' N, 98°55.596' E, 22. v. 2011, leg. K. ČERNÝ, CKC. 1 ♀, Changwat Chiang Rai, 1 km SE von Khun Kon, 600 m, 15. xi. 1998, leg. Tibor CSÖVARI & László MIKUS, ex CMWM, CKC.

**Etymology:** The species is dedicated to my fellow student Jaroslava HYNŠTOVÁ.

**Male:** The head is pale yellow with black eyes and pale yellow antennae, the palpi are pale yellow. The tegulae and patagia are pale yellow, at patagia there is a black dot. Thorax is dorsally pale yellow with two black dots, ventrally dirty yellow with grey legs.

The exp. is 19 mm, the lfw. 9 mm. The ground colour of the fw. is pale yellow basally and darker, suffused with red marginally, with a black basal dot, a subbasal series of 5 black dots of which the third one is out of the row basally, a wide medial transversal black band and an irregular postmedian patch which is confluent with the medial band. The fringes are pale yellow. The uns. of the fw. is similar to the ups., the markings are less expressive. The basal part of costa is suffused with black.

The hw. is pale yellow turning red towards apex, with an inexpressive transversal band in the middle and pale fringes.

**Female:** The head with antennae and palpi are pale yellow, the tegulae and patagia are pale yellow with black dots, thorax and abdomen are dorsally pale yellow, the uns. of the thorax and the legs are dirty yellow. The exp. is 21 mm, the lfw. 11 mm. The ground colour of the fw. is basally pale yellow, terminally dark yellow turning red apically. At the fw. there are grey markings consisting of a basal spot, an excurved subbasal series of 5 elongated spots of which the third one is shifted basally and a big patch cutted straight in the middle of the wing and with two extensive lobes reaching the submarginal area. The fringes are pale yellow.

The uns. of the fw. is similar to the ups., the markings are slightly paler.

The hw. is pale yellow, slightly suffused with grey at the uns.

**Variability:** No relevant variability under the small type series.

**Genitalia, ♂** (T 303, T 369): The sacculus is terminated with a pointed projection, the valve is rectangularly cut, the costa is terminated with a hook-like, pointed projection. The uncus is strong and slightly bent. The phallus is straight, at the lobed vesica there are two apparent spines and a terminal scobination.

♀ (GP no. T 302): Bursa copulatrix is divided by a narrow section (laced in) into two parts, the large one with a wide band of short spines. Ductus bursae is straight, wide and strong sclerotised.

**Distribution:** The species was recorded in the northern part of Thailand only.

**Similar species:** *Lyclene congerens* FELDER, 1874, in which the patch on the fw. is splitted up into a series of parallel streaks.

### 16. *Lyclene evae* sp. n.

(Figs. 16c, d, g.)

HT: ♀, SE Thailand, Chantaburi, Pang Nam Ron, Khao Soi Dao, 14. x. 2005, leg. K. SUKHUMALIND, ex CKC, CMWM. — No PT.

**Etymology:** The species is dedicated to my fellow student Eva DOPERTOVÁ.

**Female:** The head is yellow with a black dot on the vertex, the eyes, palpi and antennae are brown, the tegulae are yellow, patagia are yellow with a black dot, the thorax is dorsally yellow with two lateral black dots, ventrally dirty yellow, the legs are dirty yellow medially and black laterally. The abdomen is dirty yellow.

The exp. is 22 mm, the lfw. 11 mm. The ground colour of the fw. is yellow with a black basal dot, black basal part of costa, 5 elongate black streaks in the subbasal area of which the second and the fourth ones are conjoined with the irregular transversal band in the medial area. The submarginal black band consists of 8 conjoined black streaks, of which the sixth and the eighth are displaced basally. The marginal area is bordered with a series of elongate black dots, the fringes are pale yellow. The markings at the uns. are similar to the ups., the subbasal series of streaks is less expressive, the rest of the markings is more expressive, with a tendency to becoming conjoined.

The hw. is pale yellow with pale yellow fringes and two small black dots near apex, which are on the uns. extended to an irregular band along the margin. The fringes are pale yellow.

The male is not yet known.

**Genitalia, ♀** (T 345): Ductus bursae is long, bursa copulatrix is small, pear-like, with extensive scobination.

**Distribution:** The species was recorded in the south-eastern part of Thailand only.

**Similar species:** *Lyclene conjunctana* WALKER, 1866 from India, China and Thailand, in which the lines in the wing markings are reduced to thin lines and on the hw. is no black margin.

### 17. *Lyclene nataliae* sp. n.

(Figs. 17 a, c, d, e, f, g.)

HT: ♀, N. Vietnam, Tuan-glao, 5.–10. xi. 1994, 21°35' N, 103°25' E, 1200 m, leg. SINJAEV & SIMONOV, ex CASD, CMWM.

PTs (in total 18 ♂♂, 24 ♀♀), all from Vietnam: 3 ♂♂, 11 ♀♀, data and deposition as in HT. 1 ♂, 4 ♀♀, data as in HT but

in CKC. 2 ♂♂, 2 ♀♀, Nord, Mai-Chau, 25 km S Moc-Chau, 1400 m, 20°50' N, 104°40' E, 14.–18. xi. 1994, Sekundärwald, leg. V. SINJAEV, ex CMWM, CKC. 2 ♂♂, 5 ♀♀, N., 1400 m, Mai-Chau, Urwald, 40 km SE Moc-chau, 20°50' N, 104°50' E, 7.–15. iv. 1995, leg. SINJAEV & einh. Sammler; CKC. 10 ♂♂, 2 ♀♀, same data, but in CMWM.

**Etymology:** The species is dedicated to my fellow student Natalia ("Nataša") HÁJKOVÁ.

**Female:** The head is yellow with grey palpi and black eyes, the antennae are yellow basally and becoming dark terminally.

The tegulae and patagia are yellow, at the patagia there is a black spot in the middle. The thorax is dorsally yellow with 2 black lateral dots, ventrally greyish yellow with greyish yellow legs, striated with grey. The abdomen is greyish yellow with some black patches ventrally.

The exp. is 30 mm, the lfw. 15 mm. The ground colour of the fw. is pale yellow with a basal black dot, two subbasal black dots, a thin transversal black band, a black dot in the discoidal area, a series of 8 irregular submarginal dots, of which the fifth one is displaced to the margin, and a series of 8 marginal dots. The fringes are yellow.

The uns. of the fw. is pale yellow, the markings are less expressive except of the discoidal dot and the markings towards apex and margin.

The male is very similar but significantly smaller.

**Variability:** The transversal black band is sometimes reduced and in one female from Mai Chau missing. The expanse varies between 23 and 28 mm in males and 28 and 32 mm in the females.

**Genitalia, ♂** (T 381): The valva is weak, terminally rounded, sacculus is pointed with a long, strong sclerotised tip. The uncus is long, slightly bent. The phallus is slightly sinuous, the phallus vesica has no scobinations but bears a long, strongly sclerotised cornutus.

♀ (T 343): The ductus bursae is funnel-like, the bursa copulatrix has a big scobination field in the basal part.

**Distribution:** The species is only known from the northern part of Vietnam.

**Similar species:** *Lyclene modesta* LEECH, 1899 from China, Vietnam and Thailand, in which the fourth spot of the submarginal series, the whole marginal series and the median transversal band are missing.

### 18. *Lyclene dagmarae* sp. n.

(Figs. 18a, c, e, f, g; D.)

HT: ♂, Laos, prov. Khammouane, Muang Khai, 160 m, 104°54.980' E, 17°27.681' N, 27.–29. v. 2014, leg. K. ČERNÝ, CMWM.

PTs: 5 ♂♂, 3 ♀♀, same data as HT, but in CKC.

**Etymology:** The species is dedicated to my fellow student Dagmara HOCKÁ.

**Male:** The head with antennae and palpi are pale yellow, as far as the tegulae, patagia, dorsal part of thorax and abdomen. The ventral part of thorax, the legs and abdomen are pale ochreous.



The lfw. is 8 mm, the expanse 16 mm. The fw. is pale yellow with a small basal black spot and a large second one in the cell. The fringes are pale yellow. The hw. is cream white with some yellow along the margin. The uns. is pale yellow, the dark markings on the fw. are diffuse.

**Female:** The female has a very similar markings and bears at the top of the abdomen a tangled tuft of hair.

**Variability:** The wing markings are invariable, the exp. varies slightly between 14 and 16 mm in ♂♂ and 16 and 18 mm in ♀♀.

**Genitalia, ♂ (T 362):** Costa and sacculus, both with terminal projections, cucullus weak, uncus slightly bent. The phallus vesica with 3 sclerotised thorns.

♀ (T 368): Ductus bursae is very wide, bursa copulatrix is irregularly rounded with a basal scobination and an extensive rounded group of long thin spines.

**Distribution:** The species was recorded in the province Khammouane of Laos only.

**Similar species:** *Lyclene calamaria* MOORE, 1888, which is larger, the ground colour of the fw. is more intense, the black spots on the fw. are smaller and the ♀ has no apparent hair tufts.

### 19. *Disasuridia nakaoi* sp. n.

(Figs. 19a, b, c, d, e, f, g.)

**HT:** ♀, Thailand, Chiang Mai, Chae Son NP, 1200 m, 25. IX. 2008, leg. Kenichiro NAKAO, No.: 080925187; CMWM.

**PT:** 1 ♂, N. Thailand, Chiang Mai prov., 390 m, Chiang Mai, Doi Kham, 18°45.667' N, 98°55.4' E, 18. v. 2009, leg. T. IHLE, CKC.

**Etymology:** The species is dedicated to Dr. Kenichiro NAKAO, Tokyo, who collected the first known female of this pretty species.

**Female:** The head with antennae is dirty pale brown, the eyes are black, the palpi are reddish brown, the tegulae, patagia, thorax with legs and abdomen are dirty pale brown. The exp. is 22 mm, the lfw. 11 mm. The ground colour of the fw. is a mixture of red and yellow scales with a triangular subbasal black area not reaching the inner margin and black outer half of the wing. At the uns. of the fw. is the triangular basal black area paler.

The hw. is black, turning yellow basally.

The single known male is very similar to the female but with a lfw. of 7 mm clearly smaller.

**Genitalia, ♂ (T 348):** At the sacculus there is medially an elongate rasp-like area. The weak valve is terminated

with a bubble-like projection, and at the costa there is an apparent pointed, ventrally aligned, strongly sclerotised projection. The phallus is very short, its basal part is weak, the terminal part strongly sclerotised, with a strongly scobinated horn-like projection in the middle and another horn-like projection in the terminal part of the phallus. The phallus vesica is rounded, without specific structures.

♀ (T 349): The ductus bursae is very short, strongly sclerotised, the bursa copulatrix is rounded, in the basal part covered with hair-like spines.

**Distribution:** The species was recorded in the province of Chiang Mai in northern Thailand only.

**Similar species:** There is no confusion possible.

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