

## A tentative review of the genus *Sinthusa* MOORE, 1884 from China

(Lepidoptera, Lycaenidae)

by

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**Abstract:** The genus *Sinthusa* MOORE, 1884 (Theclinae: Deudorigini) from China is tentatively reviewed, based upon the wing-characters in both sexes and the ♂ genital structures. *Sinthusa chenzhibingi* spec. nov. is described from NW. Yunnan, W. Sichuan, S. Shaanxi and S. Gansu. The real ♀ of *S. rayata* RILEY, 1939 and the ♂ of *S. menglaensis* (WANG, 1997) are reported and figured for the first time. *Sinthusa confusa* EVANS, 1925 stat. nov. is proved to be a valid species.

**Introduction:** We have made a rather complete collection of the Chinese species of the genus *Sinthusa* MOORE, 1884 (sensu EVANS 1927; D'ABRERA 1986, 1993; TAKANAMI 1987, 1994). In this paper we focus on a new species and the ♂ genital morphology of all Chinese species. The ♀ genitalia will be discussed in a further work when more specimens are available.

### Abbreviations

BSNU: Biological laboratory of Shanghai Normal University, Shanghai, P.R. China.

CHH: Collection of HAO HUANG.

CZJQ: Collection of JIAN-QING ZHU.

CCZB: Collection of ZHI-BING CHEN.

CCF: Collection of FENG CAO.

CCAM: Collection of AN-MING CHEN.

HT: Holotype.

PT: Paratype.

TL: Type locality.

### Taxonomic accounts

*Sinthusa chandrana chandrana* (MOORE, 1882)

*Hypolycaena chandrana* MOORE, 1882: 249 [TL: Lahul, NW. Himalaya], pl. 11, figs. 2 & 2a for ♂.

*Sinthusa chandrana*: DE NICEVILLE, 1890: 486.

**Distribution:** NW. Himalaya.

*Sinthusa chandrana grotei* (MOORE, 1884) (figs 4, 27)

*Hypolycaena grotei* MOORE, 1884a: 527 [TL: NE. Bengal], pl. 49, fig. 5 for ♂.

*Sinthusa grotei*, MOORE, 1884b: 34.

*Sinthusa chandrana*: ELWES, 1893: 645, record of two pairs from Karen Hills and Momeit; HUANG & XUE, 2004: 150, fig. 12 for ♀ genitalia taken from specimen from Nujiang valley, Yunnan; LO, in WU & HSU, 2017: 1182, fig. 07, ♂ from Motuo, SE. Tibet.

**Distribution:** NE. Bengal; Sikkim; NE India (Assam); N. Myanmar; Yunnan, SE. Tibet.

**Specimens examined:** 4 ♂♂, 4 ♀♀ (CHH) from Gongshan, NW. Yunnan (23. May & 18.-30. July), Pu'er, SC. Yunnan (29, January) and Yiwu, Mengla, Xishuangbanna, SC. Yunnan (27, April). 3 ♂♂ dissected.

**Remarks:** Specimens from Yunnan and SE. Tibet can be assigned to this subspecies, matching with the original description that the "lower discal area of both wings violet-blue" in ♂.

*Sinthusa chandrana pratti* (LEECH, 1889) (figs 2-3, 23-25, 44-45)

*Thecla pratti* LEECH, 1889: 110 [TL: Foochau], pl. 7, fig. 4, ♂.

*Sinthusa chandrana pratti*: D'ABRERA, 1993: 432, figs for ♂♂ & ♀.

*Deudorix kuyaniana*: TONG et al., 1993: 59, records from Zhejiang, cpl. 55, figs. 551-553 for ♂ and ♀.

*Sinthusa chandrana kuyaniana*: GU & CHEN, 1997: 277, record from Hainan, fig. 380 for ♀; WANG & FAN, 2002: 211, partim (record from Hainan).

*Sinthusa chandrana grotei*: WANG et al., 1998: 175, record from Luanchuan, Henan, cpl. 83, figs. 3-4, ♂; WANG & FAN, 2002: 211, cpl. 16, figs. 18-29 for ♂♂ & ♀♀ from Guangdong, Guangxi, Sichuan and Fujian.

*Sinthusa chandrana*: JIANG et al., 2001: 117, records from Fuzhou & Sanming, Fujian, figs. 26-381 for ♂ & ♀♀; CHEN, 2011: 180, records from Guangzhou, early stages; YUAN et al., 2015: 195, figs. for ♂ & ♀♀ from Jiulianshan, Jiangxi; ZHU et al., 2017: 302, records from Anhui, figs. for ♀.

**Distribution:** Chongqing, Shaanxi, Sichuan, Hubei, Henan, Jiangxi, Zhejiang, Anhui, Fujian, Guangdong, Hongkong.

**Specimens examined:** 1 ♂ (CHH) from Ningshan, Shaanxi (12. April); 1 ♂ (CHH) from Ankang, Shaanxi (6. July); 1 ♀ (CCZB) from Hanyuan, Sichuan; 6 ♂♂, 8 ♀♀ (CHH, CZJQ) from Tianmushan and Hangzhou, Zhejiang (March, April & June); 1 ♀ (CCF) from Guangzhou, Guangdong (26. March). 3 ♂♂ dissected.

**Remarks:** This subspecies differs from *S. ch. grotei* MOORE by the ♂ having the violet-blue lower discal area on hindwing upperside dusted by a large black patch. The ♀ of this subspecies is very variable in individuals and can not be separated from that of *S. ch. grotei* MOORE for sure.

*Sinthusa chandrana sophonisbe* FRUHSTORFER, [1912] (figs. 5, 26, 46)

*Sinthusa chandrana sophonisbe* FRUHSTORFER, [1912]: 228 [TL: Montes Manson, Tonkin, N Vietnam].

**Distribution:** N. Vietnam; Guangxi.

**Specimens examined:** 2 ♂♂, 1 ♀ (CHH) from Damingshan, Guangxi (23. March & 10.-27. April). 1 ♂ dissected.

**Remarks:** According to the original description (FRUHSTORFER, 1912), this subspecies is separable from *S. ch. grotei* MOORE by the ♂ having indistinct long stripes on both wings underside, and by the ♀ having the longer white ciliae on wings and a smaller subanal black spot on hindwing underside. The specimens from Damingshan, Guangxi match with such description.

*Sinthusa chandrana margala* FRUHSTORFER, [1912]

FRUHSTORFER, [1912]: 228 [TL: Phuc-Son, Mittel-Annam]; MONASTYRSKII & DEVYATKIN, 2003: 41, record from C. & S. Vietnam.

**Distribution:** C. & S. Vietnam.

*Sinthusa chandrana kuyaniana* (MATSUMURA, 1919)

*Virachola kuyaniana* MATSUMURA, 1919: 626 [TL: Taiwan], pl. 48, f. 25.

**Distribution:** Taiwan.

*Sinthusa menglaensis* (WANG, 1997) (figs. 6, 28, 47)

*Chliaria menglaensis* WANG, in WANG & ZHU, 1997: 83 [TL: Mengla, Xishuangbanna, S. Yunnan], fig. for ♀ HT.

*Sinthusa menglaensis*: HUANG & XUE, 2004: 144, fig. 11 for ♀ genitalia, cpl. 11, fig. 10 for topotypic ♀.

*Sinthusa chandrana*: LO, in WU & HSU, 2017: 1182, fig. 05, ♂ from Yingjiang, SW. Yunnan. (Misidentification).

**Distribution:** S. Yunnan (Xishuangbanna, Yingjiang).

**Specimens examined:** 9 ♂♂, 1 ♀ (CHH) from Mengla, Xishuangbanna (February, March, April, July & October); 1 ♂ (CHH) from Yingjiang (22. September). 2 ♂♂ dissected.

**Remarks:** The ♂ of this species is figured herein for the first time; it is very similar to the ♂ of *S. chandrana* (MOORE), but can be distinguished from the latter by having a more clearly defined sexual patch on hindwing upperside and a wider discal band in spaces 4-5 on hindwing underside almost touching the dark submarginal markings. The ♂ genitalia are constantly different from those of *S. chandrana* (MOORE) as shown in the following key. The ♀ genitalia are different from those of *S. chandrana* (MOORE) as discussed by HUANG & XUE (2004). The distributional range of this species overlaps that of *S. ch. grotei* (MOORE), at Xishuangbanna, but this species seems to be restricted to the areas below 1100 m whereas *S. ch. grotei* (MOORE) is found between 1300 m and 1900 m.

*Sinthusa nasaka nasaka* (HORSFIELD, [1829])

*Thecla nasaka* HORSFIELD, [1829]: 91 [TL: Java].

*Sinthusa nasaka*: MOORE, 1884b: 34; DE NICEVILLE, 1890: 484; ELWES, 1893: 644, record of ♂♂ from Margharita and Momeit; FRUHSTORFER, [1912]: 228, checklist along with other subspecies.

**Distribution:** Indonesia (Java).

*Sinthusa nasaka amba* (KIRBY, 1878)

*Hypolycaena amba* KIRBY, 1878: 32 [TL: Malacca, southern Malay Peninsula], pl. (suppl.) v.b. figs 44 & 46 for ♂, fig. 45 for ♀.

*Sinthusa amba*: DISTANT, 1886: 461, records from Malay Peninsula and Perak, NE Sumatra, pl. xlv, figs. 12 for ♂, 19 for ♀; DE NICEVILLE, 1890: 485; ELWES, 1893: 644, record from Pulo Laut, Borneo.

*Sinthusa amboides* ELWES, 1893: 645 [TL: Pegu and Perak]; CORBET, 1942: 174, type designation (♂ from Perak as the type), synonymy for *S. nasaka amba* KIRBY.

*Sinthusa nasaka amba*: CORBET, 1942: 174; MONASTYRSKII & DEVYATKIN, 2003: 41, record from C. & S. Vietnam.

**Distribution:** Malaysia (Malay Peninsula, Borneo); Indonesia (NE Sumatra); C. & S. Vietnam.

*Sinthusa nasaka obscurata* FRUHSTORFER, [1912] (figs 1, 22, 48)

FRUHSTORFER, [1912]: 228 [TL: Assam & Sikkim].

*Sinthusa nasaka*: WANG & FAN, 2002: 213, cpl. 17, figs. 3-4 for ♀ from Nanning, Guangxi; Chen, 2011: 181, record from Guangzhou, early stages; LO, in WU & HSU, 2017: 1182, fig. 08-09, records from Sanming and Fuzhou, Fujian.

*Sinthusa nasaka* ssp: LO et al., 2006: 6, record from Hongkong, figs. for ♂, ♀ and ♂ genitalia.

**Distribution:** Sikkim; NE. India (Assam); Yunnan, Guangxi, Guangdong, Hongkong, Fujian, Hainan (?).

**Specimens examined:** 2 ♂♂, 1 ♀ (CHH, CZJQ) from Dayaoshan (23. July) & Damingshan (20. March & 7. April), Guangxi; 1 ♂ (CHH) from Ximeng, Pu'er, Yunnan (7. March). 2 ♂♂ dissected.

**Remarks:** The populations from southern China can be assigned to this subspecies which was originally described from NE. India. The specimens from Hainan (GU & CHEN, 1997: 277) need a further research in future.

*Sinthusa nasaka pallidior* FRUHSTORFER, [1912]

FRUHSTORFER, [1912]: 228 [TL: Kangra & Kulu, West-Himalaya].

**Distribution:** NW. India.

*Sinthusa nasaka fulva* RILEY, 1945

RILEY, 1945: 269 [TL: Mentawai Islands].

**Distribution:** Indonesia (Mentawai Islands, to the west of Sumatra).

*Sinthusa nasaka ogatai* HAYASHI, 1976

HAYASHI, 1976: 20 [TL: Palawan, Philippines].

**Distribution:** Philippines (Palawan).

*Sinthusa rayata* RILEY, 1939 (figs 13-14, 19-20, 53)

RILEY, 1939: 360 [TL: Tien-Tsuen, now Tianquan, W. Sichuan]; D'ABRERA, 1993: 432, partim (figs. for ♂♂ only); YOSHINO, 1995: 3, figs 21-22 for ♂, fig. 30 for ♂ genitalia sketch.

**Distribution:** W. Sichuan (Tianquan), W. Guizhou (Liupanshui).

**Specimens examined:** 2 ♂♂ (CCZB) from Tianquan, Sichuan; 1 ♂, 3 ♀♀ (CCF) from Liupanshui, Guizhou (9.-21. June). 1 ♂ dissected.

**Remarks:** The ♀ of this species is figured herein for the first time. The ♀ illustrated by D'ABRERA (1993: 432) as *S. rayata* RILEY actually belongs to *Sinthusa chenzhibingi* spec. nov., with a more whitish ground color on the upperside of both wings than in *S. rayata* RILEY.

***Sinthusa chenzhibingi* spec. nov.** (figs 7, 9-12, 17-18, 49-52)

*Sinthusa rayata*: D'ABRERA, 1993: 432, partim (fig. for ♀ only); WANG & FAN, 2002: 212, fig. 105 for ♂ genitalia, cpl. 17, figs. 1-2 for ♂ from Ningshan, Shaanxi.

**Distribution:** W. Sichuan, W. Yunnan, Shaanxi, S. Gansu.

HT ♂ (figs. 11, 51): China, Sichuan Province, Ya'an City, Shimian County, Liziping, Gongyihai Station, 2000 m, 24.IV.2000, H. HUANG leg., deposited in BSNU.

PTs: 2 ♂♂ (CHH), same data as the HT; 1 ♀ (CHH), same locality as the HT, but 23.VI.2012, H. HUANG leg.; 1 ♂ (CHH), Shaanxi Province, Baoji City, Fengxian, 1400 m, 28.IV.2011, L.-P. ZHOU leg.; 3 ♂♂ (CHH), Gansu Province, Tianshui City, Huixian, Fuzhen, 1300 m, 1.-6.VI.2016 & 27.IV.2017, H. HUANG leg.; 4 ♂♂ (CHH), Yunnan Province, Lijiang City, Ludian, 2800 m, 18.-21.V.2014, H. HUANG leg.; 1 ♂ (CZJQ), Yunnan, Lijiang, Ludian, 17.V.2015, C.-H. WANG leg.; 1 ♂, 1 ♀ (CCAM), Yunnan, Lijiang, Ludian, V.2005, A.-M. CHEN leg.

**Etymology:** This new species is named in honor of Mr. ZHI-BING CHEN, Shanghai.

**Diagnosis:** This new species is similar to *S. rayata* RILEY in the ground color and the wing-pattern of both wings underside in both sexes, but can be distinguished from the latter by the following combination of characters.

- 1) Forewing upperside of ♂ with deep blue ground color more extensive, occupying the discal area, not restricted to basal area as in *S. rayata* RILEY.
- 2) Hindwing upperside of ♂ with basal blue coloring connected to marginal blue coloring, not well separated from marginal blue coloring as in *S. rayata* RILEY.
- 3) Hindwing underside of ♂ with discal spot in space 7 in a line with the one in space 6, not shifted-in from the one in space 6 as in *S. rayata* RILEY.
- 4) Forewing upperside of ♀ with ground color markedly paler and more whitish than in *S. rayata* RILEY.
- 5) Hindwing upperside of ♀ with discocellular cell mostly blackish, not bright blue in lower half as in *S. rayata* RILEY.
- 6) The ♂ genitalia is different as shown in the following key.

This new species is very similar to *S. nasaka* HORSFIELD in ♂ genitalia, but still has some remarkable differences as shown in the following key. The two species are very different in wing-characters in both sexes.

***Sinthusa zhejiangensis* YOSHINO, 1995** (figs 15-16, 21, 54-55)

YOSHINO, 1995: 3 [TL: Mt. Tienmu, Zhejiang], figs. 19-20 for ♂ HT, fig. 29 for ♂ genitalia sketch; LO, in WU & HSU, 2017: 1182, fig. 12, ♂, fig. 13, ♀, from Fuzhou, Fujian; ZHU et al., 2017: 303, record from Huangshan & Xuancheng, Anhui, figs for ♀.

**Distribution:** Zhejiang (Tianmushan), Anhui (Huangshan, Xuancheng), Fujian (Fuzhou), Sichuan (Yingjing), Chongqing (Fengjie).

**Specimens examined:** 3 ♂♂, 1 ♀ (CZJQ, CCZB) from Tianmushan, Zhejiang (1.-11. April); 1 ♂, 1 ♀ (CHH) from Fuzhou, Fujian (5.-11. April); 1 ♂ (CZJQ) from Fengjie, Chongqing (13. April); 1 ♂ (CHH) from Yingjing, Ya'an, Sichuan (12. April). 4 ♂♂ dissected.

**Remarks:** This species is very similar to *S. rayata* RILEY in wing-characters in both sexes, but has the blue patches on upperside of both wings markedly paler. The ♂ genitalia of this species is more similar to *S. virgo* (ELWES) and *S. confusa* EVANS.

***Sinthusa virgo* (ELWES, 1887)** (figs 29-37, 56)

*Hypolycaena virgo* ELWES, 1887: 446 [TL: Sikkim].

*Hypolycaena* (? *Sinthusa*) *virgo*: ELWES, 1888: 396, pl. 8, fig. 7, ♀.

*Sinthusa virgo*: ELWES, 1893: 645, record of ♀♀ from Naga Hills and Bernardmyo; D'ABRERA, 1986: 634, figs. for ♀♀ from Sikkim; HUANG & XUE, 2004: 150, fig. 13 for ♀ genitalia taken from specimen from Dulong valley; LO, in WU & HSU, 2017: 1182, fig. 14, ♂, fig. 15, ♀ from Tengchong, W. Yunnan.

*Pseudochliaria virgoides* TYTLER, 1915: 139 [TL: Jakama, Naga Hills, India], pl. 3, fig. 26, ♂; EVANS, 1927: 194, synonymy for *S. virgo* (ELWES). (Synonymized by EVANS, 1927). (Possibly a distinct subspecies.)

**Distribution:** Sikkim; NE. India (Nagaland, Bernardmyo); SE. Tibet (Motuo), W. Yunnan (Dulongjiang, Tengchong).

**Specimens examined:** 1 ♀ (CHH) from Motuo, SE. Tibet (13. July); 1 ♂, 1 ♀ (CHH) from Dulongjiang, Yunnan (6. May & 3. July); 3 ♂♂, 2 ♀♀ (CHH) from Tengchong, Yunnan (17. May). 2 ♂♂ dissected.

**Remarks:** EVANS (1927) first noticed that the type specimens of *P. virgoides* TYTLER represents the real ♂ of *S. virgo* (ELWES), which is confirmed by our observations in Yunnan. This species is unique among the genus by having no sexual dimorphism in wing-pattern and ground color on forewing upperside and by the ♂ having no hair-tuft along dorsum of forewing underside. The ♂ genitalia are closer to *S. confusa* EVANS and *S. zhejiangensis* YOSHINO than to those of all other species.

However, the name *virgoides* is possibly valid as a subspecific name when more specimens from Sikkim are available. All the known specimens from Sikkim in the literature have the discal bands on both wings underside not interrupted as in the specimens from Naga Hills and Yunnan.

***Sinthusa confusa* EVANS, 1925** (figs 38-43, 57) **stat. nov.**

*Sinthusa virgo* v. *confusa*: EVANS, 1925: 774; 1927: 194.

*Sinthusa virgo*: DE NICEVILLE, 1890: 488-489, description of ♂ (actually a ♀) from Darjeeling, India, frontispiece, fig. 134, ♂ (actually a ♀); TYTLER, 1915: 139, record of 2 specimens from Kirbari, Naga Hills.

*Pseudochliaria virgo confusa*: BRIDGES, 1988: II. 92.

**Distribution:** N. India (Darjeeling, Nagaland); SE Tibet (Chayu), W Yunnan (Tengchong).

**Specimens examined:** 1 ♂ (CHH) from Chayu, SE. Tibet (17. June); 3 ♀♀ (CZJQ, CHH) from Tengchong, Yunnan (21. May). 1 ♂ dissected.

**Remarks:** DE NICEVILLE (1890) first described the ♀ of this species from Darjeeling, N. India as the ♂ of *S. virgo* (ELWES). TYTLER (1915) recorded two further ♂♂ specimens from Naga Hills as *S. virgo* (ELWES). Therefore this species is probably sympatric with *S. virgo* (ELWES) in Indian areas from Sikkim to Naga Hills. The ♀♀ specimens of this species were collected together with some ♂♂ and ♀♀ specimens of *S. virgo* (ELWES) from a locality at Xiaodifang, Tengchong, Yunnan by the junior author and Mr. YI-KUI LUO

respectively. Moreover, Mr. LUO (pers. comm.) collected a ♂ of this species and shared the photos with us but he failed to identify it. We cannot publish the photos of this ♂ from Tengchong because we do not have the copyright. The ♂ has a rather deep blue coloring on both wings upperside and a hair-tuft along dorsum of forewing underside as in *S. rayata* RILEY, but has the same wing-pattern on both wings underside as in *S. virgo* (ELWES). The senior author collected a further ♂ of this species from Chayu, SE. Tibet, which shows some slight differences from the Tengchong ♂ but agrees with the latter in most wing-characters. Possibly the specimens from Yunnan represent a different subspecies from those from India and SE. Tibet. In ♂ genitalia this species is closer to *S. virgo* (ELWES) than to any other species.

EVANS (1925: 774) assigned the name *confusa* to TYTLER who however never published such a name, and he [EVANS] gave a brief description to make the name *confusa* to be valid in nomenclature; later BRIDGES (1988) assigned *confusa* to EVANS in accordance with ICZN and clearly gave a subspecific rank to it. BRIDGES (1988) cataloged the name, “*confusa* TYTLER, 1926” due to an unknown mistake. TYTLER (1915) firstly discussed the possible mistake in determining the ♂ of *S. virgo* (ELWES) by DE NICEVILLE (1890), but he took a risk to name the ♂ with the sexual marks as *Pseudochliaria virgoides* TYTLER which is now proved to be the real ♂ of *S. virgo* (ELWES) by our observations at two localities in Yunnan (Dulongjiang and Tengchong).

According to Article 45.6.4 of ICZN, the name “*Sinthusa virgo* v. *confusa*, EVANS, 1925” was published before 1960, using “v.” and EVANS (1925) did not give this name an infrasubspecific rank, the name, *confusa* should be regarded as a valid name in nomenclature. As EVANS (1925) clearly referred to TYTLER’s (1915) work and TYTLER (1915) referred to DE NICEVILLE’s (1890) work, DE NICEVILLE’s unique specimen from “Darjeeling” and TYTLER’s two specimens from “Kirbari, Naga Hills” can be regarded as the syntypes of *Sinthusa confusa* EVANS, 1925.

#### Key to species of *Sinthusa* from China, using ♂ genital characters

1. Carina aedoeagi absent or obsolete, at most developed as a non-pigmented tubercle. Cornuti represented by two groups of spines. Branches of valvae rather triangular and broad at base in both ventral and lateral view .....2
- Carina aedoeagi present and well developed as a pigmented spine on dorsal surface of aedoeagus. Cornuti represented by a group of spines. Branches of valvae if broad at base not triangular in both ventral and lateral view .....3
2. Branches of valvae slenderer in both ventral and lateral views .....*S. chandrana*
- Branches of valvae stouter in both ventral and lateral views .....*S. menglaensis*
3. Branches of valvae nearly twice longer than the conjoined basal part of the valvae. Branches of valvae in ventral or dorsal view strongly in-curved at apical half. Branches of valvae in lateral view gradually tapered apically. Carina aedoeagi longer .....4
- Branches of valvae nearly as long as the conjoined basal part of the valvae. Branches of valvae in ventral or dorsal view rather straight at apical half. Branches of valvae in lateral view nearly even in width at median part. Carina aedoeagi shorter.....5
4. Branches of valvae in ventral or dorsal view markedly thinner. Lobe of uncus with upper angle better defined .....*S. nasaka*
- Branches of valvae in ventral or dorsal view markedly wider. Lobe of uncus more broadly rounded at upper apex .....*S. chenzhibingi*
5. Branches of valvae in ventral or dorsal view swollen at base and not gradually tapered, with inner margin markedly curved .....*S. rayata*
- Branches of valvae in ventral or dorsal view gradually tapered, with inner margin rather straight .....6
6. Tegumen markedly longer. Lobes of uncus markedly shorter .....*S. zhejiangensis*
- Tegumen markedly shorter. Lobes of uncus markedly longer.....7
7. Tegumen plus lobes of uncus in lateral view markedly larger. Branches of valvae in lateral view thinner and more sharply pointed at apex.....*S. virgo*
- Tegumen plus lobes of uncus in lateral view markedly smaller. Branches of valvae in lateral view wider and blunter at apex.....*S. confusa*

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Figs. 1-8: Habitus of *Sinthusa* ♂♂ under same scale, upperside and underside. (1) *S. nasaka obscurata* FRUHSTORFER, [1912], Damingshan, Guangxi; (2-3) *S. chandrana pratti* (LEECH, 1889); (2) Ningshan, Shaanxi; (3) Ankang, Shaanxi; (4) *S. chandrana grotei* (MOORE, 1884), Gongshan, Yunnan; (5) *S. chandrana sophonisbe* FRUHSTORFER, [1912], Damingshan, Guangxi; (6) *S. menglaensis* (WANG, 1997), Mengla, Yunnan; (7) *S. chenzhibingi* spec. nov., PT, Lijiang, Yunnan; (8) *S. zhejiangensis* YOSHINO, 1995, Fengjie, Chongqing.





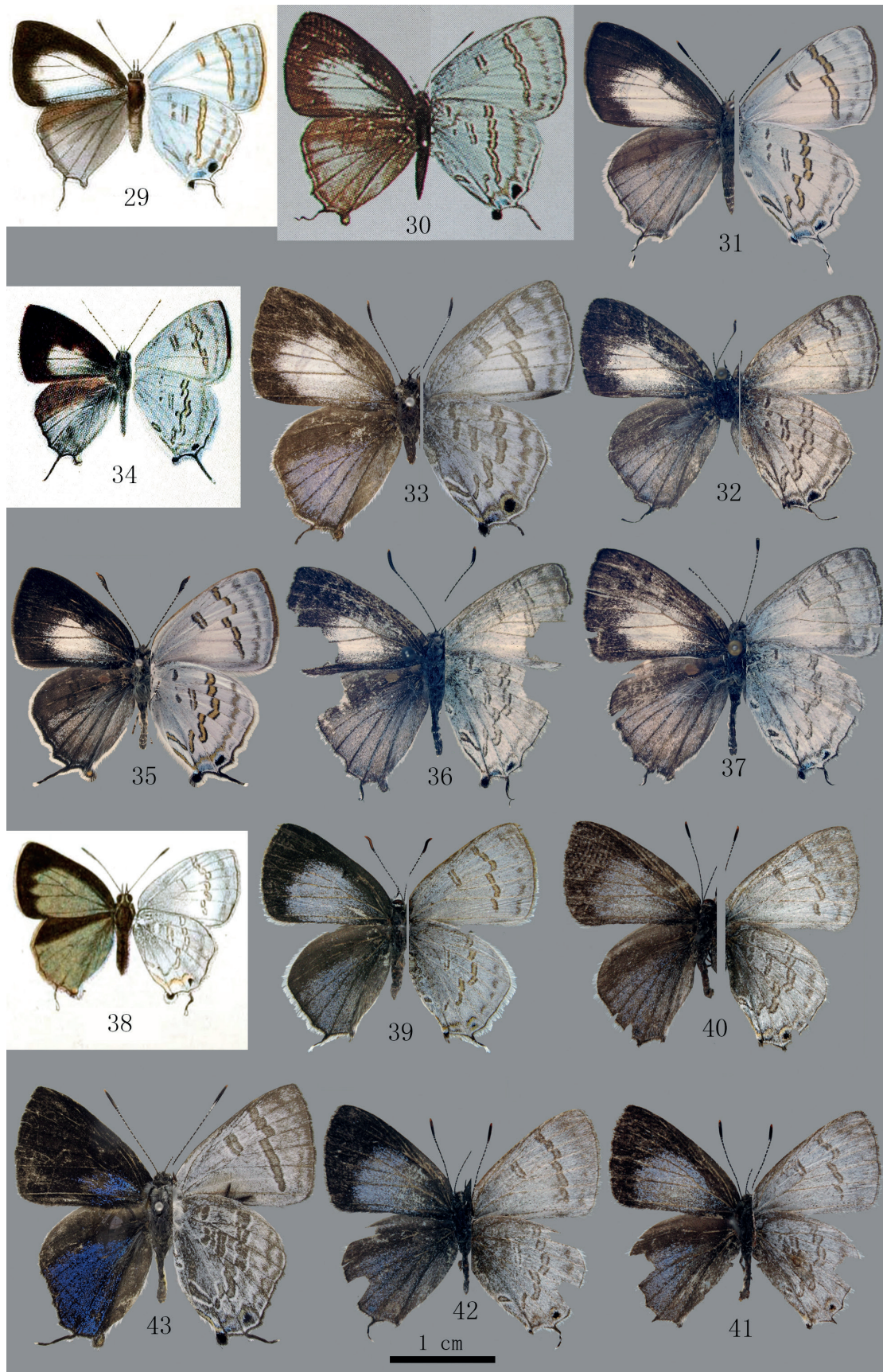
Figs. 9-16: Habitus of *Sinthusa* ♂♂ under same scale, upperside and underside. (9-12) *S. chenzhibingi* spec. nov.; (9) PT, Lijiang, Yunnan; (10) PT, Baoji, Shaanxi; (11) HT, Shimian, Sichuan; (12) PT, Shimian; (13-14) *S. rayata* RILEY, 1939; (13) Tianquan, Sichuan; (14) Liupanshui, Guizhou; (15-16) *S. zhejiangensis* YOSHINO, 1995; (15) Tianmushan, Zhejiang; (16) Yingjing, Sichuan.





Figs. 17-28: Habitus of *Sinthusa* ♀♀ under same scale, upperside and underside. (17-18) *S. chenzhibingi* spec. nov.; (17) PT, Shimian, Sichuan; (18) PT, Lijiang, Yunnan; (19-20) *S. rayata* RILEY, 1939, Liupanshui, Guizhou; (21) *S. zhejiangensis* YOSHINO, 1995, Tianmushan, Zhejiang; (22) *S. nasaka obscurata* FRUHSTORFER, [1912], Damingshan, Guangxi; (23-25) *S. chandrana pratti* (LEECH, 1889); (23, 25) Tianmushan, Zhejiang; (24) Hanyuan, Sichuan; (26) *S. chandrana sophonisbe* FRUHSTORFER, [1912], Damingshan, Guangxi; (27) *S. chandrana grotei* (MOORE, 1884), Gongshan, Yunnan; (28) *S. menglaensis* (WANG, 1997), Mengla, Yunnan.





Figs. 29-43: Habitus of *Sinthusa* species under same scale, upperside and underside. (29-33) *S. virgo* (ELWES, 1877), ♀♀; (29) syntype of *S. virgo* (ELWES, 1877), Sikkim, after ELWES (1888); (30) Sikkim, after D'ABRERA (1986); (31) Tengchong, Yunnan; (32) Dulongjiang, Yunnan; (33) Motuo, SE. Tibet; (34-37) *S. virgo* (ELWES, 1877), ♂♂; (34) syntype of *Pseudochliaria virgoides* TYTLER, 1915, Naga Hills, NE. India, after TYTLER (1915); (35) Dulongjiang, Yunnan; (36-37) Tengchong, Yunnan; (38-42) *S. confusa* EVANS, 1925, ♀♀; (38) Darjeeling, N. India, after DE NICEVILLE (1890); (39-42) Tengchong, Yunnan; (43) *S. confusa* EVANS, 1925, ♂, Chayu, SE. Tibet.





Fig. 44-49: ♂♂ genitalia of *Sinthusa* species with structures in corresponding positions of figures, consisting of whole genitalia in lateral view (G), of valvae in ventral view (V-v), of valvae in ventrolateral view (V-vl), of tegumen plus lobes of uncus in dorsal view (T-d), of falces in ventral view (F-v), and of enlarged aedeagus in dorsal (A-d), lateral (A-l) and ventral (A-v) views. All scales = 1 mm. (44) specimen shown in fig. 3; (45) fig. 2; (46) fig. 5; (47) fig. 6; (48) fig. 1; (49) specimen not figured.





Fig. 50-57: ♂♂ genitalia of *Sinthusa* species with structures in corresponding positions of figures, consisting of whole genitalia in lateral view (G), of valvae in ventral view (V-v), of valvae in ventrolateral view (V-vl), of tegumen plus lobes of uncus in dorsal view (T-d), of falces in ventral view (F-v), and of enlarged aedeagus in dorsal (A-d), lateral (A-l) and ventral (A-v) views. All scales = 1 mm. (50) specimen shown in fig. 10; (51) fig. 11; (52) fig. 9; (53) fig. 13; (54) specimen not figured; (55) fig. 16; (56) fig. 37; (57) fig. 43.

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