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# ZOOTAXA

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## Checklist of Yunnan Papilionidae (Lepidoptera: Papilionoidea) with nomenclatural notes and descriptions of new subspecies

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## Table of Contents

Abstract . . . . .	4
Introduction . . . . .	4
Abbreviations of taxonomic terms in the text . . . . .	5
Nomenclatural Notes . . . . .	6
1. Junior Primary Homonyms . . . . .	6
2. Junior Primary Homonyms covered by Article 23.9.5 . . . . .	7
3. Replacement Names proposed in contravention of Article 23.9.5 . . . . .	7
4. Names incorrectly treated as Junior Primary Homonyms . . . . .	8
5. Seniority of Synonyms . . . . .	8
Checklist of Yunnan Papilionidae . . . . .	8
Subfamily Parnassiinae . . . . .	9
Tribe Parnassiini Duponchel, [1835] . . . . .	9
Genus <i>Parnassius</i> Latreille, 1804 . . . . .	9
Subgenus <i>Parnassius</i> Latreille, 1804 . . . . .	9
Subgenus <i>Driopa</i> Korshunov, 1988 . . . . .	9
Subgenus <i>Kailasius</i> Moore, 1902 . . . . .	10
Subgenus <i>Kreizbergius</i> Korshunov, 1990 . . . . .	10
Subgenus <i>Tadumia</i> Moore, 1902 . . . . .	10
Tribe Sericinini Chapman, 1895 . . . . .	12
Genus <i>Bhutanitis</i> Atkinson, 1873 . . . . .	12
Subfamily Papilioninae Latreille, [1802] . . . . .	14
Tribe Leptocircini Kirby, 1896 . . . . .	14
Genus <i>Lamproptera</i> G. Gray, 1832 . . . . .	14
Genus <i>Iphioides</i> Hübner, [1819] . . . . .	16
Genus <i>Graphium</i> Scopoli, 1777 . . . . .	17
Subgenus <i>Pazala</i> Moore, 1888 . . . . .	17
Subgenus <i>Pathysa</i> Reakirt, [1865] . . . . .	18
Subgenus <i>Graphium</i> Scopoli, 1777 . . . . .	21
Tribe Teinopalpini Grote, 1899 . . . . .	24
Genus <i>Teinopalpus</i> Hope, 1843 . . . . .	24
Tribe Troidini Talbot, 1939 . . . . .	25
Genus <i>Pachliopta</i> Reakirt, [1865] . . . . .	25
Genus <i>Troides</i> Hübner, [1819] . . . . .	25
Genus <i>Atrophaneura</i> Reakirt, [1865] . . . . .	26
Genus <i>Byasa</i> Moore, 1882 . . . . .	27
Tribe Papilionini Latreille, [1802] . . . . .	31
Genus <i>Meandrusa</i> Moore, 1888 . . . . .	32
Genus <i>Papilio</i> Linnaeus, 1758 . . . . .	33
Subgenus <i>Sinoprinceps</i> Hancock, 1983 . . . . .	34
Subgenus <i>Papilio</i> Linnaeus, 1758 . . . . .	34
Subgenus <i>Achillides</i> Hübner, [1819] . . . . .	39
Subgenus <i>Araminta</i> Moore, 1886 . . . . .	44
Subgenus <i>Menelaides</i> Hübner, [1819] . . . . .	44
Subgenus <i>Chilasa</i> Moore, [1881] . . . . .	51
Subgenus <i>Pterourus</i> Scopoli, 1777 . . . . .	54
Taxa requiring confirmation . . . . .	54
Excluded taxa and names . . . . .	55
Acknowledgements . . . . .	57
References . . . . .	58

## Abstract

A checklist of the Papilionidae of Yunnan is presented, with nomenclatural and taxonomic changes made. In the nomenclatural section, the junior homonym *Papilio bootes nigricans* Rothschild, 1895 is replaced by *Papilio bootes nigricauda* Lamas & Cotton **nom. nov.**, *Chilasa (Cadugoides) epycides muhabbet* Koçak, 2005 is synonymised with *Papilio epycides camilla* Rousseau-Decelle, 1947 **syn. nov.**, *Graphium cloanthus nyghmat* Koçak & Kemal, 2000 is placed as a junior objective synonym **syn. nov.** of *Graphium cloanthus clymenus* (Leech, 1893), and *Papilio astorion* Westwood, 1842 is shown to have priority over *Papilio varuna* White, 1842, thus the valid species name is *Atrophaneura astorion* (Westwood, 1842) **comb. nov.** In the main checklist, five new subspecies are described: *Parnassius cephalus haba* Hu & Cotton **ssp. nov.**, *Lamproptera curius hsinningae* Hu, Zhang & Cotton **ssp. nov.**, *Lamproptera curius yangtzeanus* Hu & Cotton **ssp. nov.**, *Graphium macareus vadimi* Cotton & Hu **ssp. nov.**, and *Papilio krishna benyongi* Hu & Cotton **ssp. nov.** The First Reviser Principle under the ICZN Code is invoked to solve four taxonomic problems, and 18 names are synonymised with explanations, notably *Papilio machaon venchuanus* Moonen, 1984 **syn. nov.**, which is synonymised with *Papilio machaon schantungensis* Eller, 1936. *Byasa genestieri* (Oberthür, 1918) **stat. nov.** is separated from *Byasa latreillei* (Donovan, 1826), and *Papilio everesti* Riley, 1927 **stat. nov.** and *P. verityi* Fruhstorfer, 1907 **stat. nov.** are separated from *Papilio machaon* Linnaeus, 1758 as species. Taxa that require further confirmation of their presence in Yunnan and those that do not occur in Yunnan are enumerated.

**Key words:** Parnassiinae, Papilioninae, new taxon, new synonym, new status, ICZN Code, First Reviser Principle

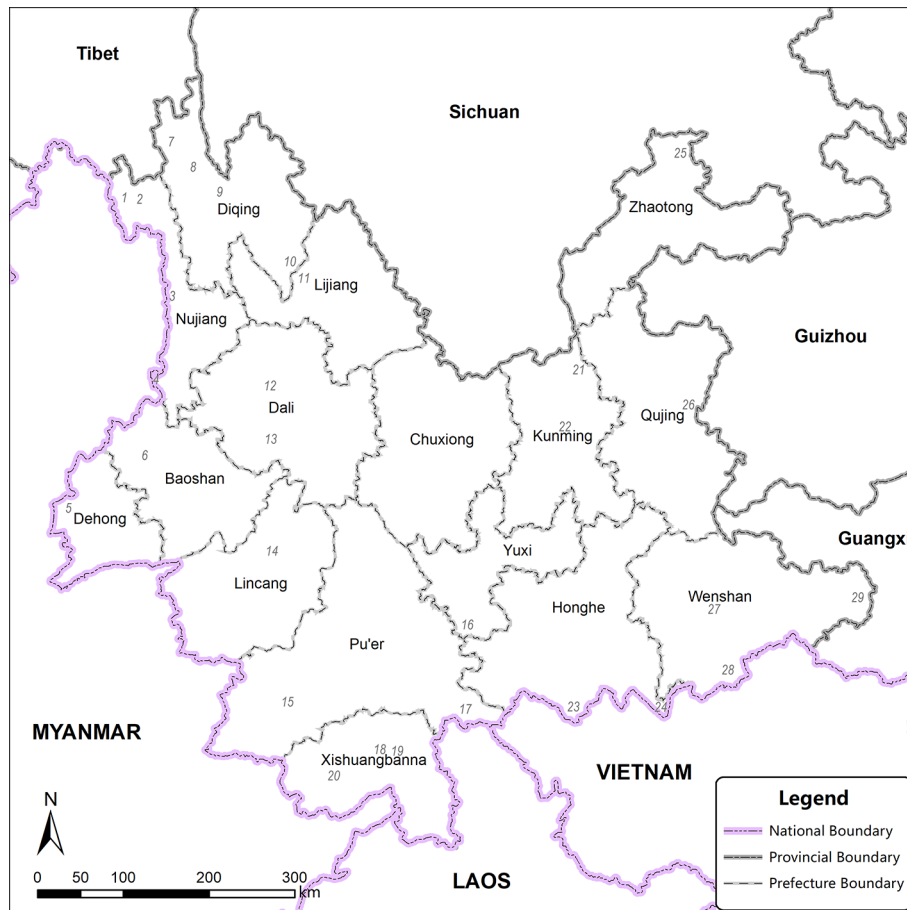
## Introduction

Yunnan, the south-westernmost province of China, is one of the most biologically diverse places in the world due to its unique geography and position connecting the Palaearctic and tropical zones in Southeast Asia (Myers *et al.* 2000). The province covers a large area of land bordered in the west by Myanmar and in the south by Laos and Vietnam, with Guangxi province forming the easternmost border of Yunnan (Figure 1) (Wang & Zhang 2002).

Five major river systems pass through Yunnan, four of which (known internationally as the Irrawaddy, Salween, Mekong and Yangtze systems) parallel each other in N.W. Yunnan separated by north-south oriented mountain ridges over 3,000 m high which form an almost complete barrier to biodiversity between the adjacent river valleys (Figure 2) (He *et al.* 2005). This creates a unique situation with up to four different subspecies of each species occurring within a very short distance but totally isolated from each other (*e.g.*, *Papilio bootes* and *P. epycides* discussed in this article). The fifth major river (the Red River) arises in western central Yunnan, flows south-eastwards through the province into Vietnam, and effectively draws a line between the southern tropical zone and the plateau to the north of the river (Wang & Zhang 2002).

The family Papilionidae comprises approximately 5% of worldwide butterfly fauna with over 600 known species (Nakae 2021), and due to their relatively large size and ease of identification in the field the species belonging to this family are important biodiversity indicators for biologists studying natural habitats (Wang *et al.* 2020). Yunnan is the diversity centre of Papilionidae in China, with over 65% of the country's species found in this province (Wu & Hsu 2017; Yu *et al.* 2023). However, compared to the high species richness and conservation demand of Papilionidae in Yunnan, the very fundamental taxonomic work relating to this province is scattered, limited, and outdated. The last literature containing Papilionidae was Lee (1995), published 28 years ago. Many new species, new subspecies, and taxonomic changes published in the recent two decades (*e.g.*, Huang 2003; Hu *et al.* 2014, 2018; Zhang *et al.* 2020; Cotton *et al.* 2021, 2022) have not been synthesised into a comprehensive list, leading to gaps and obstacles to conservation practices which may use Papilionidae as indicators.

This long-overdue list is drawn from decades' endeavour including expeditions, collections, observations, specimen studies (methods followed those of Hu *et al.* 2018) and literature research. Two subfamilies of Papilionidae with 85 species belonging to 12 genera are shown to be represented in Yunnan. This list should become an important aid both for biologists and everyone interested in the Papilionidae butterflies and their conservation in Yunnan.



**FIGURE 1.** Administrative map of Yunnan Province showing its position with Indochinese countries of Myanmar, Laos, and Vietnam, as well as Chinese provinces (autonomous region) of Tibet, Sichuan, Guizhou, and Guangxi. Numbers indicate localities mentioned in this article: 1. Dulongjiang, 2. Gongshan, 3. Fugong, 4. Pianma, 5. Yingjiang, 6. Tengchong, 7. Deqen, 8. Baima Xueshan, 9. Zhongdian, 10. Haba Xueshan, 11. Yulong Xueshan, 12. Eryuan, 13. Yangbi, 14. Yunxian, 15. Lancang, 16. Yuanjiang, 17. Jiangcheng, 18. Jinghong, 19. Menglun, 20. Menghai, 21. Dongchuan, 22. Kunming, 23. Jinping, 24. Hekou, 25. Yanjin, 26. Fuyuan, 27. Wenshan, 28. Malipo, and 29. Funing.

### Abbreviations of taxonomic terms in the text

comb. nov.—new combination  
 [IFS]—Infrasubspecific  
 [IOS]—Incorrect Original Spelling  
 [ISS]—Incorrect Subsequent Spelling  
 [JH]—Junior Homonym  
 [JOS]—Junior Objective Synonym  
 loc. err.—erroneous locality  
 [MisID]—Misidentification  
 [NN]—Nomen Nudum  
 [PS]—Published in Synonymy  
 stat. nov.—new status  
 stat. rev.—revised status  
 syn. nov.—new synonym  
 TL—Type Locality  
 TG—Type Genus  
 TS—Type Species  
 [UE]—Unjustified Emendation

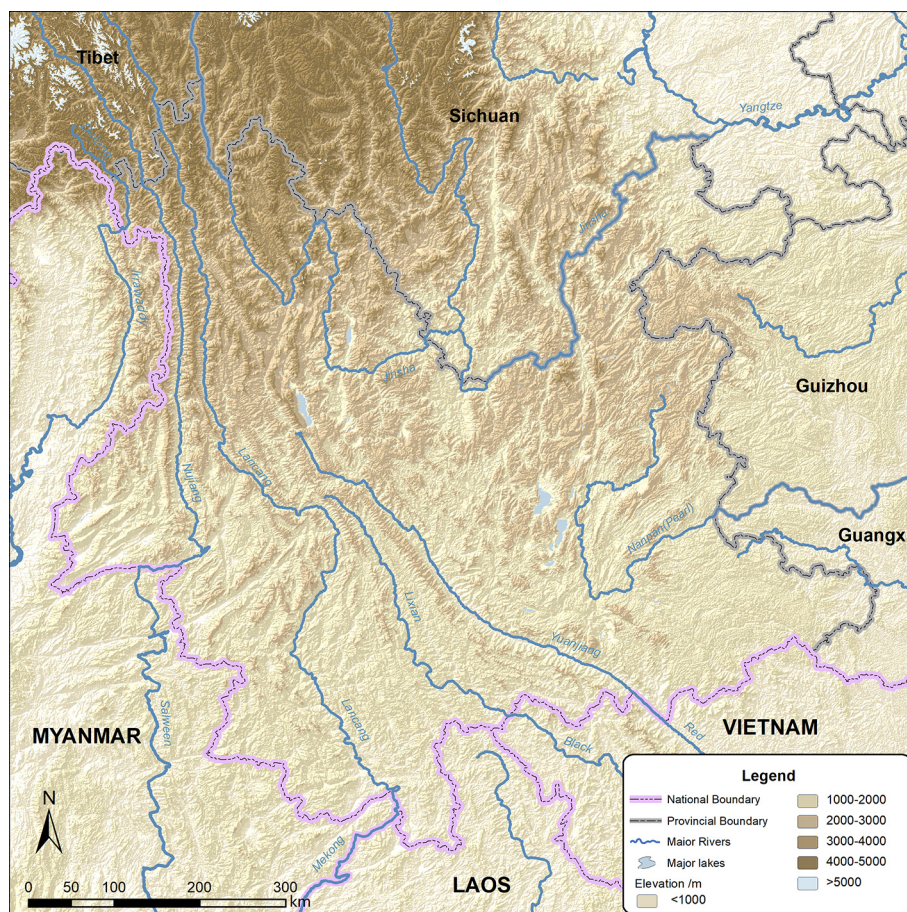


FIGURE 2. Topographic map of Yunnan Province showing its terrain and major rivers.

## Nomenclatural Notes

This section resolves nomenclatural issues relevant to Papilionidae of Yunnan which are applied in this work.

### 1. Junior Primary Homonyms

Primary homonymy occurs when the same name is proposed more than once in a genus (ICZN [1999] Code Articles 53.3 and 57.2). Names confirmed as junior primary homonyms are permanently invalid and must be replaced by the next oldest available taxon name, or if no junior name is available a new replacement name has to be proposed for the taxon (Articles 60.1, 60.3).

**1.1 *Papilio bootes nigricans* Rothschild, 1895: 335.** Currently regarded as a valid subspecies of *Papilio bootes* Westwood, 1842 (Chou 1994: 54).

A junior primary homonym of *Papilio aristeus* var. *nigricans* Eimer, 1889, currently regarded as a junior subjective synonym of *Graphium aristeus hermocrates* (C. Felder & R. Felder, 1865) (Talbot 1939: 211).

Koçak & Kemal (2000b: 3), recognising this homonymy, claimed that *nigricans* Rothschild, 1895 is a junior synonym of *Papilio echo* Ehrmann, 1909. However, this synonymy is erroneous since the male holotype of *echo* Ehrmann, 1909 was described from the ‘Khasia Hills, British Burmah’ and is labelled ‘Assam’. By phenotype (photos of the holotype examined with thanks to John Rawlins, Carnegie Museum of Natural History, USA) it is clearly a junior synonym of *Papilio bootes bootes* Westwood, 1842 (type locality Sylhet), as was established by Holland (1927: 323), not a synonym of *nigricans* Rothschild, 1895 (type locality Ni-tou [near Mianning, W

Sichuan, China]). Furthermore, *Papilio echo* Ehrmann, 1909 is a junior primary homonym of *Papilio echo* Cramer, 1775, the latter currently regarded as a valid species of *Taygetis* Hübner, [1819]—Nymphalidae: Satyrinae (Lamas 2004: 222).

Even though *P. aristeus* var. *nigricans* Eimer, 1889 and *P. bootes nigricans* Rothschild, 1895 are nowadays placed in different genera, they were considered congeneric after 1899. Requires replacement name. Proposed *nomen novum*: ***Papilio bootes nigricauda*** Lamas & Cotton.

## 2. Junior Primary Homonyms covered by Article 23.9.5

The names in this section are all junior primary homonyms of taxa not considered congeneric after 1899. ICZN Code (1999) Article 23.9.5 clearly states that such junior homonyms must not automatically be replaced, cases should be referred to the ICZN for a ruling under the plenary power and meanwhile prevailing usage of names is to be maintained. Here four taxon names are recognised as junior primary homonyms to which Article 23.9.5 applies.

**2.1 *Papilio castor*** Westwood, 1842: 37. Currently regarded as a valid species of *Papilio* Linnaeus, 1758 (D’Abrera 1982: 88).

A junior primary homonym of *Papilio castor* Cramer, 1775 (currently *Charaxes castor* [Cramer, 1775]—Nymphalidae: Charaxinae) (Ackery *et al.* 1995: 436). It could be substituted at species rank by the oldest available name, *Papilio mahadeva* Moore, 1879, but there is currently no available junior synonym at subspecies rank. The homonymous names apply to taxa not considered congeneric after 1899. Case needs to be referred to the ICZN.

**2.2 *Papilio horatius*** Blanchard, 1871: 809, *nota*. Currently regarded as a valid subspecies of *Papilio epycides* Hewitson, [1864] (Hu *et al.* 2023: [below]).

A junior primary homonym of *Papilio horatius* Fabricius, 1793 (currently regarded as a junior subjective synonym of *Charaxes anticlea* [Drury, 1782]—Nymphalidae: Charaxinae) (Ackery *et al.* 1995: 433). The homonymous names apply to taxa not considered congeneric after 1899. Case needs to be referred to the ICZN.

**2.3 *Papilio epycides*** subsp. ***camilla*** Rousseau-Decelle, 1947: 128. Currently regarded as a valid subspecies of *Papilio epycides* Hewitson, [1864] (Hu *et al.* 2023: [below]).

A junior primary homonym of *Papilio camilla* Linnaeus, 1764 (currently *Limenitis camilla* [Linnaeus, 1764]—Nymphalidae: Limenitidinae) (Verity 1950: 44). The homonymous names apply to taxa not considered congeneric after 1899. Case needs to be referred to the ICZN.

**2.4 *Papilio machaon*** form ***archias*** Fruhstorfer, 1907: 301.

A junior primary homonym of *Papilio archias* Cramer, 1777 (currently regarded as a junior subjective synonym of *Lampides boeticus* [Linnaeus, 1767]—Lycaenidae: Polyommattinae) (Lamas, 2004: 138). The homonymous names apply to taxa not considered congeneric after 1899. Case needs to be referred to the ICZN.

## 3. Replacement Names proposed in contravention of Article 23.9.5

Although ICZN Code Article 23.9.5 does not specify the status of replacement names proposed after 1999 in contravention of the article, such names must be treated as junior objective synonyms of the junior homonyms to which Article 23.9.5 applies until such time as the ICZN Commission rules on the validity of the junior homonyms. One name recognised as having been proposed in contravention of this Article is discussed in this section.

**3.1 *Chilasa (Cadugoides) epycides muhabbet*** Koçak, in Kemal & Koçak, 2005: 10. Proposed as a new replacement name for *Papilio epycides camilla* Rousseau-Decelle, 1947, a junior primary homonym of *Papilio camilla* Linnaeus, 1764 (currently *Limenitis camilla* [Linnaeus, 1764]—Nymphalidae: Limenitidinae) (Verity 1950: 44).

Since the replacement name *muhabbet* Koçak, 2005 was proposed in contravention of Article 23.9.5, which states that such names must not automatically be replaced, the name *Chilasa (Cadugoides) epycides muhabbet* Koçak, 2005 must be considered as a junior objective synonym of *Papilio epycides camilla* Rousseau-Decelle, 1947 (**syn. nov.**) until such time as the Commission rules on an application to consider the status of *Papilio epycides camilla* Rousseau-Decelle, 1947.

#### 4. Names incorrectly treated as Junior Primary Homonyms

One species group name previously declared to be a junior primary homonym is shown to have been incorrectly identified as such. The original taxon name is thus available, and the replacement name is a junior objective synonym.

**4.1 *Papilio cloanthus* var. *clymenus*** Leech, 1893: 523. Currently regarded as a valid subspecies of *Graphium cloanthus* Westwood, [1841] (Racheli & Cotton 2009: 49).

Incorrectly replaced with *Graphium cloanthus nyghmat* by Koçak & Kemal (2000a: 11) as a junior primary homonym of *Papilio clymenus* Stoll, [1782] [sic]. However, Stoll (1782: 207, pl. 389, figs. E–F) described the name *Papilio climena* apparently derived from Clymēnē, ‘wife of the Ethiopian king Merops’, whereas Clymēnus is ‘a cognomen of Pluto’, ‘a companion of Phineus’, and ‘a king of Arcadia’. Thus the names *Papilio cloanthus* var. *clymenus* Leech, 1893 and *Papilio climena* Stoll, 1782 (currently *Euploea climena* (Stoll, 1782)—Nymphalidae: Danainae [Ackery & Vane-Wright 1984: 231]) are not homonymous and the replacement name *Graphium cloanthus nyghmat* Koçak & Kemal, 2000 is a junior objective synonym of ***Graphium cloanthus clymenus*** (Leech, 1893) (**syn. nov.**).

#### 5. Seniority of Synonyms

In many situations prevailing usage clauses were introduced in the current Code (ICZN 1999) to ensure stability of nomenclature. There are no such clauses covering the Principle of Priority, so the older name becomes the valid species name.

**5.1 *Papilio astorion*** Westwood, 1842: 37. Currently regarded as a valid subspecies of *Papilio varuna* White, 1842 (currently *Atrophaneura varuna* [White, 1842]) (Racheli & Cotton 2010: 29).

However, *P. astorion* Westwood was published on [1] March 1842 (Evenhuis 2003: 15), whereas the date of publication of *P. varuna* White can only be attributed to [31] March 1842. Therefore, *astorion* has priority over *varuna* as the valid species name.

The subspecies of this species are thus:

*Atrophaneura astorion astorion* (Westwood, 1842)

*Atrophaneura astorion varuna* (White, 1842)

*Atrophaneura astorion zaleucus* (Hewitson, 1865)

#### Checklist of Yunnan Papilionidae

This section comprises the checklist of Yunnan Papilionidae, including descriptions of new subspecies, new synonyms and nomenclatural acts under the ICZN Code First Reviser Principle. Synonyms of taxa occurring in Yunnan are still synonyms even if they were originally described from outside Yunnan; therefore, this article also includes these names.



## Subfamily Parnassiinae

Parnassiinae Duponchel, [1835]; Hist. nat. Lépid. Papillons Fr., 380; TG: *Parnassius* Latreille, 1804.

### Tribe Parnassiini Duponchel, [1835]

Parnassiini Duponchel, [1835]; Hist. nat. Lépid. Papillons Fr., 380; TG: *Parnassius* Latreille, 1804.

### Genus *Parnassius* Latreille, 1804

*Parnassius* Latreille, 1804; Nouv. Dict. Hist. nat., 24: 185, 199; TS: *Papilio apollo* Linnaeus, 1758.

*Doritis* [Fabricius], 1807; in [Illiger], Mag. Insektenk. (Illiger), 6: 283; TS: *Papilio apollo* Linnaeus, 1758. [JOS]

*Parnassis* Hübner, [1819]; Verz. bekannt. Schmett. (6): 90; TS: *Papilio apollo* Linnaeus, 1758. [JOS]

*Therius* Billberg, 1820; TS: *Papilio apollo* Linnaeus, 1758. [JOS]

*Pornassius* Blanchard, 1840; in Laporte [Comte de Castelnau], Hist. nat. Insectes, 3: pl. 3. [ISS]

*Dorits* Gistel, 1857; Vacuna, 1: 415. [ISS]

*Doribis* dos Passos, 1964; Syn. List nearctic Rhop.: 31,118. [ISS]

### Subgenus *Parnassius* Latreille, 1804

#### 1. *Parnassius epaphus* Oberthür, 1879

*Parnassius epaphus* Oberthür, 1879; Ét. Ent., 4: 23; TL: 'Tibet'.

#### 1a. *Parnassius epaphus poeta* Oberthür, 1892

*Parnassius poeta* Oberthür, 1892; Ét. Ent., 16: 2–3, pl. 2, f. 9; TL: 'Tà-Tsien-Loû' [Kangding, W. Sichuan, China].

*Parnassius epaphus* var. *poeta* f. *vittata* Verity, 1907; Rhop. Pal.: 107, pl. 24, f. 16; TL: 'Tatsienlu' [Kangding, W. Sichuan, China]. [IFS]

*Parnassius epaphus* var. *poeta* ab. *nigerrima* Verity, 1907; Rhop. Pal.: 107, pl. 24, f. 20; TL: 'Sialu' [Wawu Shan, Tianquan, W. Sichuan, China]. [IFS]

*Parnassius epaphus rafael* Bryk, 1938; Parnassiana, 6 (1/2): 4; TL: 'A-tun-tse' [Deqen, N.W. Yunnan, China].

**Distribution:** only found in the high mountains in the N.W. corner of Yunnan in Deqen; also found in E. Tibet.

### Subgenus *Driopa* Korshunov, 1988

*Driopa* Korshunov, 1988; Nov. maloizv. Vidy Fauny Sib., (20): 65; TS: *Papilio mnemosyne* Linnaeus, 1758.

*Driopa* Korshunov, 1987; Butts. USSR: 6. [NN]

*Erythrodriopa* Korshunov, 1987; Butts. USSR: 6. [NN]

*Erythrodriopa* Korshunov, 1988; Nov. maloizv. Vidy Fauny Sib., (20): 67; TS: *Doritis ariadne* Lederer, 1854.

*Adoritis* Koçak, 1989; Priamus, 4 (4): 165; TS: *Papilio mnemosyne* Linnaeus, 1758. [JOS]

*Eversmanniodriopa* Korb, 2005; Cat. Butts. ex-USSR: 13; TS: *Parnassius eversmanni* Ménétriés, 1850.

#### 2. *Parnassius orleans* Oberthür, 1890

*Parnassius orleans* Oberthür, 1890; Descr. Esp. Nouv. Parnassius: 1; TL: 'entre Litang et Tâ-Tsien-Loû, au Thibet' [between Litang and Kangding, W. Sichuan, China].

#### 2a. *Parnassius orleans orleans* Oberthür, 1890

*Parnassius orleans ephebus* Bryk, 1938; Parnassiana, 6 (1/2): 5; TL: 'A-tun-tse' [Deqen, N.W. Yunnan, China].

**Distribution:** found in high mountains in N.W. Yunnan near Zhongdian and Deqen; also found in W. Sichuan.

### Subgenus *Kailasius* Moore, 1902

*Kailasius* Moore, 1902; Lep. ind., 5 (53): 118; TS: *Parnassius charltonius* G. Gray, [1853].

*Eukoramius* Bryk, 1935; Tierreich, 65: 630, 673; TS: *Parnassius imperator* Oberthür, 1883.

### 3. *Parnassius imperator* Oberthür, 1883

*Parnassius imperator* Oberthür, 1883; Bull. Séanc. Soc. ent. Fr., (12): 109; TL: ‘Tât-sien-loû’ [Kangding, W. Sichuan, China].

#### 3a. *Parnassius imperator imperator* Oberthür, 1883

*Parnassius imperator takashii* Ohya, 1990; Illustr. Select. Ins. World, A (5): 72, pl. 32, f. 6–8; TL: ‘Yurongshue-Shan’ [Yulong Xueshan, Lijiang, N.W. Yunnan, China]. **syn. nov.**

*Tadumia imperator aino* Bryk, 1932; Parnassiana, 2 (1): 5; TL: ‘Yunan. A-tum-tzu, Breite 18°30’, Lange 98°50’, Mekong Valley’ [Mekong Valley, Deqen, N.W. Yunnan, China].

*P. imperator inaokai* Sorimachi, 2010; Dino, 65: 4, pl. 11G; TL: ‘Habaxueshan 4300–4500m, Yunnan, CHINA’ [Haba Xueshan, Zhongdian, N.W. Yunnan, China]. **syn. nov.**

**Distribution:** high mountains in W. and N.W. Yunnan, *e.g.*, Yulong Xueshan, Haba Xueshan, Baima Xueshan, Nu Shan and Meili Xueshan; also found in W. Sichuan.

**Note:** the taxa *takashii* Ohya, 1990 and *inaokai* Sorimachi, 2010 both fall within normal variation of the nominate subspecies and are synonymised here.

### Subgenus *Kreizbergius* Korshunov, 1990

*Kreizbergius* Korshunov, 1990; Chlenistonogie i gelminty: sbornik nauchnykh trudov, (20): 102; TS: *Parnassius simo* G. Gray, [1853].

*Kreizbergius* Korshunov, 1987; Butts. USSR: 6. [NN]

### 4. *Parnassius simo* G. Gray, [1853]

*Parnassius simo* G. Gray, [1853].; Cat. Lepid. Ins. Coll. Br. Mus., 1: 76, pl. 12, f. 3–4; TL: ‘Chinese Tartary’ [the plateau between Kumaon and Kashmir].

#### 4a. *Parnassius simo biamanensis* Li, 1994

*Parnassius simo biamanensis* Li, 1994; J. Southw. Agric. Univ., 16 (2): 101–102, f. 3–4; TL: ‘Baima Mts., Deqin, NW. Yunnan, China’ [Baima Xueshan, Deqen, N.W. Yunnan, China]. Here chosen as the valid taxon name under the ICZN Code First Reviser Principle.

*Parnassius biamanensis* Li, 1994; J. Southw. Agric. Univ., 16 (2): 101, f. 1–2; TL: ‘Baima Mts., Deqin, NW. Yunnan, China’ [Baima Xueshan, Deqen, N.W. Yunnan, China]. Here chosen as a synonym under the ICZN Code First Reviser Principle. [JH of *Parnassius simo biamanensis* Li, 1994 (Papilionidae)].

*Parnassius simo yunnanensis* Kawasaki, 1998; Wallace, 4 (2): 40, f. C, pl. 2, f. 5–8; TL: ‘Mt. Baima Xueshan, North Yunnan, China’.

*Parnassius simo wardi* Mikami, 1998; Notes on Eurasian Insects, (2): 66, 82, pl. 15, f. 1–15; TL: ‘Mt. Baima Xueshan (28°19’N, 97°58’E), 4300–5000 m, [Hengduan Shan], SE. Deqen, N. Yunnan’ [Baima Xueshan, Deqen, N.W. Yunnan, China].

**Distribution:** confined to the high mountains in the N.W. corner of Yunnan in Deqen.

### Subgenus *Tadumia* Moore, 1902

*Tadumia* Moore, 1902; Lep. ind., 5 (53): 116; TS: *Parnassius acco* G. Gray, [1853].

*Qinhaicus* Korshunov, 1990; Chlenistonogie i gelminty: sbornik nauchnykh trudov, (20): 99. TS: *Parnassius szechenyii* Frivaldszky, 1886.

### 5. *Parnassius acco* G. Gray, [1853]

*Parnassius acco* G. Gray, [1853]; Cat. Lepid. Ins. Coll. Br. Mus., 1: 76, pl. 12, f. 5–6; TL: ‘Chinese Tartary’ [the plateau between Kumaon and Kashmir].

#### 5a. *Parnassius acco bubo* (Bryk, 1938)

*Tadumia przewalskii bubo* Bryk, 1938; Parnassiana, 6 (1/2): 2; TL: ‘A-tun-tse’ [Deqen, N.W. Yunnan, China].

*Parnassius baileyi renzinensis* Li, 1994; J. Southw. Agric. Univ., 16 (2): 102, f. 5–6; TL: ‘Renzi Mts., Deqin, NW. Yunnan, China’.

**Distribution:** only found on Baima Xueshan in the N.W. corner of Yunnan; also found in W. Sichuan.

### 6. *Parnassius cephalus* Grum-Grshimaïlo, 1891

*Parnassius cephalus* Grum-Grshimaïlo, 1891; Horae Soc. ent. ross., 25 (3–4): 446; TL: ‘In regione alpine Amdo dicta, in montibus ad Sinin detectus’ [Xining, Qinghai, China].

#### 6a. *Parnassius (Tadumia) cephalus paimaensis* Yoshino, 1997

*Parnassius cepharus* [sic] *paimaensis* Yoshino, 1997; Neo Lepidoptera, 2 (1): 1, f. 1–4; TL: ‘Mt. Baimashueshan, North of Yunnan Prov., China’ [Baima Xueshan, Deqen, N.W. Yunnan, China].

**Distribution:** confined to Baima Xueshan in Deqen County.

#### 6b. *Parnassius cephalus elwesi* Leech, 1893

*Parnassius delphius* var. *elwesi* Leech, 1893; Entomologist, 26 (Suppl.): 104; TL: ‘How-Kow, Thibet...from the high plateau to the north of Ta-chien-lu’ [Hekou, Yajiang; north of Kangding, W. Sichuan, China].

**Distribution:** found on Tianbao Xueshan, Daxueshan, Xiaoxueshan, and adjacent snow mountains in Zhongdian County; also found in W. Sichuan.

**Note:** there are no available literature records of this subspecies in Yunnan, the populations in Zhongdian (except Haba Xueshan) are morphologically very close to ssp. *elwesi*.

#### 6c. *Parnassius cephalus haba* Hu & Cotton ssp. nov. (Figure 3)

**Description:** ♂. Forewing length: 36–38 mm. Forewing upperside: ground colour cream whitish, base and costa peppered with blackish scales; two short black bands in middle and at end of discocell; discal band greyish, serrate, with three blackish spots in cells CuA<sub>2</sub>, M<sub>1</sub>, and R<sub>3</sub>; postdiscal band blackish, termen grey. Forewing underside: similar to upperside, paler, with all veins reddish. Hindwing upperside: ground colour cream whitish, basal one third heavily marked with black; two red ocelli bordered by black connected by wavy greyish discal band; subapical patch triangular and greyish, followed by four black spots with blue-grey centre, termen grey. Hindwing underside: similar to upperside, paler, with all veins reddish. ♀. Forewing length: 36–37 mm. Wings more rounded, ground colour darker, markings similar to male, all black and grey markings larger.

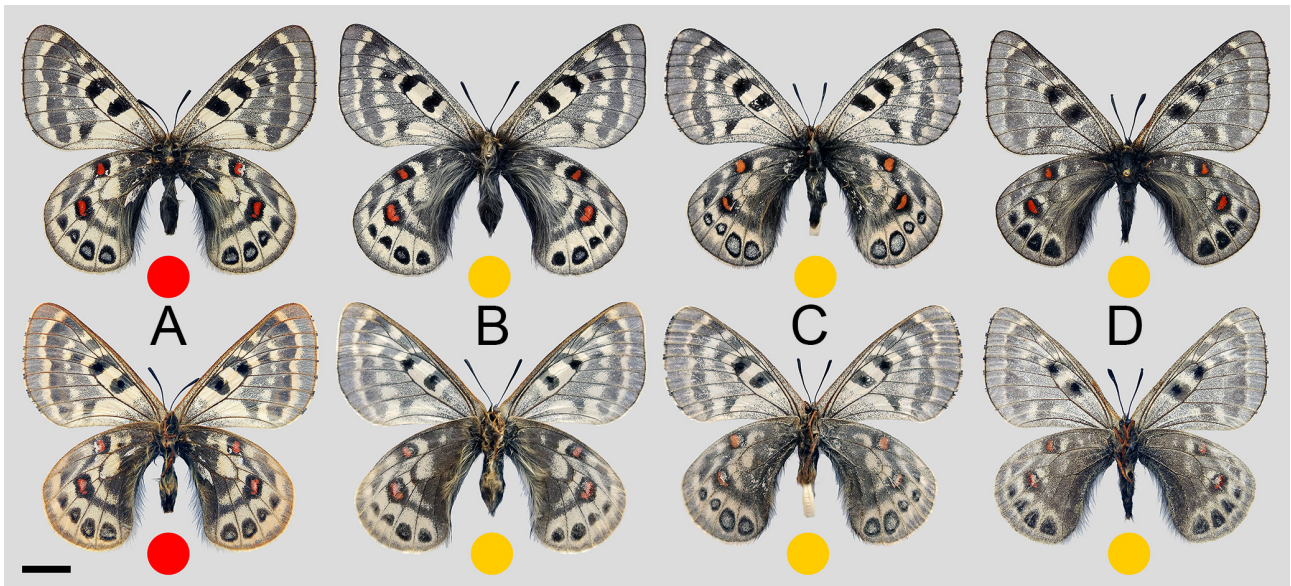
**Differential diagnosis:** 1) Larger than other known subspecies in adjacent mountains in N.W. Yunnan, length of forewing: ♂ 36–38 mm, ♀ 36–37 mm (length of forewing: ssp. *elwesi*: ♂ 32–36 mm, ♀ 31–36 mm; ssp. *paimaensis*: ♂ 34–36 mm, ♀ 34–36 mm; ssp. *takenakai*: ♂ 31–33 mm, ♀ 34–35 mm). 2) Very dark in general appearance, compared to ssp. *elwesi* and ssp. *takenakai*, also darker than ssp. *paimaensis*, especially in females. 3) The postdiscal band connecting two red ocelli on the male hindwing complete (incomplete or rather faint in the other three Yunnan subspecies), more prominent in females.

**Type material:** HOLOTYPE: ♂, Haba Xueshan (4,500 m), Zhongdian, Diqing Prefecture, 2015-VI-15, Y. Yang leg. [KIZ]. PARATYPES: 1♀, the same collecting data as the holotype; 4♂♂, 4♀, the same locality as the holotype, 2016-V-29, Y. Yang leg. [SJH]; 1♂, 1♀, Haba Xueshan (4,200 m), Zhongdian, Diqing Prefecture, 2015-VI-1–5, Y. Yang leg. [AMC]; 1♂, 1♀, Haba Xueshan (4,000 m), Zhongdian, Diqing Prefecture, 2016-V, Y. Yang leg. [AMC].

**Holotype** housed in the collection of the Kunming Institute of Zoology.

**Distribution:** Confined to Haba Xueshan in Zhongdian County.

**Etymology:** The subspecies is named directly after the type locality Haba Xueshan in N.W. Yunnan, and is a noun in apposition.



**FIGURE 3.** Types of *Parnassius cephalus haba* Hu & Cotton *ssp. nov.*; upperside of the first row, underside on the second row; A: holotype, ♂, B: paratypes, ♂, C–D: paratypes, ♀; scale bar = 10 mm.

#### 6d. *Parnassius cephalus takenakai* Koiwaya, 1993

*Parnassius cephalus takenakai* Koiwaya, 1993; Studies Chin. Butt., 2: 89, f. 164–165, 292–293; TL: ‘Yulong Xueshan, N. Yunnan’ [Yulong Xueshan, Lijiang, N.W. Yunnan, China].

**Distribution:** confined to Yulong Xueshan in Yulong County.

#### 7. *Parnassius szechenyii* Frivaldszky, 1886

*Parnassius szechenyii* Frivaldszky, 1886; Termész. Füzt., 10 (1): 39, tab. IV, f. 1, 1a; TL: ‘In Tibet ad lacum Kuku-noor detectus’ [Qinghai Lake, Qinghai, China].

#### 7a. *Parnassius szechenyii germanae* Austaut, 1906

*Parnassius szechenyi* [sic] v. *germanae* Austaut, 1906; Ent. Z., 20 (10): 66; TL: ‘dans les alpes du nord de Ta-tsin-lou’ [Mountains north of Kangding, W. Sichuan, China].

*Koramius szechenyii* subsp. *Elvi* Bryk, 1938; Parnassiana, 6 (1/2): 3; TL: ‘A-tun-tse (N.-Yunnan)’ [Deqen, N.W. Yunnan, China].

**Distribution:** only found on the high mountains in the N.W. corner of Yunnan in Deqen; also found in E. Tibet.

### Tribe Sericinini Chapman, 1895

Sericinini Chapman, 1895; Ent. Rec. 6 (7): 151; TG: *Sericinus* Westwood, 1851.

Zerynthiini Grote, 1898; Natural Science, 12 (72): 94; TG: *Zerynthia* Ochsenheimer, 1816.

### Genus *Bhutanitis* Atkinson, 1873

*Bhutanitis* Atkinson, 1873; Proc. Zool. Soc. Lond., 1873 (2): 570, pl. 50; TS: *Bhutanitis lidderdalii* Atkinson, 1873.

*Armandia* Blanchard, 1871; C. R. Hebd. Séanc. Acad. Sci., 72 (25): 809, nota 3 [JH of *Armandia* de Filippi, 1862 (Opheliidae)]; TS: *Armandia thaidina* Blanchard, 1871.

*Yunnanopapilio* Hiura, 1980; Bull. Osaka Mus. nat. Hist., 33: 71, 80; TS: *Armandia mansfieldi* Riley, 1939.

*Sinonitis* Lee, 1986; Yadoriga, 126: 21. [NN]

*Yunnanitis* Lee, 1986; Yadoriga, 126: 21. [NN]

*Bhutanitanitis* Li, 1987; J. Southw. Agric. Univ., 9 (4): 390. [ISS]

*Bhutanitanitis* Li, 1994; J. Southw. Agric. Univ., 16 (2): 102. [ISS]

### 8. *Bhutanitanitis lidderdalii* Atkinson, 1873

*Bhutanitanitis lidderdalii* Atkinson, 1873; Proc. Zool. Soc. Lond., 1873 (2): 570, pl. 50; TL: 'near Buxa in the Bhutan Himalayas'.

*Armandia lidderdalei* Fruhstorfer, 1909; Gross-Schmett. Erde, 9: 109. [ISS]

*Armandia lidderdahli* Bryk, 1912; Jb. Nass. Ver. nat., 65: 5. [ISS]

*Bhutanitanitis lidderdalii* Li, 1987; J. Southw. Agric. Univ., 9 (4): 390. [ISS]

*Bhutanitanitis lidderdalii* Li, 1994; J. Southw. Agric. Univ., 16 (2): 105. [ISS]

### 8a. *Bhutanitanitis lidderdalii spinosa* (Stichel, 1907)

*Armandia lidderdalii spinosa* Stichel, 1907; Gen. Ins., 59: 17, pl. 2, f. 11; TL: 'West-China: Szetschwan' [probably from the juncture between W. Sichuan and N.W. Yunnan].

*Armandia lidderdalii ochracea* Tytler, 1939; J. Bomb. nat. Hist. Soc., 41: 240; TL: 'Putao and Sadon, E.-E. Burma'.

*Bhutanitanitis lidderdalii spinosa* Li, 1987; J. Southw. Agric. Univ., 9 (4): 390. [ISS]

*Bhutanitanitis lidderdalii yingjiangi* Li, 1987; J. Southw. Agric. Univ., 9 (4): 390, f. 1–2; TL: 'Xima, Yingjiang, W. Yunnan, China'.

*Bhutanitanitis lidderdalii yingjiang* Li, 1987; J. Southw. Agric. Univ., 9 (4): 391. [IOS]

*Bhutanitanitis lidderdalii spinosa* Li, 1987; J. Southw. Agric. Univ., 9 (4): 391. [ISS]

*Bhutanitanitis jiyinae* Hou, 1992; abstract #71, Proc. XIX Int. Cong. ent.: 47; TL: 'Hengduan Mountains, Southwest China'. [NN]

*Bhutanitanitis jiyinae zhongdianensis* Hou, 1992; abstract #71, Proc. XIX Int. Cong. ent.: 47; TL: 'Hengduan Mountains, Southwest China'. [NN]

*Bhutanitanitis lidderdalii yingjianginensis* Li, 1994; J. Southw. Agric. Univ., 16 (2): 102. [ISS]

*Bhutanitanitis lidderdalii yigjianginensis* Li, 1994; J. Southw. Agric. Univ., 16 (2): 102. [ISS]

*Bhutanitanitis lidderdalii ailaonensis* Li, 1994; J. Southw. Agric. Univ., 16 (2): 102, f. 9–10; TL: 'Xujia Ba, Jingdong, Yunnan, China'.

**Distribution:** found in mountains to the west of the Yuanjiang-Red River valley above 2,400 m; also found in N.E. Myanmar.

### 9. *Bhutanitanitis thaidina* (Blanchard, 1871)

*Armandia thaidina* Blanchard, 1871; C. R. Hebd. Séanc. Acad. Sci., 72 (25): 809, nota 3; TL: 'Mou-pin' [Baoping, W. Sichuan, China].

### 9a. *Bhutanitanitis thaidina hoenei* Bryk, 1938

*Bhutanitanitis thaidina hoenei* Bryk, 1938; Parnassiana, 5 (7/8): 50–51, f. 1; TL: 'Likiang, Prov. Nord-Yunnan' [Lijiang, N. Yunnan, China].

*Bhutanitanitis thaidina dongchuanensis* Lee, 1985; Entomotaxonomia, 7: 191, 195, f. 3–4; TL: 'Luoxue, Dongchuan, N.E. Yunnan, China'.

*Bhutanitanitis thaidina dongchuanensis* Morita, 1992; Apollo, 1: 1. [ISS]

*Bhutanitanitis thaidina dongchanensis* Hou, 1992; abstract #71, Proc. XIX Int. Cong. ent.: 47; [ISS]

*Bhutanitanitis thaidina trimaculatus* Hou, 1992; abstract #71, Proc. XIX Int. Cong. ent.: 47; TL: 'Hengduan Mountains, Southwest China'. [NN]

*Bhutanitanitis yulongensis* Chou, 1992; Entomotaxonomia, 14: 50, f. 4, 8, pl. f. 5; TL: 'Yulong Mountain, Lijiang, N.W. Yunnan, China'.

*Bhutanitanitis thaidina chongjiangensis* Li, 1994; J. Southw. Agric. Univ., 16: 102, f. 7–8; TL: 'Chongjiang River Valley, Zhongdian, N.W. Yunnan, China'.

*Sinonitis thaidina dongchuanensis* Lee, 1995; Yunnan Butterflies: 57. [ISS]

**Distribution:** found in the montane areas in N.W., C., and N.E. Yunnan along the upper Yangtze River valley.

## 10. *Bhutanitis mansfieldi* (Riley, 1939)

*Armandia mansfieldi* Riley, 1939; Entomologist, 72: 207, pl. 4; TL: 'some part of Yunnan' [most likely Lijiang, N.W. Yunnan, China].

### 10a. *Bhutanitis mansfieldi mansfieldi* (Riley, 1939)

*Bhutanitis mansfieldi dahuoshanensis* Hou, 1992: abstract #71, Proc. XIX Int. Cong. ent.: 47; TL: 'Hengduan Mountains, Southwest China'. [NN]

**Distribution:** currently only known from Lijiang, N.W. Yunnan; more surveys are needed to determine its range.

## Subfamily Papilioninae Latreille, [1802]

Papilionides Latreille, [1802]; Hist. nat. Crustac. Ins., 3: 387; TG: *Papilio* Linnaeus, 1758.

Equitidae Kirby, 1896; Handb. Lep. Butt., 2: 234; TG: *Papilio* Linnaeus, 1758.

## Tribe Leptocircini Kirby, 1896

Leptocircinae Kirby, 1896; Handb. Lep. Butt., 2: 307; TG: *Leptocircus* Swainson, [1833].

Lampropterinae Bryk, 1929; in Strand, Lep. Cat. Pars 35, Papilionidae I: 4; TG: *Lamproptera* Gray, 1832.

Graphiini Talbot, 1939; Fauna Br. India Butts., 1: 199; TG: *Graphium* Scopoli, 1777.

Cosmodesmidi Verity, 1947; Farfalle Diurne Ital., 3: 12; TG: *Cosmodesmus* Haase, 1891.

## Genus *Lamproptera* G. Gray, 1832

*Lamproptera* G. Gray, 1832; in Griffith & Pidgeon, Cuvier's Anim. Kingdom, 15 (34) (Ins. 2): pl. 102, f. 4; TS: *Papilio curius* Fabricius, 1787.

*Leptocircus* Swainson, [1833]; Zool. Illustr., (2) 3 (23): pl. 106; TS: *Papilio curius* Fabricius, 1787. [JOS]

## 11. *Lamproptera curius* (Fabricius, 1787)

*Papilio curius* Fabricius, 1787; Mantissa Insectorum, 2: 9, No. 71; TL: 'Siam' [Thailand].

*Lamproptera curia* Chou, 1994; Monographia Rhopalocerorum Sinensium: 55, 162. [UE]

### 11a. *Lamproptera curius hsinningae* Hu, Zhang & Cotton ssp. nov. (Figure 4, A–B)

**Description:** ♂. Forewing length: 20–23 mm. Forewing upperside: basal half, costa, and termen black, median white band accompanied by transparent band with black veins running through, median black band broad, constant in width, and never narrows towards tornus, distal half transparent with black veins running through. Hindwing upperside: black with white median band, cilia, and tail tip, tornal area scattered with white scales, scent scales cream white. Hindwing underside: similar to upperside, base densely peppered with greyish white scales; basal one third greyish white, followed by three transverse greyish white bands in tornal area; median white band and other markings as upperside. ♀. Forewing length: 22–24 mm. Forewing broader, ground colour dark brown; median band greyish, not pure white and broader than the male; underside greyish markings in both wings broader but duller than those of the male.

**Differential diagnosis:** Larger than the commonly found ssp. *walkeri* in S. and S.E. Yunnan, forewing length: ♂ 20–23 mm. Forewing narrower, the median black band broader, constant in width, and never narrows towards tornus; median white band on both wings equal to the following described subspecies, but broader than that in ssp. *walkeri*.

**Type material: HOLOTYPE:** ♂, Ayabi, Fugong, Nujiang Prefecture, 2017-V-23, P. Sukkit leg. [KIZ].

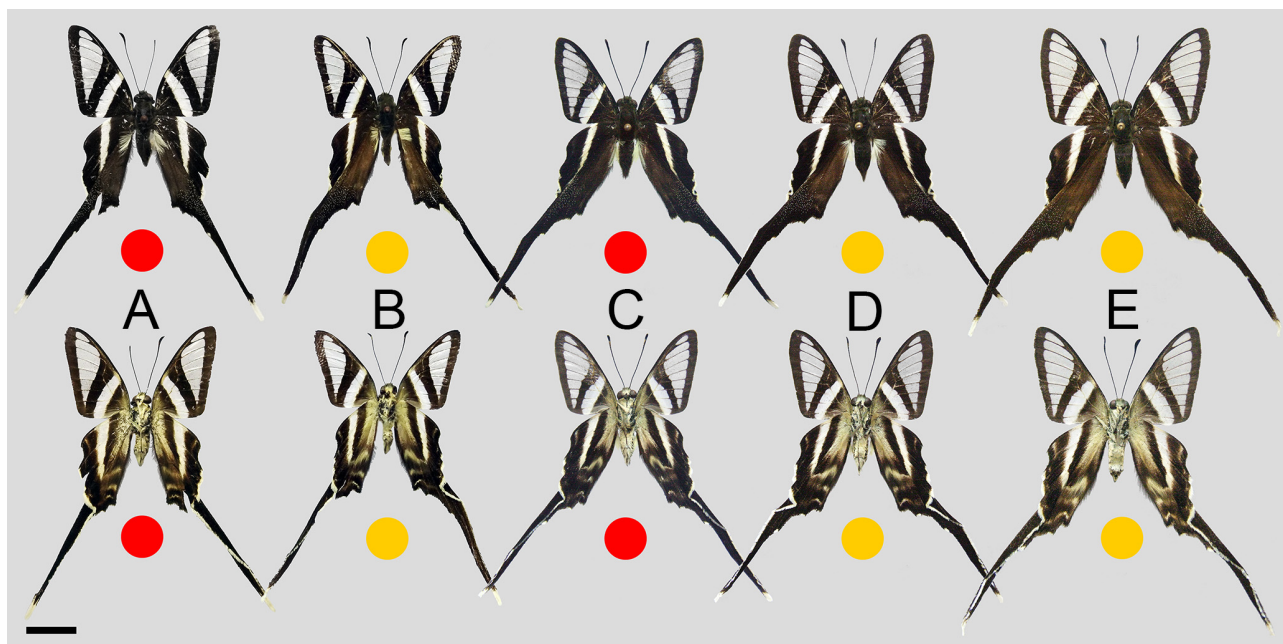
**PARATYPES:** CHINA: 2♂♂, the same collecting data as the holotype; 1♂, Tongbiguan, Yingjiang, Dehong Prefecture, 2016-X-22, W. Z. Yang leg. [SJH]; 1♂, Dulongjiang, Nujiang Prefecture, 2012-IX-17, Lu Ji leg. [AMC]; 1♀, Fugong, Nujiang Prefecture, 2006-VII-17, P. Sukkit leg. [AMC]; 2♂♂, same locality, 2012-VI-10–11, P. Sukkit leg. [AMC]; 1♀, same locality, 2012-VII-10, P. Sukkit leg. [AMC]; 1♂, same locality, 2012-VII-13, P. Sukkit leg. [AMC]; 2♂♂, same locality, 2017-V-23–25, P. Sukkit leg. [AMC]; 1♂, same locality, 2017-VI-7, P. Sukkit leg. [AMC]; 1♂, same locality, 2017-VI, P. Sukkit leg. [AMC]; MYANMAR: 2♂♂, between Pangmandim & Gawai,

Mayhka River, N. Kachin State, 1996-V-31, P. Sukkit leg. [AMC]; 2♂♂, same locality, 1996-VIII-26, P. Sukkit leg. [AMC]; 2♂♂, same locality, 1996-IX-13, P. Sukkit leg. [AMC]; 2♂♂, Kushin, N.E. Kachin State, 1998-VIII-5–16, P. Sukkit leg. [AMC]; 1♂, Hkasi, Tarung Hka River, N. Sagaing State, 2006-VI-8, P. Sukkit leg. [AMC]; 2♂♂, same locality, 2007-VII-19–27, P. Sukkit leg. [AMC]; 2♂♂, Chudu Razi Hills, N.E. Kachin State, 2011-V-26–28, P. Sukkit leg. [AMC]; 2♂♂, same locality, 2011-VI-23–25, P. Sukkit leg. [AMC]; 7♂♂, same locality, 2011-VIII-13–24, P. Sukkit leg. [AMC]; 1♂, same locality, 2012-V, P. Sukkit leg. [AMC]; INDIA: 1♂, BMNH(E) #1035009/L. curius ♂ Khasi Hills 03/R.E. Turner Coll. Brit. Mus. 1917-136 [BMNH]; 1♂, 19-252/ L. curius ♂ Khasi Hills 03/R.E. Turner Coll. Brit. Mus. 1917-136/Photographed by H. Gaonkar Butterflies of India Plates [BMNH]; 1♂, BMNH(E) #1036554/Assam Aug. (Coll. Hannington). [BMNH]; 1♂, Pynursla, Meghalaya, 1943-X-6, R.E. Parsons leg. [AMC]; 3♂♂, Khasia Hills, Meghalaya, 1968, S.K. Sircar leg. [AMC].

**Holotype** housed in the collection of the Kunming Institute of Zoology.

**Distribution:** Found from the Dulong-Irrawaddy and Nujiang-Salween watersheds of W. Yunnan in China; Kachin and Sagaing States of N. Myanmar; and N.E. India.

**Etymology:** The subspecies is named after the first author's daughter, Hsin-Ning Hu. The subspecies name is a feminine noun in the genitive case.



**FIGURE 4.** Types of two new subspecies of *Lamproptera curius*; upperside on the first row, underside on the second row; A–B: *L. curius hsinningae* Hu & Cotton **ssp. nov.**, A: holotype, ♂, B: paratype, ♂; C–E: *L. curius yangtzeanus* Hu & Cotton **ssp. nov.**, C: holotype, ♂, D: paratype, ♂, E: paratype, ♀; scale bar = 10 mm.

#### 11b. *Lamproptera curius yangtzeanus* Hu & Cotton **ssp. nov.** (Figure 4, C–E)

**Description:** ♂. Forewing length: 21–22 mm. Forewing upperside: basal half, costa, and termen black; median white band accompanied by transparent band with black veins running through; median black band slightly narrows towards tornus but never broken; distal half transparent with black veins running through. Hindwing upperside: black with white median band, cilia, and tail tip, tornal area scattered with white scales, scent scales cream white. Hindwing underside: similar to upperside, base densely peppered with greyish white scales; basal one third greyish white, followed by three transverse greyish white bands in tornal area; median white band and other markings as upperside. ♀. Forewing length: 24–25 mm. Forewing broader, ground colour black with brownish hue; underside greyish markings in both wings larger and clearer than those in male.

**Differential diagnosis:** Larger than *ssp. walkeri* in size, forewing length: ♂ 21–22 mm, ♀ 24–25 mm. Forewing median black band slightly narrows towards tornus, unlike *hsinningae* *ssp. nov.*, but never broken as in *ssp. walkeri*; median white band on both wings equal to that of *ssp. hsinningae*, but broader than that in *ssp. walkeri*.

**Type material:** **HOLOTYPE:** ♂, Forest Park (1,460 m), Dongchuan, Kunming, 26.1031°N, 103.2045°E, 2013-VIII-4, X. Zhang leg. [SJH]. **PARATYPES:** 1♂, the same collecting data as the holotype; 5♂♂, 1♀, the same

locality as the holotype, 2013-IX-8, S. J. Hu & X. Zhang *leg.* [SJH]; 1♂, the same locality as the holotype, 2013-VIII-3, S. J. Hu *leg.* [AMC]; 2♂♂, the same locality as the holotype, 2013-IX-8, S. J. Hu *leg.* [AMC]; 1♂, the same locality as the holotype, 2013-IX-14, S. J. Hu *leg.* [AMC]; 1♂, the same locality as the holotype, 2013-IX-15, S. J. Hu *leg.* [AMC].

**Holotype** currently housed in the Shao-Ji Hu collection.

**Distribution:** Currently only found from the Yangtze watershed of N.E. Yunnan and Sichuan, China. It flies with *L. paracurius* Hu, Zhang & Cotton, 2014 at the type locality.

**Etymology:** The subspecies name is named after the Yangtze River, which the stream near the type locality eventually runs into. The subspecies name is a masculine adjective.

**Discussion:** Subspecies *hsinningae* and *yangtzeanus* are very similar in appearance but genetically distinct, forming separate clades within the species mtDNA (*cox1* barcodes) tree not directly related to each other.

### 11c. *Lamproptera curius walkeri* (Moore, 1902)

*Leptocircus walkeri* Moore, 1902; *Lepid. Ind.*, 5: 137; TL: 'Hong-Kong'.

*Leptocircus curius magistralis* Fruhstorfer, 1909; *Soc. ent.*, 24 (9): 68; TL: 'China, Yunnan, Mongtse und Manhao' [Mengzi and Manhao, S. Yunnan, China].

**Distribution:** widely distributed across the remaining part of Yunnan, mainly found in the river valleys such as the Lancang-Mekong, Yuanjiang-Red, and Nanpan-Peral rivers; also found in S. China, N. Vietnam and N. Laos.

### 12. *Lamproptera paracurius* Hu, Zhang & Cotton, 2014

*Lamproptera paracurius* Hu, Zhang & Cotton, 2014; *Zootaxa*, 3786: 472, f. 1–2; TL: 'Dongchuan, N. E. Yunnan, China'.

**Distribution:** found in the river valley and adjacent streams running into Jinsha (upper Yangtze) River between Hutiaoxia and Shuifu/Yibin of Yunnan and Sichuan.

### 13. *Lamproptera meges* (Zincken, 1831)

*Papilio meges* Zincken, 1831; *Nova Acta phys.-med. Acad. Caesar. Leop. Carol.*, 15 (1): 161, pl. 15, f. 8; TL: 'Java' [Indonesia].

### 13a. *Lamproptera meges indistincta* (Tytler, 1912)

*Leptocircus meges indistincta* Tytler, 1912; *J. Bomb. nat. Hist. Soc.*, 21 (2): 588; TL: 'Gaspani, Naga Hills' [N. E. India].

*Lamproptera indistincta amplifascia* Tytler, 1939; *J. Bomb. nat. Hist. Soc.*, 41 (2): 239; TL: 'Putao, Hthawgaw, and Sadon, N. E. Burma'.

**Distribution:** commonly found in river valleys west of Ailao Shan, such as Lancang-Mekong, Nujiang-Salween, and Dulong-Irrawaddy rivers; also found in N.E. India and N. Myanmar.

### 13b. *Lamproptera meges pallidus* (Fruhstorfer, 1909)

*Leptocircus meges pallidus* Fruhstorfer, 1909; *Soc. ent.*, 24 (9): 68; TL: 'Tonkin' [N. Vietnam].

**Distribution:** found in valleys of Yuanjiang-Red and Nanpan-Pearl rivers in S. and S.E. Yunnan; also found in N. Vietnam.

### Genus *Iphiclides* Hübner, [1819]

*Iphiclides* Hübner, [1819]; *Verz. Bekannt. Schmett.*, (6): 82; TS: *Papilio podalirius* Linnaeus, 1758.

*Podalirius* Swainson, [1833]; *Zool. Illustr.* (2) 3 (23): pl. 105; TS: *Papilio podalirius* Linnaeus, 1758. [JOS]  
*Iphidicles* Dyar, [1903]; *Bull. U. S. natnl Mus.*, 52: 2. [ISS].

### 14. *Iphiclides podalirinus* (Oberthür, 1890)

*Papilio podalirinus* Oberthür, 1890; *Ét. Ent.*, 13: 37, pl. 9, f. 99; TL: 'Tsé-Kou' [Yanmen, N. Yunnan, China].

**Distribution:** only found in the upper Lancang-Mekong River valley in Deqen; also found in N.W. Sichuan and E. Tibet.



## Genus *Graphium* Scopoli, 1777

- Graphium* Scopoli, 1777; Intr. Hist. nat.: 433; TS: *Papilio sarpedon* Linnaeus, 1758.  
*Zetides* Hübner, [1819]; Verz. Bekannt. Schmett., (6): 85; TS: *Papilio sarpedon* Linnaeus, 1758. [JOS]  
*Chlorisses* Swainson, [1832]; Zool. Illustr. (2) 2 (19): pl. 89; TS: *Papilio sarpedon* Linnaeus, 1758. [JOS]  
*Grapticum* Eversmann, 1851; Ent. Imp. Ross., 5: 67. [ISS]  
*Semicaudati* Koch, 1860; Stett. ent. Ztg., 21 (4/6): 231; TS: *Papilio sarpedon* Linnaeus, 1758. [JOS]  
*Dalchina* Moore, [1881]; Lep. Ceylon, 1 (4): 143; TS: *Papilio sarpedon* Linnaeus, 1758. [JOS]  
*Zethes* Swinhoe, 1885; Proc. Zool. Soc. Lond., 1885 (1): 145. [ISS]  
*Delchina* Swinhoe, 1885; Proc. Zool. Soc. Lond., 1885 (1): 146. [ISS]  
*Dalchinia* Hampson, 1889; J. Asiat. Soc. Bengal (2), 57 (4): 364. [ISS]  
*Delchinia* Talbot, 1939; Fauna Br. India Butts. (Ed. 2), 1: 200, 593. [ISS]  
*Semicudati* Hemming, 1967; Bull. Br. Mus. nat. Hist. (Ent.) Suppl., 9: 408. [ISS]  
*Zetes* Niculescu, 1989; Bull. Cercle Lepid. Belg., 18 (1/2): 16. [ISS]

## Subgenus *Pazala* Moore, 1888

*Pazala* Moore, 1888; in Hewitson & Moore, Descr. New Ind. Lep. Coll. Atkinson, 3: 283; TS: *Papilio glycerion* G. Gray, 1831.

### 15. *Graphium mandarinus* (Oberthür, 1879)

[*Papilio*] *glycerion mandarinus* Oberthür, 1879; Ét. Ent., 4: 115; TL: ‘Moupin’ [Baoping, W. Sichuan, China].  
*Pazala mandarina* Chou, 1994; Monographia Rhopalocerorum Sinensium: 55, 176. [UE]

### 15a. *Graphium mandarinus stilwelli* Cotton & Hu, 2018

*Graphium (Pazala) mandarinus stilwelli* Cotton & Hu, 2018; in Hu *et al.*, Zootaxa, 4441 (3): 434; TL: ‘Tacheng, Weixi, W. Yunnan, China’.

*Papilio glycerion mandarinus* Oberth. f. indiv. ♂ *albarea* Rousseau-Decelle, 1947; Bull. Soc. ent. Fr., 51 (9): 132; TL: ‘Ginfu, Etats Schans’ [Shan State, Myanmar]. [IFS]

**Distribution:** found in river valleys in C. to W. Yunnan, e.g., the Lancang-Mekong, Nujiang-Salween, and Dulong-Irrawaddy rivers; also found in Kachin State of Myanmar.

### 16. *Graphium confucius* Hu, Duan & Cotton, 2018 stat. rev.

*Graphium (Pazala) confucius* Hu, Duan & Cotton, 2018; in Hu *et al.*, Zootaxa, 4441 (3): 426; TL: ‘Xichong, Kunming, C. Yunnan, China’.

**Distribution:** commonly found in most parts of Yunnan above 1,800 m; widely distributed in C. China; also found in N. Vietnam.

**Note:** Huang (2023) placed *Graphium confucius* as a subspecies of *G. mandarinus* based on variability of genitalia characters and specimens that he regarded as hybrids from W. Sichuan, where both taxa are sympatric. However, *G. mandarinus* is univoltine whereas *G. confucius* has three generations per year. The supposed hybrids are actually spring generation *G. confucius* which are identical to overwintering offspring obtained from the early stages of Kunming *G. confucius* reared by Zhang *et al.* (2018). As stated by Hu *et al.* (2018) the male and female genitalia of these species are variable, but they can be distinguished on consistent wing shape and pattern characters, which correlate with differences in COI sequences between the two taxa. *Graphium confucius* **stat. rev.** is here confirmed as a separate species to *G. mandarinus*.

### 17. *Graphium eurous* (Leech, 1893)

*Papilio eurous* Leech, 1893; Butts. China Japan Corea, (4): 521; TL: ‘Chang-yang, Central China, and ...Moupin’ [Changyang, Hubei, and Baoping, Sichuan, China].

*Pazala euroa* Chou, 1994; Monographia Rhopalocerorum Sinensium: 55, 174. [UE]

**17a. *Graphium eurous panopaea* (Nicéville, 1900)**

*Papilio panopaea* Nicéville, 1900; J. Bomb. nat. Hist. Soc., 13 (1): 172, pl. EE, f. 20; TL: ‘Tse Kou, Western China’ [Yanmen, N.W. Yunnan, China].

**Distribution:** found in upper Lancang-Mekong River valleys in N.W. Yunnan.

**17b. *Graphium eurous sikkimica* (Heron, 1899)**

*Papilio sikkimica* Heron, 1899; Ann. Mag. nat. Hist., (7) 3 (13): 120; TL: ‘Sikkim’.

*Papilio glycerion* Rothschild, 1895 (*nec Papilio glycerion* G. Gray, 1831); Novit. zool., 2: 407. [MisID]

*Pazala sikkima* (Moore, 1903); Lepid. Ind., 6: 35. [ISS]

*Papilio sikhimica* (Bingham, 1907); Fauna Br. India Butts., 2: 96. [ISS]

**Distribution:** confined to the Dulong-Irrawaddy River valley in N.W. Yunnan; also found in Nepal, N.E. India and N. Myanmar.

**18. *Graphium mullah* (Alphéraky, 1897)**

*Papilio alebion* var. *mullah* Alphéraky, 1897; Mém. Lépid., 9: 84; TL: ‘Sé-Tchouen (Ja-djòou, Lu-tine)’ [Ya’an and Luding, W. Sichuan, China].

**18a. *Graphium mullah mullah* (Alphéraky, 1897)**

*Papilio tamerlanus* var. *timur* Ney, 1911; Ent. Z., 24 (46): 252; TL: ‘Ta-tsien-lu’ [Kangding, W. Sichuan, China].

*P[apilio] tamerlanus* v. *timor* Draeseke, 1923; Dt. Ent. Z. Iris, 37: 59. [ISS]

**Distribution:** confined to the N.E. corner of Yunnan in the valleys connecting the Yangtze River; widely distributed in W., C. to E. China.

**19. *Graphium parus* (Nicéville, 1900)**

*Papilio parus* Nicéville, 1900, J. Bomb. nat. Hist. Soc., 13 (1): 172, pl. EE, f. 21; TL: ‘Tse Kou, Western China’ [Yanmen, N. Yunnan, China].

*Cosmodesmus tamerlanus incertus* O. Bang-Haas, 1927, Horae Macrolepid., 1: 1, pl. 5, f. 3; TL: ‘China mer. occ.: Szetschwan, Tatsienlu, Tsekou, Siaolu’ [Kangding, Yanmen, and Washan, Sichuan, S. W. China].

*Cosmodesmus tamerlanus taliensis* O. Bang-Haas, 1927, Horae Macrolepid., 1: 2, pl. 5, f. 4; TL: ‘China mer. occ.: Jünnan, Tali’ [Dali, Yunnan, S. W. China].

*Pazala incerta* Chou, 1994; Monographia Rhopalocerorum Sinensium: 55, 176. [UE]

**Distribution:** found in montane areas above 1,500 m in W. and N.W. Yunnan, some populations can reach subalpine level; also found in Sichuan and Kachin State in Myanmar.

**Subgenus *Pathysa* Reakirt, [1865]**

*Pathysa* Reakirt, [1865]; Proc. ent. Soc. Philad., 3 (3): 503; TS: *Papilio antiphates* Cramer, 1775.

*Paranticopsis* Wood-Mason & Nicéville, [1887]; J. Asiat. Soc. Bengal (2), 55 (4): 376; TS: *Papilio macareus* Godart, 1819.

*Deoris* Moore, 1903; Lepid. Ind., 6 (62): 31; TS: *Papilio agetes* Westwood, 1843.

**20. *Graphium nomius* (Esper, 1799)**

*Papilio nomius* Esper, 1799; Ausl. Schmett.: 210, pl. 52, f. 3; TL: ‘vermuthlich Südlich Amerika’ [probably South America, loc. err. = S. India].

**20a. *Graphium nomius swinhoei* (Moore, 1878)**

*Papilio swinhoei* Moore, 1878; Proc. Zool. Soc. Lond., 1878 (3): 697; TL: ‘Hainan’.

*Papilio nomius* f. temp. *pernomius* Fruhstorfer, 1903; Berl. Ent. Z., 47 (3–4): 202; TL: ‘Meklong Fluss, Siames, birmes Grenze ...Shan State’ [Mekong River, the border between Thailand and Shan State of Myanmar]. [IFS]

*Pathysa nomius hainana* Chou, 1994; Monographia Rhopalocerorum Sinensium: 173, 751, f. 6; TL: ‘Hainan’.

**Distribution:** mostly found in lowlands and river valleys in S. and W. Yunnan, and a few localities in C. Yunnan; distributed in Hainan, Myanmar and Indochina.

### 21. *Graphium antiphates* (Cramer, 1775)

*Papilio antiphates* Cramer, 1775; Uitl. Kapellen, 1 (6): 113, pl. 72, f. A–B; TL: ‘China’ [Guangdong, S. China].

#### 21a. *Graphium antiphates nebulosus* (Butler, 1881)

*Papilio nebulosus* Butler, 1881; Ann. Mag. nat. Hist., (5) 7 (37): 33, pl. 4, f. 3; TL: ‘Darjiling’ [Darjeeling, N.E. India].

*Papilio antiphates continentalis* Eimer, 1889; Artb. Verw. Schmett., 1: 137, pl. 2, f. 1, 3; TL: ‘Sikkim’.

**Distribution:** found in lowlands and river valleys in W., S., and S.E. Yunnan; widely distributed from N.E. India to Indochina.

**Note:** The name *pompilius* (Fabricius, 1787), previously used for the populations in N.E. India, S. Yunnan, Hainan, and Indochina, was proven a synonym of the nominotypical *antiphates* by Cotton *et al.* (2019), and *nebulosus* (Butler, 1881) was adopted as the valid subspecies name for populations of *Graphium antiphates* previously treated as belonging to subspecies *pompilius*. However, we treat the Hainan population, described as *Papilio antiphates linga* Fruhstorfer, 1909, under the nominate subspecies (**syn. nov.**) rather than subspecies *nebulosus*.

### 22. *Graphium agetes* (Westwood, 1843)

*Papilio agetes* Westwood, 1843; Arcana ent., 2: 23, pl. 55, f. 1–2; TL: ‘East Indies (Sylhet?)’ [southern Khasia Hills, India; north of Sylhet, Bangladesh].

#### 22a. *Graphium agetes agetes* (Westwood, 1843)

*Papilio agetes tenuilineatas* Fruhstorfer, 1901; Soc. ent., 16 (12): 89; TL: ‘Xom-Gom, Süd-Annam’ [near Phan Rang, Ninh Thuan Province, S. Vietnam].

*P. [apilio] agetes tenuilineatus* Fruhstorfer, 1903; Berl. ent. Z., 47 (3/4): 199. [ISS]

**Distribution:** found in lowlands and river valleys in W., S., and S.E. Yunnan; also found in Indochina and N.E. India.

**Note:** Chou & Li (1994) described *Pathysa agetes chinensis* from Guangdong and Daweishan, S.E. Yunnan. Examination of the specimen from Daweishan deposited in the Kunming Institute of Zoology, Chinese Academy of Sciences, shows that it belongs to ssp. *agetes*, while the specimen from Guangdong illustrated in Chou (1994) is applicable to *Graphium agetes hoenei* (Mell, 1923). The original description of the new subspecies clearly indicated the characters of the specimen from Guangdong, which is illustrated as ‘*Pathysa agetes chinensis* Chou et Li. ssp. nov.’ in Fig. 8 on page 752 and with a red dot next to the photo of the same specimen, bottom left on page 173. However, the authors designated the Daweishan specimen (illustrated with a yellow dot on page 173) as holotype in the original description rather than the Guangdong specimen. Since the two specimens belong to different subspecies, we hereby invoke the First Reviser Principle to give priority to the characters stated in the original description over the specimen designated as the holotype. The illustration of the Guangdong specimen in Fig. 8 on page 752 and photograph of the same specimen on page 173 are thus treated as illustrations of the correct holotype of the taxon. The depository of this specimen is unknown. As a result, we hereby synonymise *Pathysa agetes chinensis* Chou and Li, 1994 with *Graphium agetes hoenei* (Mell, 1923) **syn. nov.**, rather than with the nominate subspecies. *Graphium agetes hoenei* does not occur anywhere in Yunnan, but is found in Guangdong and northern Guangxi.

### 23. *Graphium megarus* (Westwood, 1844)

*Papilio megarus* Westwood, 1844; Arcana entomologica, 2 (19): 98, pl. 72, f. 2; TL: Assam.

#### 23a. *Graphium megarus megapenthes* (Fruhstorfer, 1902)

*Papilio megarus megapenthes* Fruhstorfer, 1902; Dt. ent. Z. Iris, 15 (1): 161; TL: “Süd-Annam” [S. Vietnam].

*Papilio similis* Lathy, 1899; Entomologist, 32 (433): 149 [JH of *Papilio similis* Linnaeus, 1758 (Nymphalidae)]; TL: Perak [Malaysia].

*Papilio megarus martinus* Fruhstorfer, 1902; Dt. ent. Z. Iris, 15 (1): 162; TL: Deli, Sumatra [Indonesia].

*Papilio megarus mendicus* Fruhstorfer, 1902; Dt. ent. Z. Iris, 15 (1): 162; TL: “Muok-Lek...Mittel-Siam” [Muak Lek, Saraburi, Thailand].

**Distribution:** confined to the southernmost corner of Mengla; also found in Hainan, Indochina, Malay Peninsula and Sumatra.

#### 24. *Graphium xenocles* (Doubleday, 1842)

*Papilio xenocles* Doubleday, 1842; Zool. Misc., 2: 74; TL: ‘Silhet’ [southern Khasia Hills, India; north of Sylhet, Bangladesh].

#### 24a. *Graphium xenocles kephisos* (Fruhstorfer, 1902)

*Papilio xenocles kephisos* Fruhstorfer, 1902; Soc. ent., 16 (19): 145; TL: ‘Chiem-Hoa...Mittel Tonkin’ [Chiem Hoa, N. Vietnam].

*Papilio xenocles* f. vern. *neronus* Fruhstorfer, 1902; Soc. ent., 17 (10): 74; TL: ‘Haut-Tonkin’ [N. Vietnam]. [IFS]

**Distribution:** widely distributed in W., S. & S.E. Yunnan; also found from lowland W. Sichuan, Chongqing, Guizhou, Guangxi; Myanmar, W. & N. Thailand, N. & C. Laos and N., W. & C. Vietnam.

**Note:** Submarginal lunules on the hindwing upperside reduced or absent, postdiscal streaks often short.

#### 25. *Graphium macareus* (Godart, 1819)

*Papilio macareus* Godart, 1819; Encyc. Méth., 9 (1): 24 (No. 144), 76; TL: ‘l’île de Java’ [Java Island, Indonesia].

#### 25a. *Graphium macareus burmensis* Moonen, 1998

*Graphium macareus burmensis* Moonen, 1984; Papilio Int., 1 (3): 47; TL: ‘Burma’. [replacement for *Papilio gyndes* Jordan, 1909]

*Papilio macareus gyndes* Jordan, 1909; in Seitz, Gross-Schmett. Erde, 9 (37): 104. [JH of *Papilio doson gyndes* Fruhstorfer, 1907 (Papilionidae)]

**Distribution:** confined to the westernmost corner of Yunnan neighbouring with Myanmar; also found in Myanmar and N.W. Thailand.

#### 25b. *Graphium macareus indochinensis* (Fruhstorfer, 1901)

*Papilio macareus indochinensis* Fruhstorfer, 1901; Soc. ent., 16 (14): 106; TL: ‘Birma, Siam, Tonkin, Annam’ [Myanmar, Thailand, N. & S. Vietnam].

*Papilio striatus* Lathy, 1899; Entomologist, 32 (433): 149; TL: ‘Siam’ [Thailand]. [JH of *Papilio striatus* Zincken, 1831 (Papilionidae)]

**Distribution:** widely distributed in S. to S.E. Yunnan; also found in Indochina.

#### 25c. *Graphium macareus vadimi* Cotton & Hu ssp. nov. (Figure 5)

**Description:** ♂. Forewing length: 42 mm. Forewing upperside: ground colour blackish with greyish white markings, five short stripes in discocell, four spots just beyond end of discocell, followed by four arrow-head shape markings each, large stripes in cells 2A to M<sub>3</sub>, with that in cell CuA<sub>2</sub> divided by black streak, subterminal spots in cells CuA<sub>2</sub> to R<sub>3</sub>. Forewing underside: ground colour light brown except for the lower one third beyond discocell being blackish, markings as upperside. Hindwing upperside: ground colour blackish, with basal three quarters filled by greyish white; veins blackish, black streak running through discocell, black termen very broad, with less developed subterminal whitish spots (only faintly indicated in cells CuA<sub>2</sub> and CuA<sub>1</sub>). Hindwing underside: ground colour light brown, markings very similar to upperside, while the subterminal and terminal area strongly irrigated by brownish scales, tornal area blackish with two grey lunules. ♀. Forewing length: 44–46 mm. Both wings broader, hindwing upperside ground colour with brownish hue, markings similar to male.

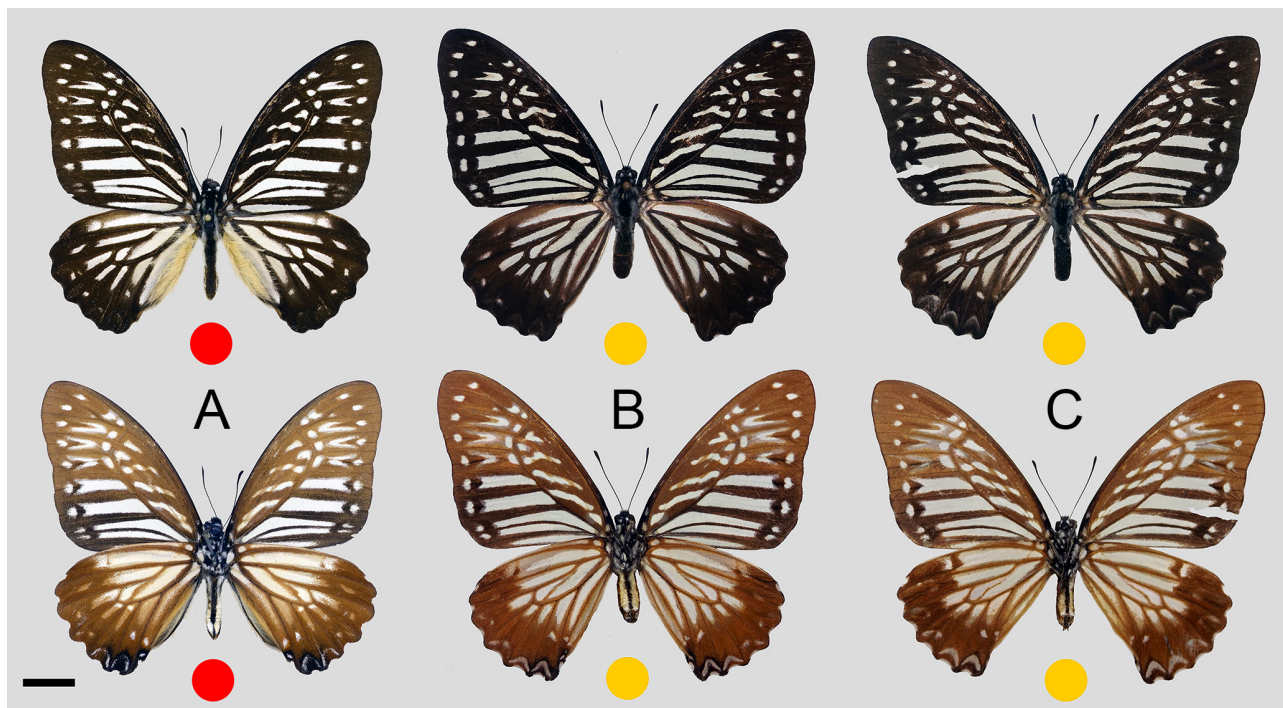
**Differential diagnosis:** Size equal to ssp. *indochinensis*. The distinct difference is the hindwing, darker with a chestnut hue, and with much reduced postdiscal stripes and submarginal markings.

**Type material: HOLOTYPE:** ♂, Diancang Shan (1,400–1,850 m), 14 km S.E. of Yangbi, Dali Prefecture, 2007-VI-3, V. Tshikolovets leg. [AMC]. **PARATYPES:** 1♀, Pingpo, Yangbi, Dali Prefecture, 1997-VI, unknown collector [DLU]; 1♀, Pingpo (2,000 m), Yangbi, Dali Prefecture, 1998-VI-11, unknown collector [DLU].

**Holotype** currently housed in the collection of A.M. Cotton.

**Distribution:** currently only known from Yangbi area in Dali Prefecture.

**Etymology:** The subspecies name is dedicated to the discoverer, Vadim Tshikolovets, a lepidopterist and a good friend from Ukraine. The subspecies name is a masculine noun in the genitive case.



**FIGURE 5.** Types of *Graphium macareus vadimi* Cotton & Hu **ssp. nov.**; upperside on the first row, underside on the second row; A: holotype, ♂, B and C: paratypes, ♀; scale bar = 10 mm.

### Subgenus *Graphium* Scopoli, 1777

*Graphium* Scopoli, 1777; Introd. Hist. nat.: 433; TS: *Papilio sarpedon* Linnaeus, 1758.

*Idaides* Hübner, [1819]; Verz. Bekannt. Schmett., (6): 85; TS: *Papilio codrus* Cramer, 1777.

*Klinzigia* Niculescu, 1977; Bull. Soc. ent. Mulhouse, 1977 (10/12): 51; TS: *Papilio weiskei* Ribbe, 1900. [JH of *Klinzigia* Lehrer, 1970 (Diptera: Calliphoridae)]

*Klinzigiana* Niculescu, 1989; Bull. Cercle Lepid. Belg., 18 (1/2): 12 [replacement for *Klinzigia* Niculescu, 1977].

### 26. *Graphium leechi* (Rothschild, 1895)

*Papilio leechi* Rothschild, 1895; Novit. zool., 2 (3): 437; TL: ‘Chang-yang, China’ [Changyang, Hubei, China].

*Papilio leechi* gen. vernalis *aprilis* O. Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Szetschwan mer. occ., Bango’. [IFS]

*Graphium leechi yunnana* Lee, 1985; Entomotaxonomia, 7 (3): 191, 195, f. 1–2; TL: ‘Yanjin’ [N.E. Yunnan, China].

*Graphium leechi* Funahashi, 2003; Wallace, 8: 15. [ISS]

**Distribution:** only found in the lowlands in the N.E. corner of Yunnan; widely distributed in S., C. to E. China and N. Vietnam.

### 27. *Graphium chironides* (Honrath, 1884)

*Papilio chiron* Wall. var. *chironides* Honrath, 1884; Berl. ent. Z., 28 (2): 397, pl. 10, f. 4; TL: ‘Darjeeling, Sikkim etc.’ [N. India].

### 27a. *Graphium chironides chironides* (Honrath, 1884)

*Papilio chiron* Wallace, 1865; Trans. Linn. Soc. Lond., 25 (1): 66, note; TL: ‘Assam, Sylhet’ [JH of *Papilio chiron* Fabricius, 1775 (Nymphalidae) and *Papilio chiron* Rottemburg, 1775 (Lycaenidae)].

[*Graphium clanis*] *chironicum* Eliot, 1982 [unnecessary replacement name]; Malay. nat. J., 35 (1–2): 180.  
*Arisbe chironides punctatus* Page & Treadaway, 2014; Stutt. Beitr. Naturk. A (NS), 7: 279; TL: ‘Mt. Phupien Kaxieng, Danchung [sic] district, Xekong Prefecture, Laos’. **syn. nov.**

**Distribution:** found in lowlands and river valleys in W., S., N.E., and S.E. Yunnan; widely distributed in S. China, also found from Nepal to Myanmar and Indochina.

**Note:** Page & Treadaway (2014) described *punctatus* and treated it as the valid subspecies from ‘Laos, Thailand, Vietnam. Probably also in Cambodia’, separating these populations from nominate *chironides*. They stated that the range of the nominate subspecies is ‘China (Shanxi, Shaanxi, Sichuan, Yunnan), India (Sikkim, Meghalaya, Assam, Manipur, Nagaland)’. However, *punctatus* is indistinguishable from *chironides*, as the characters stated by Page & Treadaway commonly occur further west, and it is synonymised here. The type locality of *punctatus* is correctly in Dak Cheung, southern Laos, not ‘Danchung’.

## 28. *Graphium eurypylus* (Linnaeus, 1758)

*Papilio eurypylus* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 464; TL: ‘Indiis’ [Ambon, Indonesia].

### 28a. *Graphium eurypylus acheron* (Moore, 1885)

*Zetides acheron* Moore, 1885; Ann. Mag. nat. Hist., (5) 16 (92): 120; TL: ‘N.E. Bengal’.

*Papilio eurypylus acheron* forma pluv. *cheronus* Fruhstorfer, 1903; Berl. ent. Z., 47 (3/4): 204; TL: ‘Siam, Tonkin’ [Thailand, N. Vietnam]. [IFS]

*Papilio eurypylus juba* Fruhstorfer, 1908; Ent. Z., 21 (37): 222; TL: ‘Hainan’.

*Papilio eurypylus cheronus* f. vern. *petina* Jordan, 1909; in Seitz, Gross-Schmett. Erde, 9 (37): 98; TL: ‘Indochina’. [IFS]

**Distribution:** found in lowlands and river valleys in C. and S. Yunnan; also found from N.E. India, Myanmar and Indochina.

## 29. *Graphium albociliatus* (Fruhstorfer, 1901)

*Papilio evemon albociliatus* Fruhstorfer, 1901; Soc. ent., 16 (14): 106; TL: ‘Chiem-Hoa, C. Tonkin’ [Chiem Hoa, N. Vietnam].

*Papilio evemon albociliatis* Fruhstorfer, 1901. [IOS]

**Distribution:** found in lowlands and river valleys in S. Yunnan, also found in N.E. India, Myanmar, Laos & Vietnam.

**Note:** Page & Treadaway (2014) raised this taxon to species status.

## 30. *Graphium doson* (C. Felder & R. Felder, 1864)

*Papilio doson* C. Felder & R. Felder, 1864 (replacement for *Papilio jason* Esper, 1801; nec *Papilio jason* Linnaeus, 1758); Verh. Zool.-Bot. Ges. Wien., 14 (3): 305; TL: ‘not stated’ [Ceylon].

### 30a. *Graphium doson actor* (Fruhstorfer, 1907)

*P.[apilio] jason actor* Fruhstorfer, 1907; Ent. Z., 21 (34): 209; TL: ‘Hainan’.

*Papilio axion* C. Felder & R. Felder, 1864; Verh. Zool.-Bot. Ges. Wien., 14 (3): 305; TL: ‘India sept. (Silhet)’ [Sylhet or Khasia Hills]. [JH of *Papilio axion* Boisduval, 1832 (Papilionidae)].

*P.[apilio] jason axion* form temp. *nivepictus* Fruhstorfer, 1903; Berl. ent. Z., 47 (3/4): 205; TL: ‘Sikkim; Siam; Assam; Five Finger Mts., Hainan’. [IFS]

*P.[apilio] jason evemonides* forma nova *praestabilis* Fruhstorfer, 1907; Ent. Z., 21 (34): 209; TL: ‘Tonkin’ [N. Vietnam]. [IFS]

*P.[apilio] jason nanus* Fruhstorfer, 1909; Ent. Z., 22 (41): 170; TL: ‘Süd-Annam, Xom-Gom’ [near Phan Rang, Ninh Thuan Province, S. Vietnam]. [JH of *Papilio nanus* Herbst, 1804 (Lycaenidae)]

*P.[apilio] jason praestabilis* Fruhstorfer, 1909; Ent. Z., 22 (41): 170; TL: ‘Tonkin ... Hongkong’.

*Arisbe doson axionides* Page & Treadaway, 2014; Stutt. Beitr. Naturk. A (NS), 7: 272. [replacement name for *Papilio axion* C. Felder & R. Felder, 1864]. **syn. nov.**

**Distribution:** found in lowlands and river valleys in C. and S. Yunnan; also found in S. China and N. India to Indochina.

**Note:** Page & Treadaway (2014) replaced the junior homonym *Papilio axion* C. Felder & R. Felder, 1864 with *axionides*, and treated populations from Indochina, except N.W. Thailand under the name *actor*, described from Hainan. They claimed that ssp. *axionides* occurs from India to N.W. Thailand, but *axionides* is indistinguishable from *actor*, which they listed as occurring just east of the range of *axionides* despite there being no barriers to the distribution of this taxon which is common in secondary growth as well as forest. The taxon *axionides* Page & Treadaway, 2014 is synonymised here, thus *Graphium doson actor* (Fruhstorfer, 1907) is the valid name for populations from N. India to S.E. China and Indochina.

### 31. *Graphium agamemnon* (Linnaeus, 1758)

*Papilio agamemnon* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 461; TL: 'Asia' [Guangdong, China].

#### 31a. *Graphium agamemnon agamemnon* (Linnaeus, 1758)

*Papilio aegisthus* Linnaeus, 1763; in Johansson, Cent. Ins. Rarior.: 18; TL: 'China'.

*Papilio dorylas* Sulzer, 1776; Abg. Gesch. Insecten, (1): 142, pl. 13, f. 3; TL: 'China'. [JH of *Papilio dorylas* [Denis & Schiffermüller], 1775 (Lycaenidae)]

*Papilio agamemnon* var. *rufescens* Oberthür, 1879; Ét. Ent., 4: 58; TL: 'Chine' [China].

*Papilio agamemnon* var. *anoura* Oberthür, 1879; Ét. Ent., 4: 58; TL: 'Bornéo, Dodinga'.

**Distribution:** found in W., C., S., and S.E. Yunnan below 1,500 m; widely distributed in S. China, as well as Nepal and N. India to Indochina, Sundaland and the Philippines.

### 32. *Graphium sarpedon* (Linnaeus, 1758)

*Papilio sarpedon* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 461; TL: 'Asia' [Guangdong, China].

#### 32a. *Graphium sarpedon sarpedon* (Linnaeus, 1758)

*Papilio protensor* Gistel, 1857; Vacuna, 2 (2): 602; TL: 'China, Java'.

*Papilio sarpedon* var. *semifasciatus* Honrath, 1888; Ent. Nachr., 14 (11): 161; TL: 'Kiukiang, China' [Jiujiang, Jiangxi, China].

*P.[apilio] sarpedon melas* Fruhstorfer, 1907; Ent. Z., 21 (30): 183; TL: 'Tonkin, Tenasserim' [N. Vietnam and Tanintharyi, Myanmar] partim. [JH of *Papilio melas* Herbst, 1796 (Nymphalidae)]

*Papilio (Graphium) sarpedon corbeti* Toxopeus, 1951; Idea, 8 (3/4): 63; partim. [replacement name for *melas* Fruhstorfer, 1907]

**Distribution:** widely distributed in most parts of Yunnan except for the south and S.W.; also found in W., S. & E. China and N. Vietnam.

#### 32b. *Graphium sarpedon luctatius* (Fruhstorfer, 1907)

*P.[apilio] sarpedon luctatius* Fruhstorfer, 1907; Ent. Z., 21 (30): 183; TL: 'Borneo'

*P.[apilio] sarpedon melas* Fruhstorfer, 1907; Ent. Z., 21 (30): 183; TL: 'Tonkin, Tenasserim' [N. Vietnam and Tanintharyi, Myanmar] partim. [JH of *Papilio melas* Herbst, 1796 (Nymphalidae)]

*Papilio (Graphium) sarpedon corbeti* Toxopeus, 1951; Idea, 8 (3/4): 63; partim. [replacement name for *melas* Fruhstorfer, 1907]

**Distribution:** found in Yunnan from Yingjiang to Xishuangbanna; also found in Myanmar, most of Indochina, Malay Peninsula and Borneo.

### 33. *Graphium septentrionicolus* Page & Treadaway, 2013

*Graphium adonarensis septentrionicolus* Page & Treadaway, 2013; Stutt. Beitr. Naturk. A (NS), 6: 239, f. 19–20; TL: 'Nowgang, Assam, India'.

**Distribution:** confined to the lowlands and river valleys in W., N.W., to S. Yunnan; also found in S. Tibet, as well as N.E. India, N. Myanmar and N. Indochina.

**Note:** Although extremely similar to *G. sarpedon* (Linnaeus, 1758), a recent DNA and morphology-based study (Cotton *et al.* 2022) confirmed its distinct species identity. The most reliable distinguishing characters are male genitalia and hindwing scent scales.

**34. *Graphium cloanthus* (Westwood, 1841)**

*Papilio cloanthus* Westwood, 1841; *Arcana* ent., 1 (3): 42, pl. 11, f. 2; TL: 'partibus septentrionalibus Indiae orientalis' [the northern part of E. India].

**34a. *Graphium cloanthus cloanthus* (Westwood, 1841)**

*P[apilio] cloanthus* f. temp. *cloanthulus* Fruhstorfer, 1902; *Dt. ent. Z. Iris*, 15 (1): 168; TL: 'Sikkim'. [IFS]

**Distribution:** widely distributed in most parts of Yunnan except for the N.E. corner; also found in S. China, Pakistan to Myanmar and N. Indochina.

**34b. *Graphium cloanthus clymenus* (Leech, 1893)**

*Papilio cloanthus* var. *clymenus* Leech, 1893; *Butts. China, Japan, Korea*, (4): 523; TL: 'Chang-yang ... West China' [Changyang, Hubei, China].

*Graphium cloanthus* ssp. *nyghmat* Koçak & Kemal, 2000; *Misc. Pap. Centre ent. Stud.*, (65/66): 11 [unnecessary replacement name].

**Distribution:** confined to the N.E. corner of Yunnan, adjacent to Sichuan; also found in W. to E. China.

**Tribe *Teinopalpini* Grote, 1899**

*Teinopalpidae* Grote, 1899; *Proc. Amer. Phil. Soc.*, 38: 16; TG: *Teinopalpus* Hope, 1843.

**Genus *Teinopalpus* Hope, 1843**

*Teinopalpus* Hope, 1843; *Trans. Linn. Soc. Lond.*, 19 (2): 131; TS: *Teinopalpus imperialis* Hope, 1843.

*Teinoprosopus* C. Felder & R. Felder, 1864; *Verh. Zool.-Bot. Ges. Wien*, 14 (3): 289, 331; TS: *Teinopalpus imperialis* Hope, 1843. [JOS]

**35. *Teinopalpus imperialis* Hope, 1843**

*Teinopalpus imperialis* Hope, 1843; *Trans. Linn. Soc. Lond.*, 19 (2): 131, pl. 11, f. 1–2; TL: 'Indiâ Orientali, Silhet' [southern Khasia Hills, India; north of Sylhet, Bangladesh].

**35a. *Teinopalpus imperialis behludinii* (Pen, 1937)**

*Papilio behludinii* Pen, 1937; *J. W. China Border Res. Soc.*, 8: 157, pl. 1, f. 4; TL: 'Pailuting, 180 li north-west of Chengtu' [Bailuding, Pengzhou, Chengdu, Sichuan, China].

*Teinopalpus imperialis miecoae* Morita, 1997; *Futao*, 25: 13, pl. 3, f. 1–4; TL: 'Northern Kachin State, Myanmar'.

*Teinopalpus imperialis colettei* Collard & Dion, 2007; *Bull. Soc. ent. Mulhouse*, 63 (3): 42, f. 1–3; TL: 'Mt. Nam Kha, District de Gnoi-Ou, Province de Phongsaly, Nord Laos' [loc. err. = Sichuan, China].

[*Teinopalpus imperialis*] *kiyokoae* Collard & Dion, 2007; *Bull. Soc. ent. Mulhouse*, 63 (3): 42. [NN]

**Distribution:** found on mountains in W., S.W., N.W., N.E., and S.E. Yunnan; also found in W. Sichuan and Kachin State, Myanmar.

**36. *Teinopalpus aureus* Mell, 1923**

*Teinopalpus aureus* Mell, 1923; *Dt. ent. Z.*, 1923 (2): 153; TL: 'Norden der Provinz Kuangtung' [N. Guangdong, China].

**36a. *Teinopalpus aureus shinkaii* Morita, 1998**

*Teinopalpus aureus shinkaii* Morita, 1998; *Wallace*, 4 (2): 14, pl. 13, f. 2; TL: 'Mt. Pia Oac & Mt. Tam Dao, N. Vietnam'.

**Distribution:** currently only known from the S.E. border of Yunnan with Vietnam; also found in N. Vietnam and N.E. Laos.



### Tribe Troidini Talbot, 1939

Troidini Talbot, 1939; Fauna Br. India Butts., 1: 61; TG: *Troides* Hübner, [1819].

Troidini Talbot, 1939. [IOS]

Cressidini Ford, 1944; Trans. R. ent. Soc. Lond., 94: 213; TG: *Cressida* Swainson, [1832].

Euryaditi Parsons, 1996; Bull. Kitakyushu Mus. nat. Hist., 15: 85; TG: *Euryades* C. Felder & R. Felder, 1864.

Cressiditi Parsons, 1996; Bull. Kitakyushu Mus. nat. Hist., 15: 85; TG: *Cressida* Swainson, [1832].

Euryadini Möhn, 2002; in Bauer & Frankenbach, Schmett. Erde, Teil 14, Papilionidae, 8: 2; TG: *Euryades* C. Felder & R. Felder, 1864. [Unavailable name, ICZN 13.1.1]

### Genus *Pachliopta* Reakirt, [1865]

*Pachliopta* Reakirt, [1865]; Proc. ent. Soc. Philad., 3 (3): 503; TS: *Papilio diphilus* Esper, 1793.

*Polydorus* Swainson, [1833]; Zool. Illustr. (2) 3 (22): pl. 101; TS: *Papilio polydorus* Linnaeus, 1763. [JH of *Polydorus* Blainville, 1826 (Annelida)]

*Pachlioptera* Scudder, 1875; Proc. Am. Acad. Arts Sci., Boston, 10 (2): 235. [ISS]

*Tros* Kirby, 1896; in Allen, Naturalist's Libr., Lepid. 1, Butts., 2: 305; TS: *Papilio hector* Linnaeus, 1758.

### 37. *Pachliopta aristolochiae* (Fabricius, 1775)

*Papilio aristolochiae* Fabricius, 1775; Syst. ent.: 443, No. 3; TL: 'Indiae orientalis'.

#### 37a. *Pachliopta aristolochiae goniopeltis* (Rothschild, 1908)

*Papilio aristolochiae goniopeltis* Rothschild, 1908; Novit. zool., 15 (1): 167; TL: 'Tenasserim, Burma, Siam northwards to Hong Kong'.

**Distribution:** commonly found in low-altitude tropical areas in W., S.W., and S. Yunnan; also found in Myanmar and Indochina.

#### 37b. *Pachliopta aristolochiae adaeus* (Rothschild, 1908)

*Papilio aristolochiae adaeus* Rothschild, 1908; Novit. zool., 15 (1): 167; TL: 'West, Central and East China'.

**Distribution:** confined to the river valleys of higher altitude subtropical areas in N.W., C., N.E., and S.E. Yunnan; also found in adjacent S.W. and E. Chinese provinces.

### Genus *Troides* Hübner, [1819]

*Troides* Hübner, [1819]; Verz. Bekannt. Schmett., (6): 88; TS: *Papilio helena* Linnaeus, 1758.

*Amphrisius* Swainson, [1833]. Zool. Illustr. (2) 3 (22): pl. 98; TS: *Amphrisius nymphalides* Swainson, [1833].

*Pompeoptera* Rippon, 1889; Icones Ornithopterum, 1: 4; TS: *Papilio pompeus* Cramer, 1775.

*Pompeusptera* Rippon, [1890]; Icones Ornithopterum, 1: pl. A [ISS].

*Ripponia* Haugum & Low, 1975; Entomologist's Rec. J. Var., 87 (4): 111; TS: *Papilio hypolitus* Cramer, 1775.

### 38. *Troides helena* (Linnaeus, 1758)

*Papilio helena* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 461; TL: 'in floribus Arecae Americae' [on American palm flowers, loc. err. = Java].

#### 38a. *Troides helena cerberus* (C. Felder & R. Felder, 1865)

*Papilio cerberus* C. Felder & R. Felder, 1865; Reise öst. Fregatte Novara, 1: 19; TL: 'India septentrionalis: Assam, Bangalia' [Assam, Bengal, N. India].

*Ornithoptera helena euthycrates* Fruhstorfer, 1913; Dt. ent. Z. Iris., 27 (3): 134; TL: 'Tonkin, Than-Moi' [Than Moi, N. Vietnam].

*Troides helena cerberus* ♀f. *chongkiakwangi* Tung, 1982; Tokurana. 4: 7; TL: 'Malay Pen'. [IFS]

**Distribution:** found in the lowlands in S.W., S., to S.E. Yunnan; also found in S. China, N. India to Indochina and the Malay Peninsula.

**39. *Troides aeacus* (C. Felder & R. Felder, 1860)**

*Ornithoptera aeacus* C. Felder & R. Felder, 1860; Wien. ent. Montaschr., 4 (8): 225; TL: ‘not stated’ [presumably India].

**39a. *Troides aeacus aeacus* (C. Felder & R. Felder, 1860)**

*Ornithoptera rhadamanthus* [sic] var. *thomsonii* Bates, 1875; in Thomson, Straits Malacca Indo-China China: 546; TL: ‘Siam’ [loc. err. = Cambodia].

*Ornithoptera aeacus* forma *praecox* Fruhstorfer, 1913; Dt. ent. Z. Iris., 27 (3): 134; TL: ‘Siam, Bangkok ... Muok Lek ... Angkor’.

**Distribution:** found in W., S.W., and S. Yunnan; also found in S. China, N. India to Myanmar and Indochina.

**39b. *Troides aeacus szechwanus* M. Okano & T. Okano, 1983**

*Troides minos szechwanus* M. Okano & T. Okano, 1983; Artes Liberales, 32: 190; TL: ‘Xinxing, Sichuan’.

**Distribution:** found in C. and N.E. Yunnan; also found in Sichuan, Shaanxi, and Gansu.

**Genus *Atrophaneura* Reakirt, [1865]**

*Atrophaneura* Reakirt, [1865]; Proc. ent. Soc. Philad., 3 (3): 446; TS: *Atrophaneura erythrosoma* Reakirt, [1865].

*Pangerana* Moore, 1886; J. Linn. Soc. Lond. (Zool.), 21 (126): 51; TS: *Papilio varuna* White, 1842.

*Karanga* Moore, 1902; Lepid. Ind., 5 (55): 157; TS: *Papilio nox* Swainson, [1822].

*Atrophaneuria* Zin & Leow, 1982; Malay. nat. J., 35: 285. [ISS]

**40. *Atrophaneura aidoneus* (Doubleday, 1845)**

*P.[apilio] aidoneus* Doubleday, 1845, Ann. Mag. nat. Hist., 16 (104): 178; TL: ‘Montibus Himalayis’ [Himalayan Mts.].

[*Papilio*] *Erioleuca* Oberthür, 1879; Ét. Ent., 4: 33, pl. 3, f. 1; TL: ‘Darjeeling’ [N. India].

*Atrophaneura aidonea aidonea* Chou, 1994; Monographia Rhopalocerorum Sinensium: 53, 103. [UE]

*Atrophaneura nox hainanensis* Gu, 1997; in Gu and Chen, Butts. Hainan Island: 36, f. 6; TL: ‘Hainan, China’.

**Distribution:** widespread in W., S.W., C., S., and S.E. Yunnan; also found in N. India, Myanmar and N. Indochina.

**41. *Atrophaneura astorion* (Westwood, 1842)**

*Papilio astorion* Westwood, 1842, Ann. Mag. nat. Hist., 9 (55): 37; TL: ‘Sylhet’ [southern Khasia Hills, India; north of Sylhet, Bangladesh].

**41a. *Atrophaneura astorion astorion* (Westwood, 1842)**

*Papilio chara* Westwood, 1842; Ann. Mag. nat. Hist., 9 (55): 37; TL: ‘Sylhet’ [southern Khasia Hills, India; north of Sylhet, Bangladesh].

*Atrophaneura zaleucus liziensis* Zhao, 1997; in Chao and Wang, Lepidoptera of China, 3: 19; TL: ‘Lizi, Xizang’ [Nyin Chi, Tibet, China].

**Distribution:** confined to lowlands in S.W. Yunnan; also found in S.E. Tibet in China, as well as N.E. India and N. Myanmar.

**41b. *Atrophaneura astorion zaleucus* (Hewitson, [1865])**

*Papilio zaleucus* Hewitson, [1865], Ill. Exot. Butts., 3 (54): [6], pl. [3], f. 24–25; TL: ‘Burmah’ [Myanmar].

*Byasa zaleucus* ♂ v. *punctata* Evans, 1923, J. Bomb. nat. Hist. Soc., 29 (1): 231; TL: ‘Shan States-S. Burma’.

[IFS]  
*Papilio zaleucus* f. indiv. *anomala* Rousseau-Decelle, 1947; Bull. Soc. ent. Fr., 51 (9): 128; TL: ‘Kalataung, Tavoy, Birmanie’.

[IFS]  
*Atrophaneura zaleuca* Chou, 1994; Monographia Rhopalocerorum Sinensium: 53, 104. [UE]

**Distribution:** found in lowlands in S. to S.E. Yunnan; also found in Myanmar and Indochina.

**Note:** Populations of *A. astorion* in eastern Laos and central Vietnam are within a hybrid zone—males often look like ssp. *astorion*, some have white streaks on the veins of the hindwing underside, whereas others have black

scaled veins like normal *astorion*. There is a similar hybrid zone between ssp. *varuna* and ssp. *zaleucus* in the upper Malay Peninsula around Phetchaburi Province, Thailand, near the Myanmar border. However, the whitish streaks on the hindwing veins are not a typical morphological character of ssp. *zaleucus* across its range and are only found in the hybrid zones, hence we treat them as separate subspecies.

### Genus *Byasa* Moore, 1882

*Byasa* Moore, 1882; Proc. Zool. Soc. Lond., 1882 (1): 258; TS: *Papilio philoxenus* G. Gray, 1831.

*Panosmia* Wood-Mason & Nicéville, [1887]; J. Asiat. Soc. Bengal, (2) 55 (4): 374; TS: *Papilio dasarada* Moore, [1858].

*Paenasmia* Kirby, 1896; in Allen, Naturalist's Libr., Lepid 1, Butts., 2: 303. [ISS]

*Mineroides* Bryk, 1930; in Strand, Lepid. Cat. 37: 63; TS: *Papilio (Byasa) minereoides* Elwes & Nicéville, 1887. [PS]

*Byaia* Yang & Hsu, 1990; Chinese J. Entomol. 10: 239. [ISS]

#### 42. *Byasa crassipes* (Oberthür, 1893)

*Papilio crassipes* Oberthür, 1893; Ét. Ent., 17: 2, pl. 4, f. 38, 38a; TL: 'Haut-Tonkin, Rivière-Noire' [Black River, N. Vietnam].

**Distribution:** confined to the lowlands of W., S.W., S., and S.E. Yunnan; also found in N.E. India, Myanmar and N. Indochina.

#### 43. *Byasa plutonius* (Oberthür, 1876)

*Papilio plutonius* Oberthür, 1876; Ét. Ent., 2: 16, pl. 3, f. 2; TL: 'Moupin' [Baoping, W. Sichuan, China].

#### 43a. *Byasa plutonius tytleri* Evans, 1923

*Byasa alcinous tytleri* Evans, 1923, J. Bomb. nat. Hist. Soc., 29 (1): 233; TL: 'Manipur' [India].

**Distribution:** mainly found in montane areas in watersheds of Lancang-Mekong, Nujiang-Salween and Dulong-Irrawaddy rivers; also found in N.E. India and N. & W. Myanmar.

#### 43b. *Byasa plutonius plutonius* (Oberthür, 1876)

**Distribution:** found in subalpine montane areas in C., N.E., and N.W. Yunnan in the Yangtze River watershed; also found in W. Sichuan to S. Shaanxi.

#### 44. *Byasa mukoyamai* Nakae, 2015

*Byasa hedistus mukoyamai* Nakae, 2015; Butterflies, 70: 4, f. 1–2, 4–5; TL: Baima Xueshan, Yunnan, China.

**Distribution:** confined to the subalpine mountains in N.W. Yunnan.

**Note:** The first author collected a male specimen from Zhongdian (3,000 m), N.W. Yunnan with evident subapical white spots on the hindwing, while the genitalia agree with those illustrated in the original description of *mukoyamai* (Nakae 2015). Nakae (2021) elevated the taxon to species status. Unpublished DNA data also showed its difference from *B. hedistus* (Jordan, 1928).

#### 45. *Byasa hedistus* (Jordan, 1928)

*Papilio hedistus* Jordan, 1928; Novit. zool., 34 (2): 165, pl. 7, f. 5; TL: 'Yunnan: Tali' [Dali, W. Yunnan, China].

**Distribution:** widely distributed throughout Yunnan, except for the high mountains in the N.W. corner; also found in Sichuan, E. Myanmar and N. Vietnam.

#### 46. *Byasa dasarada* (Moore, [1858])

*Papilio dasarada* Moore, [1858]; in Horsfield and Moore, Cat. lepid. Ins. Mus. East India Company, 1: 96; TL: 'Cherra Poonjee' [Cherrapunji, Meghalaya, N. India].

#### 46a. *Byasa dasarada ouvrardi* (Oberthür, 1920)

*Papilio (Byasa) ravana ouvrardi* Oberthür, 1920; Bull. Soc. ent. Fr., 1920 (12): 202; TL: 'région de Wei-Si, nord du Yunnan' [Weixi, N.W. Yunnan, China].

*Byasa dasarada nujiangana* Huang, 2001; Neue ent. Nachr., 51: 98, pl. 9, f. 65, 73; TL: ‘Longpo to Nidadan, Nujiang Valley, S. E. Tibet’.

**Distribution:** mainly found in Nujiang-Salween and Lancang-Mekong river valleys in W. and N.W. Yunnan; also found in N.E. Myanmar.

**46b. *Byasa dasarada barata* (Rothschild, 1908)**

*Papilio dasarada barata* Rothschild, 1908; Novit. zool., 15 (1): 168; TL: ‘Shan State and Tenasserim’ [Shan State and Tanintharyi, E. Myanmar].

**Distribution:** confined to S. Yunnan, especially Xishuangbanna; also found in S. Myanmar and Indochina.

**47. *Byasa polyeuctes* (Doubleday, 1842)**

*Papilio polyeuctes* Doubleday, 1842; in J. Gray, Zool. Misc., 2: 74; TL: ‘Silhet’ [southern Khasia Hills, India; north of Sylhet, Bangladesh].

*Papilio philoxenus* G. Gray, 1831; in J. Gray, Zool. Misc., 1: 32; TL: ‘Nepaul’. [JH of *Papilio philoxenus* Esper, 1780; Die Schmett., 1 (Bd. 2) Forts. Tagschmett.: 25, pl. 54, fig. 3 (Nymphalidae: Satyrinae)]

**47a. *Byasa polyeuctes polyeuctes* (Doubleday, 1842)**

*Pap.[ilio] philoxenus hostilius* Fruhstorfer, 1908; Ent. Zeit., 22 (18): 72 [JH of *Papilio hostilius* C. Felder & R. Felder, 1861; Wien. ent. Monats., 5 (3): 73 [synonym of *Eurytides (Mimoides) ilus* (Fabricius, 1793) (Papilionidae)]]; TL: ‘S.-Annam, Plateau von Lang-Bian’ [Lang Bian Plateau, S. Vietnam].

*Papilio philoxenus* var. *polymitis* Tytler, 1912; J. Bombay nat. Hist. Soc., 21 (2): 589. [ISS]

*Papilio nepenthes* Ehrmann, 1920; Bull. Brooklyn ent. Soc., 15 (1): 21; TL: ‘South East Assam’ [N. India].

**Distribution:** widely distributed throughout Yunnan, except for the high mountains in the N.W. corner; also common in many places in China south of Yanshan Mountains, and found from Nepal to N.E. India, Myanmar and Indochina.

**48. *Byasa latreillei* (Donovan, 1826)**

*Papilio latreillei* Donovan, 1826; Nat. Repos., 4: [97], pl. 140; TL: ‘Nepaul’ [Nepal].

**Note:** All authors have used the spelling *latreillei* for over 100 years, thus under ICZN Code article 33.3.1 this subsequent spelling, in overwhelming prevailing usage, is considered as the correct original spelling of the species name.

**48a. *Byasa latreillei ticona* (Tytler, 1939)**

*Polydorus latreillei ticona* Tytler, 1939; J. Bombay nat. Hist. Soc., 41 (2): 236; TL: ‘Hthawgaw, N. E. Burma’ [Kachin State, N.E. Myanmar].

**Distribution:** confined to the west of Gaoligong Shan, including Dulongjiang; also found in S.E. Tibet of China and N.E. Myanmar.

**49. *Byasa genestieri* (Oberthür, 1918) stat. nov.**

*Papilio Latreillei Genestieri* Oberthür, 1918; Bull. Soc. ent. Fr., 1918 (12): 187; TL: ‘Siao-lou, Tchang-chau-pin et au haut Lou-Tse-Kiang’ [Sichuan and Yunnan (upper Mekong), China].

**Note:** DNA analysis using the COI barcode from the first author’s lab, not previously published, found that the K2P genetic distance (Kimura 1980) between *Byasa genestieri* and *B. latreillei* is 3.38%, and the support value on the IQ-Tree is 0.88 (Xu 2022). This confirms the findings in a conference presentation by Deodati *et al.* (2007), who reported significant differences in COI sequences between the two taxa and stated they must be separate species. The main difference in male genitalia is the shape of the superuncus, which in *B. latreillei* is shorter, smooth and less curved downwardly, while in *B. genestieri* it is longer, hooked near the tip and evidently curved downwardly (Figures 6–8). The female genitalia of the two are very similar except for the slight difference in lamella postvaginalis (Figures 9 and 10). As a result, we separate *Byasa genestieri* and *B. latreillei* as distinct species (**stat. nov.**). *Byasa genestieri* comprises two subspecies, both occurring in Yunnan.

**49a. *Byasa genestieri genestieri* (Oberthür, 1918) stat. nov.**

**Distribution:** widely distributed in the montane areas and on the plateau of W. to C. Yunnan; also found in W. Sichuan.

**49b. *Byasa genestieri robus* (Jordan, 1928) comb. nov.**

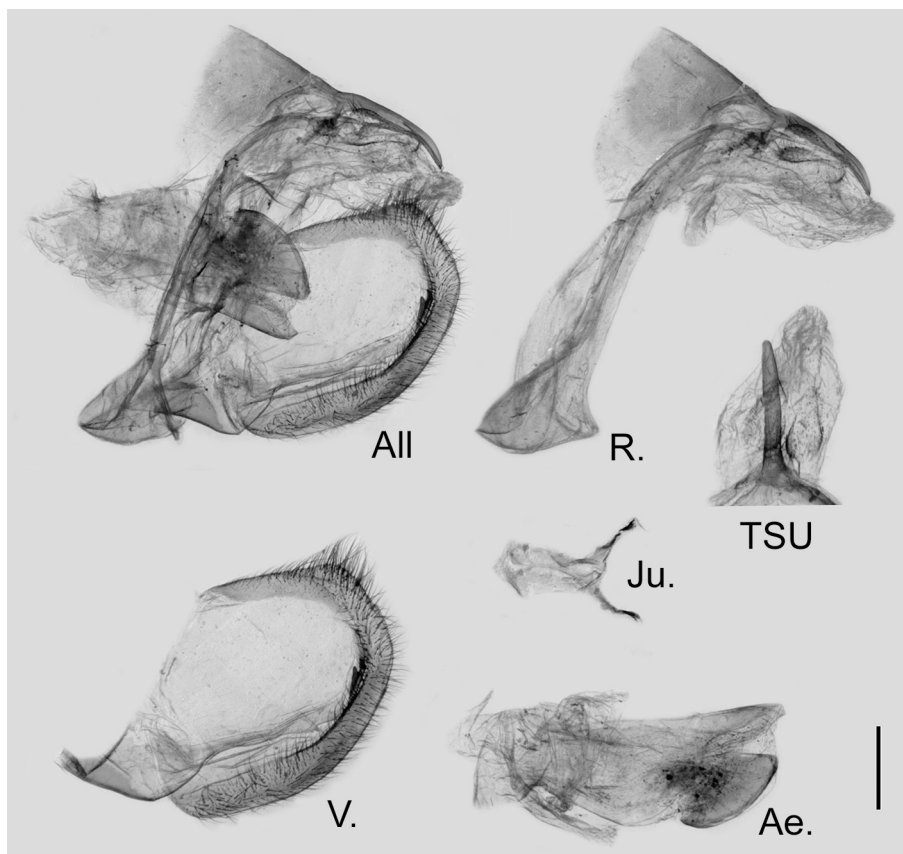
*Papilio latreillei robus* Jordan, 1928; Novit. zool., 34 (2): 161; TL: 'Tonkin, Ngai Tio' [Ngai Tio, N.W. Vietnam].

**Distribution:** confined to the S.E. part of Yunnan; also found in N.E. Laos and N. Vietnam.

**50. *Byasa polla* (Nicéville, 1897)**

*Papilio (Byasa) polla* Nicéville, 1897; J. Bombay nat. Hist. Soc. 10 (4): 633; TL: 'North Shan State; North Chin Hills' [N. Shan State and N. Chin Hills, Myanmar].

**Distribution:** confined to the west of Gaoligong Shan; also found in S.E. Tibet of China, N.E. India and N.E. Myanmar.



**FIGURE 6.** Male genitalia of *Byasa latreillei latreillei* (Donovan, 1826) from Kathmandu, Nepal. All: whole genitalia with right valve removed, R.: ring, V.: right valve, TSU: tegumen, socii, and uncus, Ae.: aedeagus, Ju.: juxta. Scale bar = 1 mm.

**51. *Byasa nevillei* (Wood-Mason, 1882)**

*Papilio nevillei* Wood-Mason, 1882; Ann. Mag. nat. Hist., (5) 9 (50): 105; TL: 'Silchar, Cachar' [Silchar, Assam, N.E. India].

*Papilio chentsong* Oberthür, 1886; Ét. Ent., 11: 13, pl. 1, f. 1; TL: 'Yerkalo' [W. China].

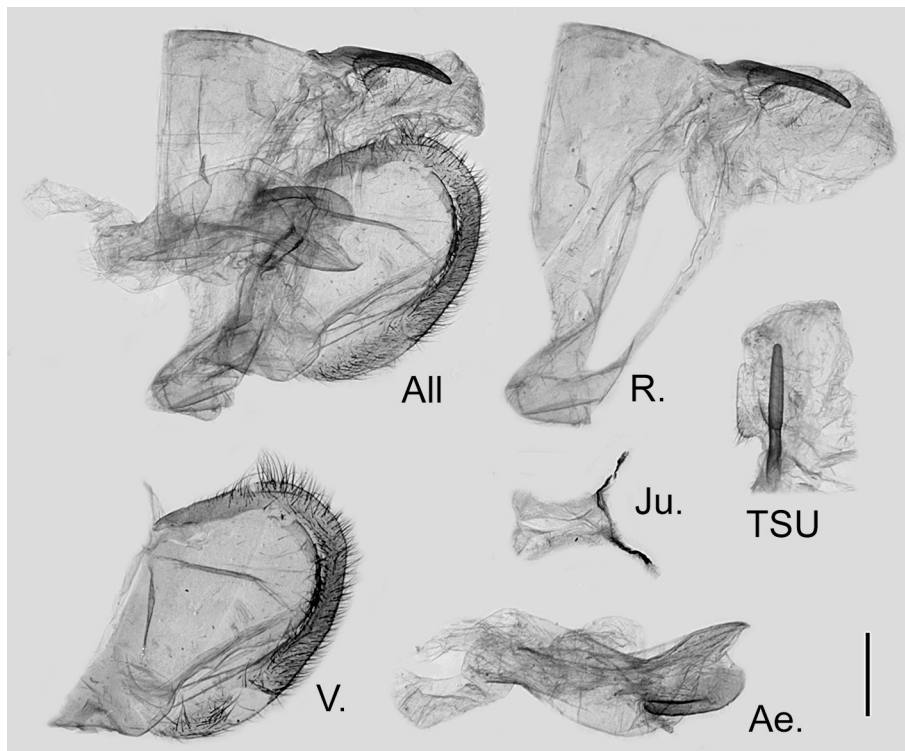
*Papilio chentsong* Ab. Luctus Oberthür, 1914; Étud. Lep. Comp., 9 (2): 45, pl. 252, f. 2133 [IFS]; TL: 'Région sino-thibétaine de Tâ-tchien-lu' [Kangding, W. Sichuan, China].

*Papilio nivelli* Draeseke, 1923; Dt. ent. Z. Iris, 37 (3/4): 55. [ISS]

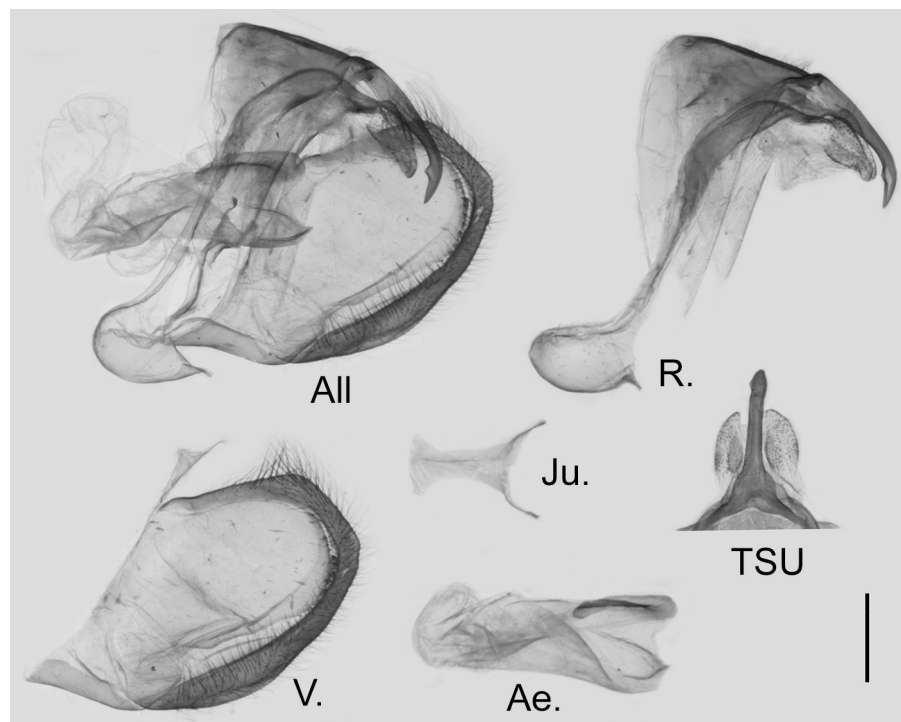
**Distribution:** widely distributed throughout Yunnan, more common in the western part; also found in Sichuan, Guizhou, northernmost Vietnam, S.E. Tibet and N.E. Myanmar.

**52. *Byasa daemonius* (Alphéraky, 1895)**

*Papilio daemonius* Alphéraky, 1895; Dt. ent. Z. Iris, 8 (1): 180; TL: 'montagnes Kham, près de Batang' [near Batang, W. Sichuan, China].



**FIGURE 7.** Male genitalia of *Byasa latreillei ticona* (Tytler, 1939) from Dulongjiang, Yunnan, China. All: whole genitalia with right valve removed, R.: ring, V.: right valve, TSU: tegumen, socii, and uncus, Ae.: aedeagus, Ju.: juxta. Scale bar = 1 mm.



**FIGURE 8.** Male genitalia of *Byasa genestieri genestieri* (Oberthür, 1918) stat. nov. from Kunming, Yunnan, China. All: whole genitalia with right valve removed, R.: ring, V.: right valve, TSU: tegumen, socii, and uncus, Ae.: aedeagus, Ju.: juxta. Scale bar = 1 mm.

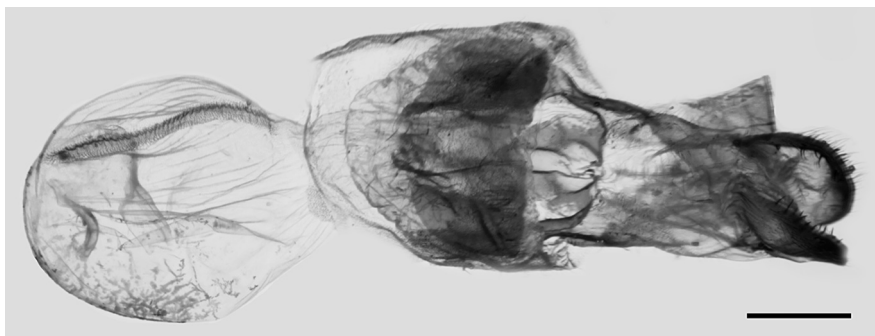


FIGURE 9. Female genitalia of *Byasa latreillei ticona* (Tytler, 1939) from Yingjiang, Yunnan, China. Scale bar = 1 mm.

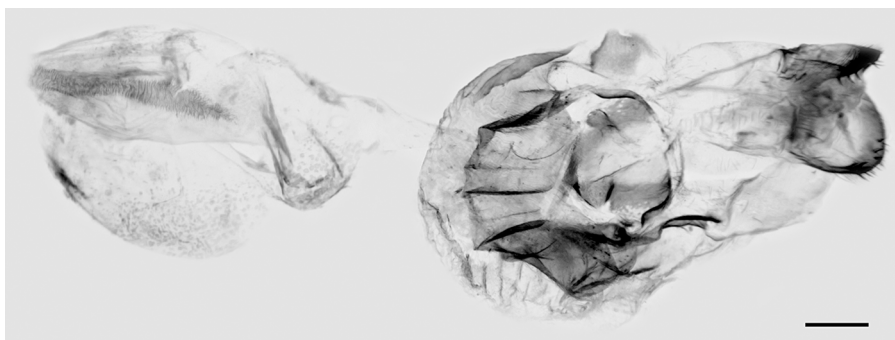


FIGURE 10. Female genitalia of *Byasa genestieri genestieri* (Oberthür, 1918) stat. nov. from Yangbi, Yunnan, China. Scale bar = 1 mm.

**52a. *Byasa daemonius yunnana* (Oberthür, 1907)**

[*Papilio*] *daemonius* var. *yunnana* Oberthür, 1907; Bull. Soc. ent. Fr., 1907 (8): 137; TL: 'Yunnan: Tapintze' [Dapingzi, Yunnan, China].

**Distribution:** confined to the upper Yangtze River valley in N.W. Yunnan.

**53. *Byasa rhadinus* (Jordan, 1928)**

*P.[apilio] menci* *rhadinus* Jordan, 1928; Novit. zool., 34 (2): 169, pl. 7, f. 3–4; TL: 'Yunnan: Tapintze' [Dapingzi, Binchuan, W. Yunnan, China].

**Distribution:** a narrow-ranged species, only known from the Cang Shan area in Dali.

**54. *Byasa impediens* (Seitz, 1906)**

*P. [apilio] alcinous impediens* Seitz, 1906; Gross-Schmett. Erde, 1 (1): 9; TL: 'Ta-t sien-lu' [Kanding, W. Sichuan, China].

*Papilio alcinous menci* [aberration] *impediens* Rothschild, 1895; Novit. zool., 2 (3): 270, pl. 6, f. 26, 40; TL: 'Ta-t sien-lu' [Kangding, W. Sichuan, China]. [IFS]

**54a. *Byasa impediens impediens* (Seitz, 1906)**

[*Papilio alcinous*] *imperius* Rothschild, 1901; Soc. ent., 16 (15): 113. [ISS]

**Distribution:** found in S. and S.E. Yunnan; also found in Guangxi, Sichuan, to Shaanxi in China.

**Tribe Papilionini Latreille, [1802]**

Papilionides Latreille, [1802]; Hist. nat. Crustac. Ins., 3: 387; TG: *Papilio* Linnaeus, 1758.

## Genus *Meandrusa* Moore, 1888

*Meandrusa* Moore, 1888; in Hewitson & Moore, Descr. New Ind. Lep. Coll. Atkinson, 3: 284; TS: *Papilio evan* Doubleday, 1845.

*Dabasa* Moore, 1888; in Hewitson & Moore, Descr. New Ind. Lep. Coll. Atkinson, 3: 283; TS: *Papilio gyas* Westwood, 1841.

*Menandrusa* Funahashi, 2003; Wallace, 8: 3–4, pl. 1. [ISS]

*Menandrusia* Racheli & Cotton, 2009; Guide to the Butterflies of the Palearctic Region, Papilionidae part 1: 50. [ISS, PS]

### 55. *Meandrusa sciron* (Leech, 1890)

*Papilio sciron* Leech, 1890; Entomologist, 23 (325): 192; TL: ‘Chia-Kou-Ho ... Huang-mu-Chung’ [Jinkouhe (Leshan) and Huangmu Zhen (Hanyuan), W. Sichuan, China].

*Papilio hercules* Blanchard, 1871; C. R. Hebd. Séanc. Acad. Sci., 72 (25): 809 (note); TL: ‘Mou-pin’ [Baoting, W. Sichuan, China] [JH of *Papilio hercules* Dalman, 1823 (Nymphalidae)].

*Papilio gyas* var. *porus* Strecker, 1900; Lepid. Rhop. Het., Suppl. 3: 17; TL: ‘Garó Hills, Assam’ [‘Meghalaya, N.E. India’, loc. err. = China]. [IFS]

*Meandrusa sciron* subsp. *abaensis* Sugiyama, 1994; Pallarge, (3): 6, f. 13–16; TL: ‘N.-Mt Signian, Sichuan, China’ [north of Siguniang Shan, W. Sichuan, China]. **syn. nov.**

*Dabasa hercules splendens* Huang, 1995; Bull. Amat. ent. Soc., 54 (399): 64; TL: ‘Dazhulan, Jianyang, Fujian Prov. of China’. **syn. nov.**

*Menandrusa* [sic] *hercules hajangensis* Funahashi, 2003; Wallace, 8: 4, pl. 1, f. 3; TL: ‘Hajiang, N. Vietnam’ [Hagiang, N. Vietnam]. **syn. nov.**

*Meandrusa* [sic] *hercules* [sic] Funahashi, 2003; Wallace, 8: pl. 1, f. 3. [ISS]

*Menandrusa* [sic] *hercules* [sic] *hajangensis* Funahashi, 2003; Wallace, 8: pl. 1, f. 3. [IOS]

**Distribution:** found in montane areas in C. to N.E. Yunnan; also found in many places in C. to S.E. China and in Hagiang, northernmost Vietnam.

**Note:** All described subspecies fall within the variation of nominate *Meandrusa sciron*, so the taxa *abaensis* Sugiyama, 1994, *splendens* Huang, 1995 and *hajangensis* Funahashi, 2003 are synonymised here (**syn. nov.**).

### 56. *Meandrusa lachinus* (Fruhstorfer, 1902)

*Papilio gyas lachinus* Fruhstorfer, 1902; Dt. ent. Z. Iris, 14 (2): 342; TL: ‘Senchal bei Darjeeling’ [Senchal, near Darjeeling, N. India].

*Papilio gyas* Westwood, 1841; Arcana ent., 1 (3): 41, pl. 11, f. 1; TL: ‘Assam’ [N.E. India] [JH of *Papilio gyas* Cramer, 1775 (Lycaenidae)].

### 56a. *Meandrusa lachinus aribbas* (Fruhstorfer, 1909)

*P.[apilio] gyas aribbas* Fruhstorfer, 1909; Ent. Z., 22 (43): 177; TL: ‘Oberbirma’ [Upper Myanmar].

**Distribution:** found in medium to low mountains in W., S.W., to S.E. Yunnan; also found in Myanmar, N.W. Thailand and N. Vietnam.

### 57. *Meandrusa payeni* (Boisduval, 1836)

*Papilio payeni* Boisduval, 1836; Spec. Gén. Lépid., 1: 235; TL: ‘Java’ [Java, Indonesia].

**Note:** Examination of type specimens in NHM, London, and numerous specimens from Yunnan, Myanmar and Indochina shows that previous published distributions for the two subspecies in the region are incorrect. The phenotype of subspecies *amphis* (Jordan, 1909) is orange-brown with brown margins whereas subspecies *langsonensis* (Fruhstorfer, 1901) has a pale orange or yellowish discal band with broad dark brown margins (Figure 9). The difference in forewing margins is especially obvious in the female. The correct distributions of these subspecies are listed below. Monastyrskii (2007) illustrated a specimen similar in markings to ssp. *amphis* but the ground colour of the discal area in ssp. *amphis* is brown rather than yellowish. The yellowish band on the upperside of Monastyrskii’s specimen does not clearly come through in the plate, but it is still clearly visible. Both of these specimens belong to the wet season generation, so they are quite similar in pattern. Dry season specimens of ssp. *amphis* are much more like the female (Figure 11B) in wing pattern, with a narrow brown forewing margin, very different to ssp. *langsonensis*, and the ground colour is orange-brown, not yellowish.



**57a. *Meandrusa payeni amphis* (Jordan, 1909) (Figure 11 A–B)**

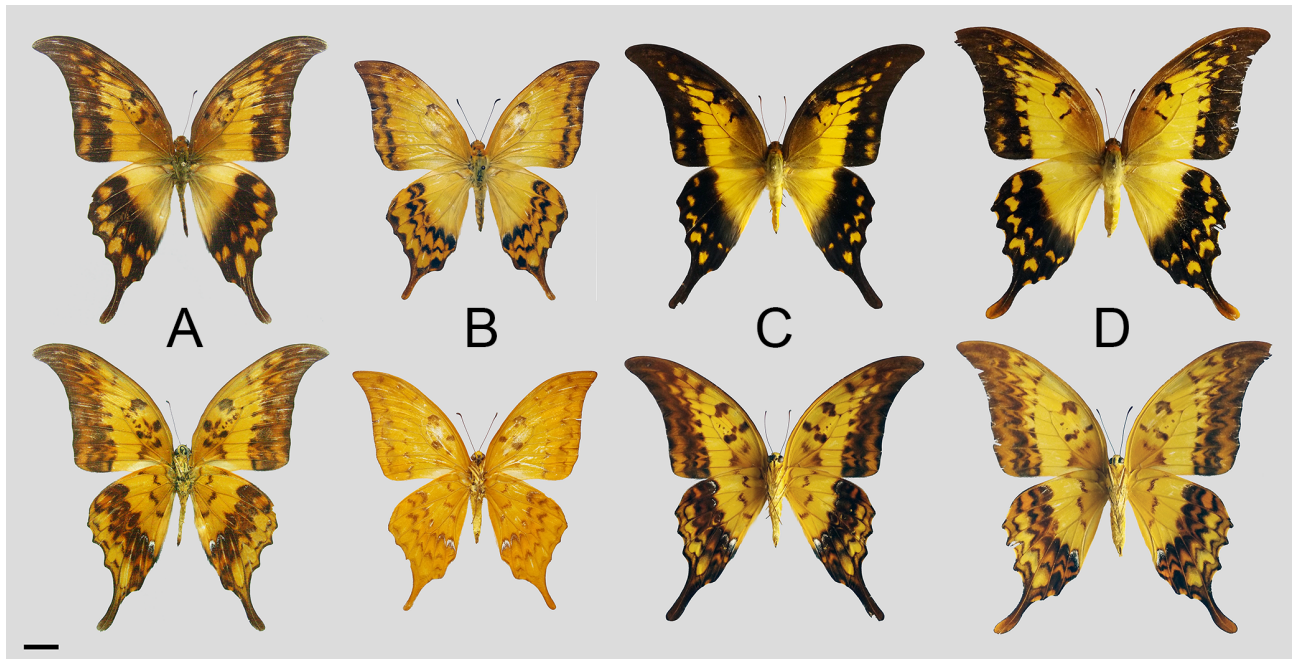
*P[apilio] payeni amphis* Jordan, 1909; Gross-Schmett. Erde, 9 (40): 91; TL: ‘Tenasserim and Burma’ [N. Tanintharyi and S.E. Myanmar].

**Distribution:** found in Xishuangbanna in S. Yunnan; also found in S.E. Myanmar, N. and E. Thailand, Laos and C. & S. Vietnam.

**57b. *Meandrusa payeni langsonensis* (Fruhstorfer, 1901) (Figure 11 C–D)**

*Papilio payeni langsonensis* Fruhstorfer, 1901; Soc. ent., 16 (12): 89; TL: ‘Than Moi, Tonkin’ [Thanh Moi, N. Vietnam].

**Distribution:** found in far eastern Yunnan, e.g., Honghe and Wenshan prefectures; also found in Guangxi and N. Vietnam.



**FIGURE 11.** Comparison of two subspecies of *Meandrusa payeni* (Boisduval, 1836) found in Yunnan, China. A: ♂, *M. payeni amphis* (Jordan, 1909) from Mengla, S. Yunnan; B: ♀, ditto; C: ♂, *M. payeni langsonensis* (Fruhstorfer, 1901) from Hekou, S.E. Yunnan; D: ♀, ditto, Hekou, S.E. Yunnan. Scale bar = 10 mm.

**Genus *Papilio* Linnaeus, 1758**

*Papilio* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 458; TS: *Papilio machaon* Linnaeus, 1758.

*Princeps* Hübner, [1806]; Tentamen: [1]; TS: *Papilio machaon* Linnaeus, 1758. [rejected name, included in a work rejected for nomenclatural purposes, ICZN Opinion 278]

*Amaryssus* Dalman, 1816; K. Svenska VetenskAkad. Handl., 1816 (1): 60; TS: *Papilio machaon* Linnaeus, 1758. [JOS]

*Papirio* Billberg, 1820; Enum. Ins. Mus. Billb.: 78. [ISS]

*Papileo* G. Gray, 1832; in Griffith & Pidgeon, Anim. Kingdom Cuvier, 15 (34) (Ins. 2): pl. 38. [ISS]

*Paiplio* Lucas, 1835; Hist. nat. Léop. Exot., (livr. 10): 80. [ISS]

*Aernauta* Berge, 1842; Schmetterlingsbuch: 19, 106–109; TS: *Papilio machaon* Linnaeus, 1758. [JOS]

*Papilia* Tegetmeier, 1874; Reprint of Boddaert’s Table: 4. [ISS]

*Achivus* Kirby, 1896; in Allen, Naturalist’s Libr., Lepid. 1, Butts., 2: 286; TS: *Papilio machaon* Linnaeus, 1758. [JOS]

*Papilius* Ribbe, 1898; Soc. ent., 12 (21): 161. [ISS]

*Papillio* Nelson, 2022; J. Lepid. Soc., 76 (2): 116. [ISS]

### Subgenus *Sinoprinceps* Hancock, 1983

*Sinoprinceps* Hancock, 1983; *Smithersia*, 2: 35; TS: *Papilio xuthus* Linnaeus, 1767.

**Note:** Condamine *et al.* (2023) showed that *Sinoprinceps* should be treated as a separate subgenus to *Papilio* Linnaeus, 1758.

### 58. *Papilio xuthus* Linnaeus, 1767

*Papilio xuthus* Linnaeus, 1767; *Systema Naturae* (Ed. 12), 1 (2): 751 corrigenda; TL: 'India orientali' [Guangdong, China].

*Papilio ajax* Linnaeus, 1758; *Systema Naturae* (Ed. 10), 1: 462; TL: 'America boreali' [loc. err.]; [name suppressed for the purposes of the Principle of Priority, ICZN Opinion 286].

*Papilio xanthus* Linnaeus, 1767; *Systema Naturae* (Ed. 12), 1 (2): 751; [name rejected for nomenclatural purposes, ICZN Opinion 286]. [IOS]

*Papilio xathus* Fabricius, 1787; *Mantissa Ins.*, 2: 10. [ISS]

*Papilio xuthulus* Bremer, 1861; *Bull. Acad. Imp. Sci. St. Pétersb.*, 3 (7): 463; TL: 'Bureja-Gebirge' [Bureinsky Ridge, Russia (Far East)].

*P.[apilio] xuthulinus* Murray, 1874; *Ent. Month. Mag.*, 11 (127): 166; TL: 'Yokohama' [Yokohama, Kanagawa, Japan]. [NN]

*Papilio xuthus* ab. *chinensis* Neuburger, 1900; *Illte. Z. ent.*, 5 (11): 168; TL: 'China (Env. de Changai)' [near Shanghai, China]. [IFS]

*Papilio xanthus koxinga* Fruhstorfer, 1908; *Ent. Z.*, 22 (11): 46; TL: 'Formosa' [Taiwan, China].

*Papilio xanthus neoxuthus* Fruhstorfer, 1908; *Ent. Z.*, 22 (11): 46; TL: 'Ta-Tsien-lu' [Kangding, W. Sichuan, China].

*Papilio xanthus neoxanthus* Fruhstorfer, 1908; *Ent. Z.*, 22 (11): 47. [IOS]

*Papilio xanthus neoxanthus* forma *xuthina* Fruhstorfer, 1908; *Ent. Z.*, 22 (11): 47; TL: 'Siao-Lou' [Washan, Sichuan, China]. [IFS]

*P.[apilio] xuthus* ab. *pseudozancleus* Stetter-Stättermayer, 1924; *Ent. Anz.*, 4 (15): 133; TL: 'Peking' [Beijing, China]. [IFS]

*P.[apilio] xuthus* ab. *depuncta* Stetter-Stättermayer, 1924; *Ent. Anz.*, 4 (15): 133; TL: 'Ussuri; Omisien (Szetschwan); Jokohama' [Ussuri, FE. Russia; Emeishan, Sichuan, China; Yokohama, Japan]. [IFS]

*P.[apilio] xuthus* aber. *feminisimilis* Mell, 1938; *Dt. ent. Z.*, 1938 (2): 306; TL: 'Fumui (südlich von Waichow am Unterlauf des Tung-Flusses)' [south of Huizhou at the lower reaches of the Donghe River, Guangdong, China]. [IFS]

*P.[apilio] xuthus* f. *ochrea* Mell, 1938; *Dt. ent. Z.*, 1938 (2): 306; TL: 'Westyunnan (Tali, Chaochow)' [Dali and Fengyi (9 km E. of Dali township), W. Yunnan, China]. [IFS]

*Papilio xuthus koxinga* ab. *umbriferus* Murayama & Shimonoya, 1966; *Tyô to Ga*, 16 (3/4): 58, f. 5; TL: 'Kuraru' [Sheding, Pingtung, S. Taiwan, China]. [IFS]

**Distribution:** widely distributed throughout Yunnan, except for the high mountains in the N.W. corner; also found in East Asia, N.E. Myanmar and N. Vietnam.

### Subgenus *Papilio* Linnaeus, 1758

*Papilio* Linnaeus, 1758; *Systema Naturae* (Ed. 10), 1: 458; TS: *Papilio machaon* Linnaeus, 1758.

### 59. *Papilio everesti* Riley, 1927 stat. nov.

*P.[apilio] machaon everesti* Riley, 1927; *Trans. ent. Soc. Lond.*, 1927 (1): 120; TL: 'Tibet: Rongbuk Glacier, 15–17,000 ft.'

**Note:** Lee (1980) recognised three species in the *Papilio machaon* complex in China based on adult morphology (Figure 12) and genitalia of both males and females (see under *Papilio machaon*, Figures 13–18). As well as *Papilio machaon* Linnaeus, 1758, Lee separated the short tailed high elevation taxon as *Papilio annae* Gistel, 1857 and the very long tailed Yunnan taxon as *Papilio verityi* Fruhstorfer, 1907, but this classification was overlooked by previous publications. Examination of genitalia of these three taxa from Yunnan confirmed their status as separate species, and recent DNA analysis reported in a conference poster by Todisco *et al.* (2023) confirmed *Papilio everesti* as a distinct species. *Papilio annae* Gistel, 1857 was shown by Dierl (1977) to be a synonym of the long tailed

lower altitude western Himalayan *Papilio machaon asiatica* Ménétriés, 1855, rather than the short tailed high-altitude taxon in the eastern Himalayas, so Lee (1980) applied the name *anna* incorrectly to the short tailed eastern Himalayan taxon. The oldest available name is *Papilio everesti* Riley, 1927, and the species comprises the following subspecies:

*Papilio everesti kiyonobu* Morita, 1997 (TL: 'near Yanfu, alt.4,400m–5,000m, western Tibet, China') **comb. nov.**

Distribution: W. Tibet

*Papilio everesti everesti* Riley, 1927 (TL: 'Rongbuk Glacier, 15–17,000 ft.')

*nolico* Morita, 1997 (TL: '60km north of Nyalam, alt.4,400m, southern Tibet, China') **syn. nov.**

Distribution: S. C. Tibet

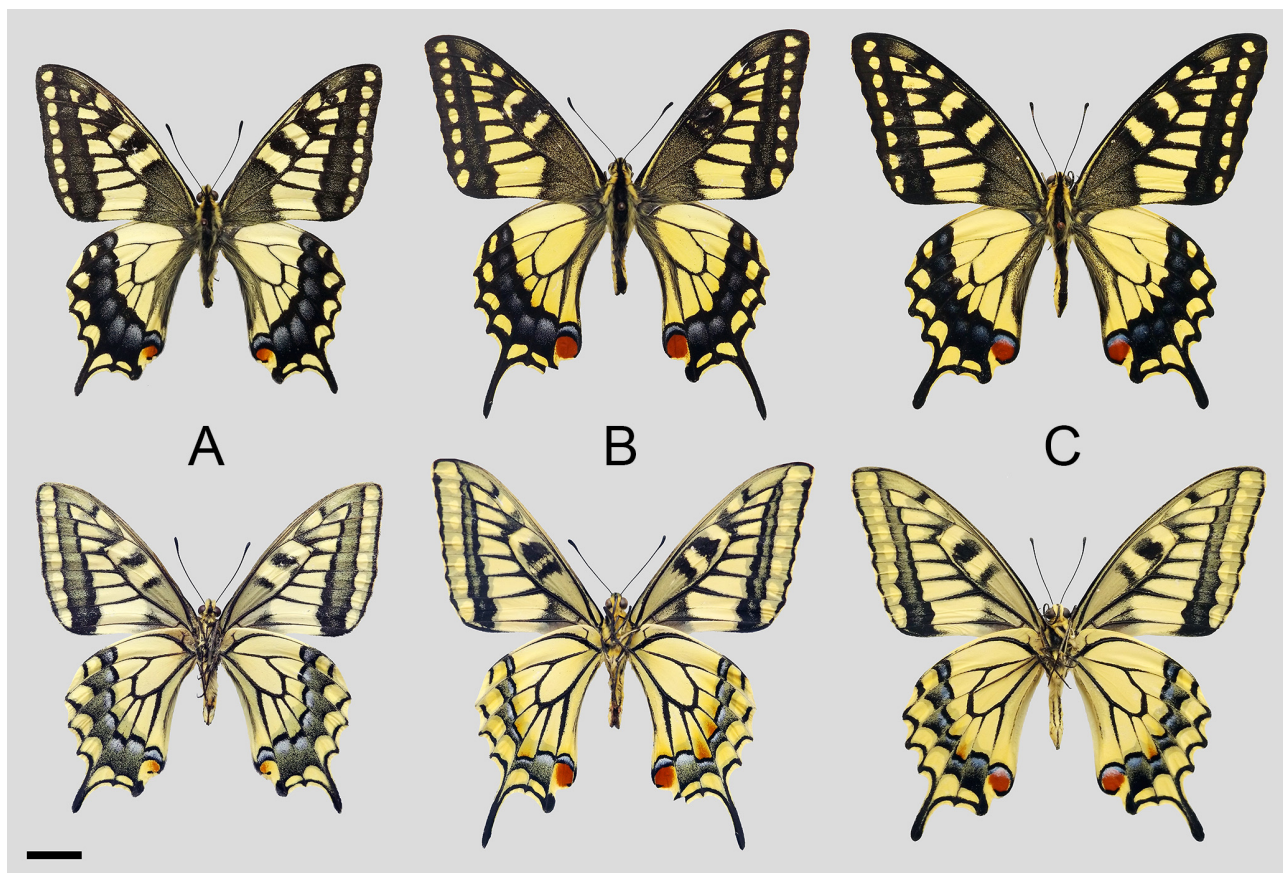
*Papilio everesti hookeri* Gaonkar, 1999 [Replacement Name for *sikkimensis* Moore, 1884] **comb. nov.**

*sikkimensis* Moore, 1884 (TL: 'Sikkim') [JH of *Papilio sikkimensis* Wood-Mason, 1882 (Papilionidae)]

*sickimensis* Seyer, 1974 [ISS]

Distribution: Sikkim, Bhutan, S. to S. E. Tibet

*Papilio everesti alpherakyi* O. Bang-Haas, 1933 (TL: 'Kansu mer. or., Minschan Gebirge, Min Tanho, 2600 m.') **comb. nov.**



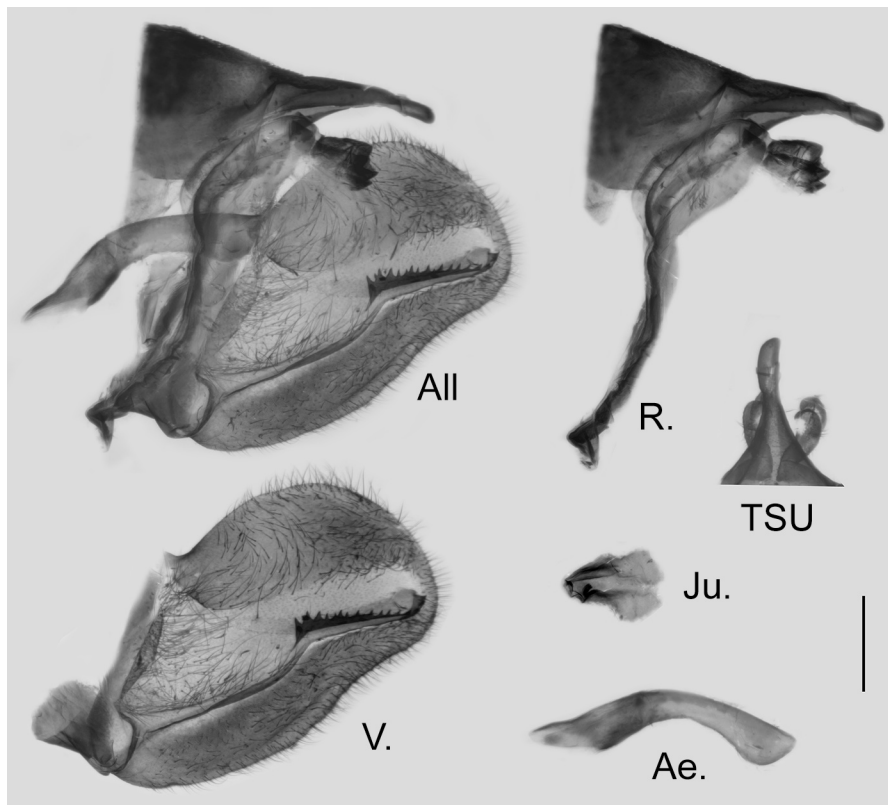
**FIGURE 12.** Males of (A) *Papilio everesti alpherakyi* O. Bang-Haas, 1933 **comb. nov.** from Deqen, Yunnan, China; (B) *Papilio verityi* Fruhstorfer, 1907 **stat. nov.** from Kunming, Yunnan, China; and (C) *Papilio machaon schantungensis* Eller, 1936 from Yanjin, Yunnan, China. Scale bar = 10 mm.

**59a. *Papilio everesti alpherakyi* O. Bang-Haas, 1933 **comb. nov.****

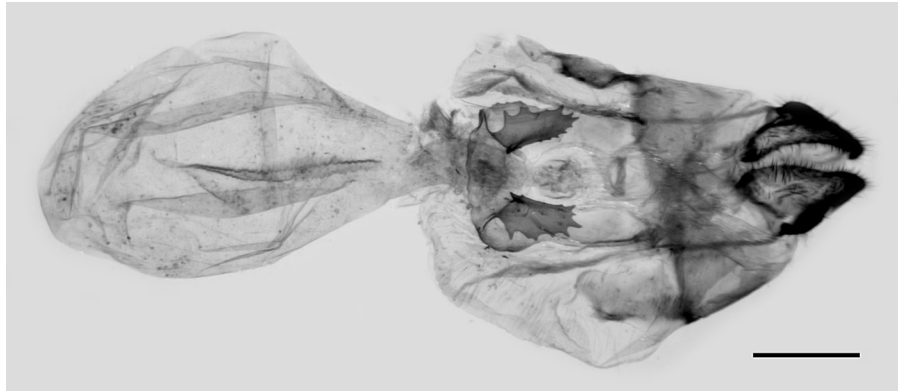
*Papilio machaon alpherakyi* O. Bang-Haas, 1933; Ent. Z., 47 (11): 90; TL: 'Kansu mer. or., Minschan Gebirge, Min Tanho, 2600 m.' [Minshan, S. Gansu, China].

*Papilio Machaon* var. *Montanus* Alphéraký, 1897; in Romanoff, Mém. Lépid., 9: 85; TL: 'Tâ-t sien-loû' [Kangding, W. Sichuan, China]; [JH of *Papilio montanus* C. Felder & R. Felder, 1864 (Papilionidae)].

*Papilio machaon Sikkimensis Erebnensis* Oberthür, 1914; Ét. Lépid. comp., 9 (2): 44, pl. 253, f. 2135; TL: 'Région de Tâ-t sien-lou' [Kangding, W. Sichuan, China]. [IFS]



**FIGURE 13.** Male genitalia of *Papilio everesti alpherakyi* O. Bang-Haas, 1933 from Deqen, Yunnan, China. All: whole genitalia with right valve removed, R.: ring, V.: right valve, TSU: tegumen, socii, and uncus, Ae.: aedeagus, Ju.: juxta. Scale bar = 1 mm.



**FIGURE 14.** Female genitalia of *Papilio everesti alpherakyi* O. Bang-Haas, 1933 from Deqen, Yunnan, China. Scale bar = 1 mm.

*Papilio Machaon* var. *Sikkimensis-erebinais* Houlbert & Rondou, 1925; in Oberthür, Ét. Lépid. comp., 23: 127. [ISS]

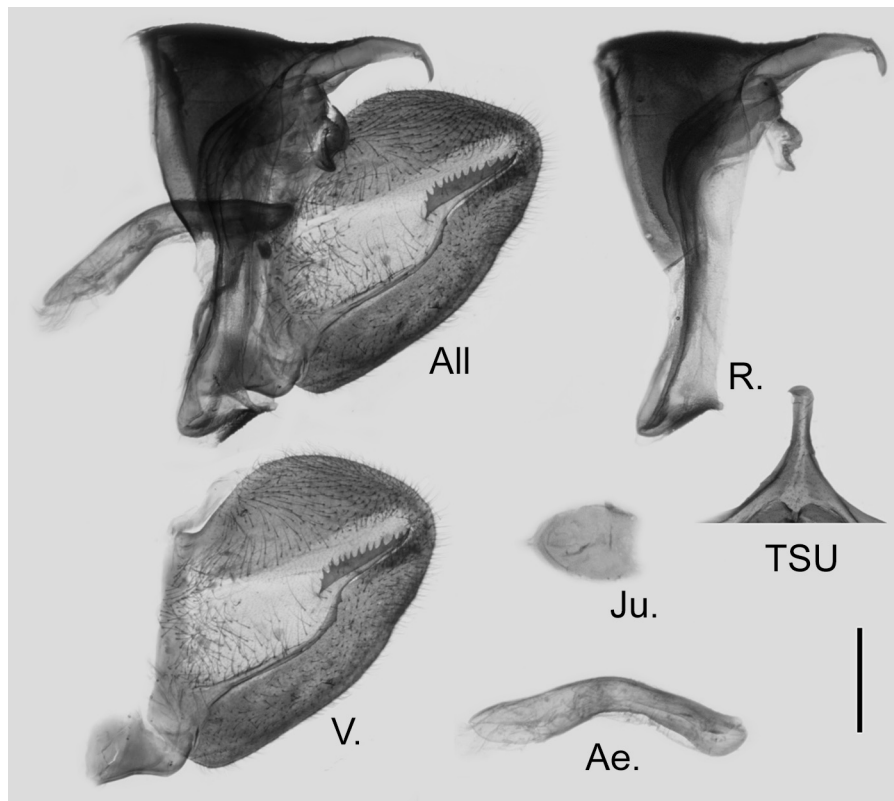
*Papilio machaon hieromax* Hemming, 1934; Stylops, 3 (9): 195; [Replacement Name for *Papilio Machaon* var. *Montanus* Alpheraký, 1897]. **syn. nov.**

*Papilio machaon alpheraki* Eller, 1939; Verh. int. Kongr. Ent., 7: 85. [ISS]

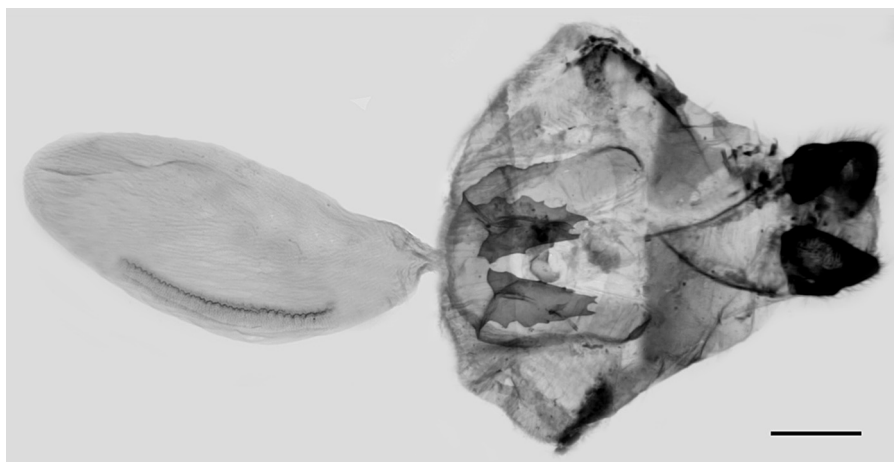
*P.[apilio] machaon chinensomandschuriensis* Eller, 1939; Verh. int. Kongr. Ent., 7: 100; TL: 'in den nördlichen Kansugebieten ... zwischen 3000 bis 4000 m' [N. Gansu, China]. [NN]

*Papilio machaon minschani* Seyer, 1976; Mitt. ent. Ges. Basel, 26 (3): 69. [NN attributed to Bang-Haas]

*Papilio sikkimensis soi* Sorimachi, 2010; Dino, 65: 87, pl. 12B; TL: 'Manigango 31°54' N, 99°13' E, 4000–4500m, Sichuan' [Manigange village, Garze, Sichuan, China]. **syn. nov.**



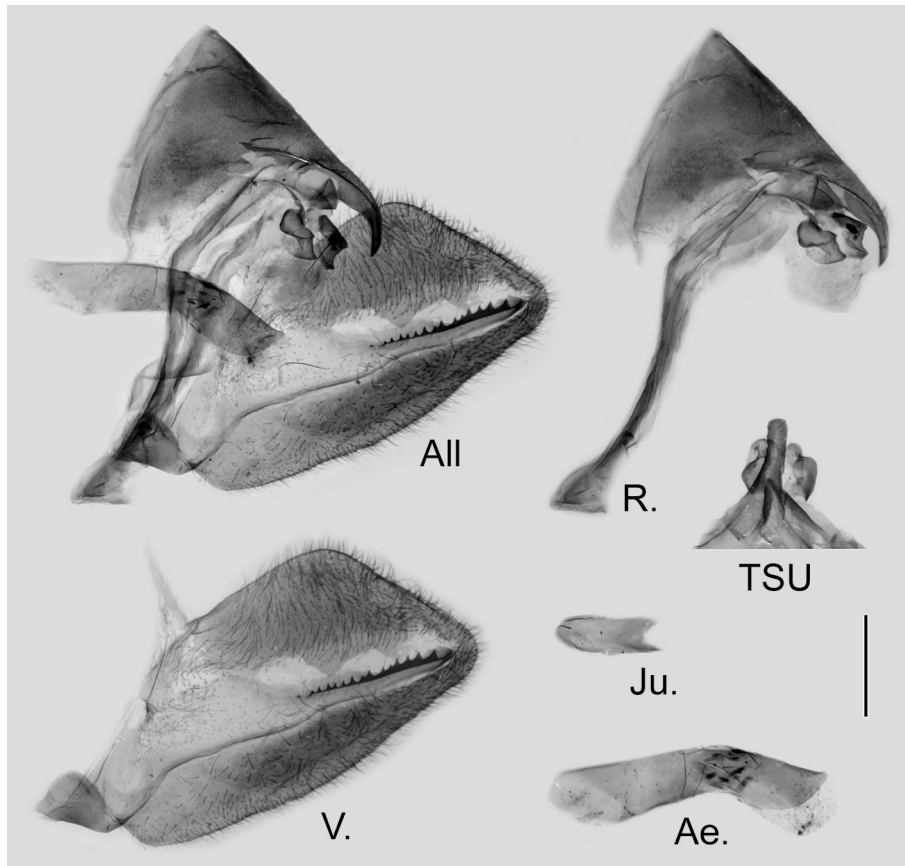
**FIGURE 15.** Male genitalia of *Papilio verityi* Fruhstorfer, 1907 stat. nov. from Kunming, Yunnan, China. All: whole genitalia with right valve removed, R.: ring, V.: right valve, TSU: tegumen, socii, and uncus, Ae.: aedeagus, Ju.: juxta. Scale bar = 1 mm.



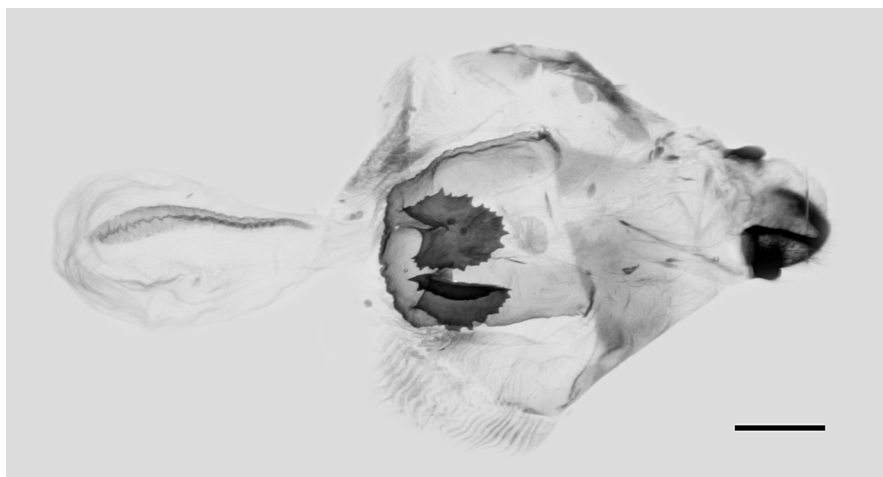
**FIGURE 16.** Female genitalia of *Papilio verityi* Fruhstorfer, 1907 stat. nov. from Kunming, Yunnan, China. Scale bar = 1 mm.

*Papilio sikkimensis yunnanensis* Sorimachi, 2010; Dino, 65: 88, pl. 12C, ‘Sorth [sic] De Quin 10km 2900m, Yunnan, CHINA’ [South of Deqen, N. W. Yunnan, China] **syn. nov.**

**Distribution:** found in subalpine mountains in the N.W. corner of Yunnan; also found in mountains of W. Sichuan, Qinghai and southern Gansu, China.



**FIGURE 17.** Male genitalia of *Papilio machaon schantungensis* Eller, 1936 from Ya'an, Sichuan, China. All: whole genitalia with right valve removed, R.: ring, V.: right valve, TSU: tegumen, socii, and uncus, Ae.: aedeagus, Ju.: juxta. Scale bar = 1 mm.



**FIGURE 18.** Female genitalia of *Papilio machaon schantungensis* Eller, 1936 from Yanjin, Yunnan, China. Scale bar = 1 mm.

**60. *Papilio verityi* Fruhstorfer, 1907 stat. nov.**

*Pap.[ilio] machaon verityi* Fruhstorfer, 1907; Ent. Z., 20 (41): 301; 'Mannao, Yunnan' [Manhao, S. Yunnan, China].

*Pap.[ilio] machaon* forma *archias* Fruhstorfer, 1907; Ent. Z., 20 (41): 301; TL: 'Fou-Lin, Tibet' [Hanyuan, Sichuan, China]; [JH of *Papilio archias* Cramer, 1777 (Lycaenidae)—see Nomenclatural Notes section 2.4 above].

*Papilio machaon birmanicus* Rothschild, 1908; Novit. zool., 15 (1): 168; TL: 'Shan State and Burma' [E. Myanmar].

*Papilio machaon suroia* Tytler, 1939; J. Bomb. nat. Hist. Soc., 41 (2): 239; TL: 'Suroi, Manipur' [N.E. India].  
*Papilio machaon taliensis* Eller, 1939; Verh. Int. Kongr. ent., 7 (1): 85. [NN]  
*Papilio machaon suroius* Eller, 1939; Verh. Int. Kongr. ent., 7 (1): 85. [UE]  
*Papilio machaon taliens* Eller, 1939; Verh. Int. Kongr. ent., 7 (1): 98. [NN]  
*P. [apilio] machaon tschekulensis* Eller, 1939; Verh. Int. Kongr. ent., 7 (1): 85. [NN]  
*Papilio machaon suroiae* Seyer, 1976; Mitt. ent. Ges. Basel (N. F.), 26 (4): 123. [UE]

**Distribution:** widely distributed in most parts of Yunnan, except for the subalpine mountains in N.W. Yunnan and the lowlands in N.E. Yunnan; also found in Manipur, Myanmar and N. Vietnam.

**Note:** See explanation under *Papilio everesti* Riley, 1927 above. *Papilio verityi* Fruhstorfer, 1907 is regarded as monobasic.

## 61. *Papilio machaon* Linnaeus, 1758

*Papilio Machaon* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 462; TL: 'Europae' [Sweden (Honey & Scoble, 2001)].

### 61a. *Papilio machaon schantungensis* Eller, 1936

*Papilio machaon schantungensis* Eller, 1936; Abh. bayer. Akad. Wiss. (N.F.), 36: 41, pl. 7, f. 38; TL: 'Tsingtau ... Kiautschau ... Tschifu ... Fokien' [Shandong ... K ... T ... Fujian, China].

*Papilio machaon* var. *hippocrates* forme *chinensis* Verity, 1907; Rhop. Pal., (11/12): 108, pl. 3, f. 2; TL: 'Vench-uan et Traku, Set-chouen occ.' [Wenchuan and Lixian, W. Sichuan, China]. [IFS]

*Papilio machaon chinensis* v. *neochinensis* Sheljuzhko, 1913; Dt. ent. Z. Iris, 27 (1): 15; TL: 'Ta-tsien-lu' [Kangding, W. Sichuan, China]. [IFS]

*Papilio machaon chinensis* Bang-Haas, 1933; Ent. Z., 47 (11): 90; TL: 'Vench-nan [sic] et Traku, Setzschwan occ.; Washan, China centr.; Kiou-kiang' [Wenchuan and Lixian (W. Sichuan); Washan (W. Sichuan); Jiujiang (Jiangxi), China]; [Elevation of IFS name to subspecies]; [JH of *Papilio paris chinensis* Rothschild, 1895 (Papilionidae)].

*Papilio machaon kunkalashani* Eller, 1939; Z. Indukt. Abst. Vererb., 77 (1): 149. [NN]

*Papilio machaon venchuanus* Moonen, 1984; Papilio Int., 1 (3): 47; [replacement for *Papilio machaon chinensis* Verity, 1907]. **syn. nov.**

*Papilio machaon rizvangul* Koçak & Kemal, 2000; Misc. Pap. Centre ent. Stud., (71): 2; [replacement for *Papilio machaon chinensis* Eller, 1936 [sic]]. **syn. nov.**

**Distribution:** found in the lowlands of N.E. Yunnan; widely distributed in C. to E. China.

**Note:** The populations of *Papilio machaon* from Sichuan to eastern China are indistinguishable, thus the names *venchuanus* Moonen, 1984 and *rizvangul* Koçak & Kemal, 2000 are junior synonyms of the oldest available subspecies name, *Papilio machaon schantungensis* Eller, 1936 (**syn. nov.**). The male and female genitalia of the three species are evidently different. In male genitalia, the shape of valves in *P. everesti* and *P. verityi* are more rounded than that in *P. machaon* (more angular), and the shapes of the superuncus are different as well. The superuncus of *P. everesti* is less curved and blunt in lateral view, while in *P. verityi* and *P. machaon*, it is evidently curved and acute in lateral view, in *P. verityi* it is also much longer. The harpes and juxta of the three species are also different to a certain extent (Figures 10, 12 and 14). The shape of the sclerotized plates on lamella antevaginalis are more evidently different in female genitalia, with those in *P. machaon* are the broadest and largest, in *P. verityi* they are the narrowest and longest, while those of *P. everesti* are the smallest and shortest (Figures 11, 13 and 15).

## Subgenus *Achillides* Hübner, [1819]

*Achillides* Hübner, [1819]; Verz. Bek. Schmett., (6): 85; TS: *Papilio paris* Linnaeus, 1758.

*Harimala* Moore, [1881]; Lepid. Ceylon, 1 (4): 145; TS: *Papilio crino* Fabricius, 1793.

*Sarbaria* Moore, 1882; Proc. Zool. Soc. Lond., 1882 (1): 258; TS: *Papilio polyctor* Boisduval, 1836.

*Pangeranopsis* Wood-Mason & Nicéville, [1887]; J. Asiat. Soc. Bengal (2), 55 (4): 374; TS: *Papilio elephenor* Doubleday, 1845.

*Achillides* Adamson, 1897; Cat. Butt. Coll. Burmah up to 1895, 47. [ISS]

## 62. *Papilio paris* Linnaeus, 1758

*Papilio paris* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 459; TL: 'Asia' [Guangdong, China].

### 62a. *Papilio paris paris* Linnaeus, 1758

*P.[apilio] paris majestatis* Fruhstorfer, 1909; Ent. Z., 22 (41): 171; TL: 'Tonkin, Annam, Tenasserim' [Vietnam and Tanintharyi, Myanmar].

*P.[apilio] paris splendorifer* Fruhstorfer, 1909; Ent. Z., 22 (41): 171; TL: 'Siam' [Thailand].

*P.[apilio] paris tissaphernes* Fruhstorfer, 1909; Ent. Z., 22 (41): 171; TL: 'Hainan' [Hainan, China].

*P.[apilio] paris paris* forma *decorosa* Fruhstorfer, 1909; Ent. Z., 22 (41): 171; TL: 'Sikkim'. [IFS]

*P.[apilio] paris* fa. *angelicae* Bryk, 1939; Ent. Tidskr., 60 (3/4): 262, f. 5; TL: 'Assam'. [IFS]

*P.[apilio] paris* forma *reductomaculata* Bryk, 1939; Ent. Tidskr., 60 (3/4): 263; TL: 'Assam'. [IFS]

**Distribution:** widely distributed in the lowlands and river valleys in W., S., and S.E. Yunnan; also found in S. China and Nepal, N.E. India to Indochina.

### 62b. *Papilio paris chinensis* Rothschild, 1895

*Papilio paris chinensis* Rothschild, 1895; Novit. zool., 2 (3): 385; TL: 'Western China...and probably Thibet'.

*Papilio paris chinensis* f. *gemmifera* Fruhstorfer, 1909; Ent. Z., 22 (41): 170; TL: 'Hochgebirge von Szechuan' [High mountains of Sichuan, China]. [IFS]

*Achillides paris wittmanni* Schäffler, 2004; Notes on Papilionidae, 2: 3, pl. 5, f. 1–6; TL: 'China, Sichuan, "Rotes Becken", Renshou' [Renshou, W. Sichuan]. **syn. nov.**

**Distribution:** confined to the lowlands in N.E. Yunnan; also found in C. to W. China.

**Note:** The taxon *Achillides paris wittmanni* Schäffler, 2004 falls within the range and variation of *Papilio paris chinensis* Rothschild, 1895 and is synonymised here (**syn. nov.**).

## 63. *Papilio arcturus* Westwood, 1842

*Papilio arcturus* Westwood, 1842; Ann. Mag. nat. Hist., 9 (55): 37; TL: 'Himalayan Mountains'.

### 63a. *Papilio arcturus arcturus* Westwood, 1842

*P.[apilio] arcturus arcturulus* Fruhstorfer, 1902; Dt. ent. Z. Iris, 14 (2): 349; TL: 'Szechuan, China' [Sichuan, China].

*Papilio arcturus* [ab.] *porphyrians* Oberthür, 1914; Ét. Lépid. Comp., 9 (2): 45, pl. 251, f. 2131; TL: 'la région sino-thibétaine, non loin de Tâ-t sien-lou' [not far from Kangding, Sichuan, China]. [IFS]

*Papilio arcturus* ab. *privatus* Röber, 1927; Int. ent. Z., 20 (44): 400; TL: 'Naga Hills' [Nagaland, N.E. India]. [IFS]

*Papilio arcturus dawna* Tytler, 1939; J. Bomb. nat. Hist. Soc., 41 (2): 237; TL: 'Dawna Taung, Dawnas' [Dawna Range, S. Myanmar].

**Distribution:** found in W., S.W., C., S., and S.E. Yunnan; also found in other parts of W. China and S. China, as well as Nepal, Bhutan, N.E. India, Myanmar and Indochina.

## 64. *Papilio krishna* Moore, [1858]

*Papilio krishna* Moore, [1858]; in Horsfield and Moore, Cat. lepid. Ins. Mus. East India Company, 1: 108, pl. 2a, f. 6; TL: 'Bootan... Darjeeling' [Bhutan and Darjeeling, N.E. India].

### 64a. *Papilio krishna thawgawa* Tytler, 1939

*Papilio krishna thawgawa* Tytler, 1939; J. Bomb. nat. Hist. Soc., 41 (2): 238; TL: 'Hthawgaw, N.E. Burma' [Hthawgaw, E. Kachin State, Myanmar].

*Papilio krishna nu* Yoshino, 1995; Neo Lepidoptera, 1: 1, f. 1–2; TL: 'Gaolingong Mts., midwest [sic] Yunnan Prov., China' [Gaolingong Shan, W. Yunnan, China].

**Distribution:** found in N.W. and W. Yunnan; also found in N. Myanmar.

### 64b. *Papilio krishna benyongi* Hu & Cotton ssp. nov. (Figure 19)

**Description:** ♂. Forewing length: 54–59 mm. Forewing upperside: velvet black scattered with gold green scales, postdiscal band straw white with gold green borders. Forewing underside: ground colour blackish brown, discocell



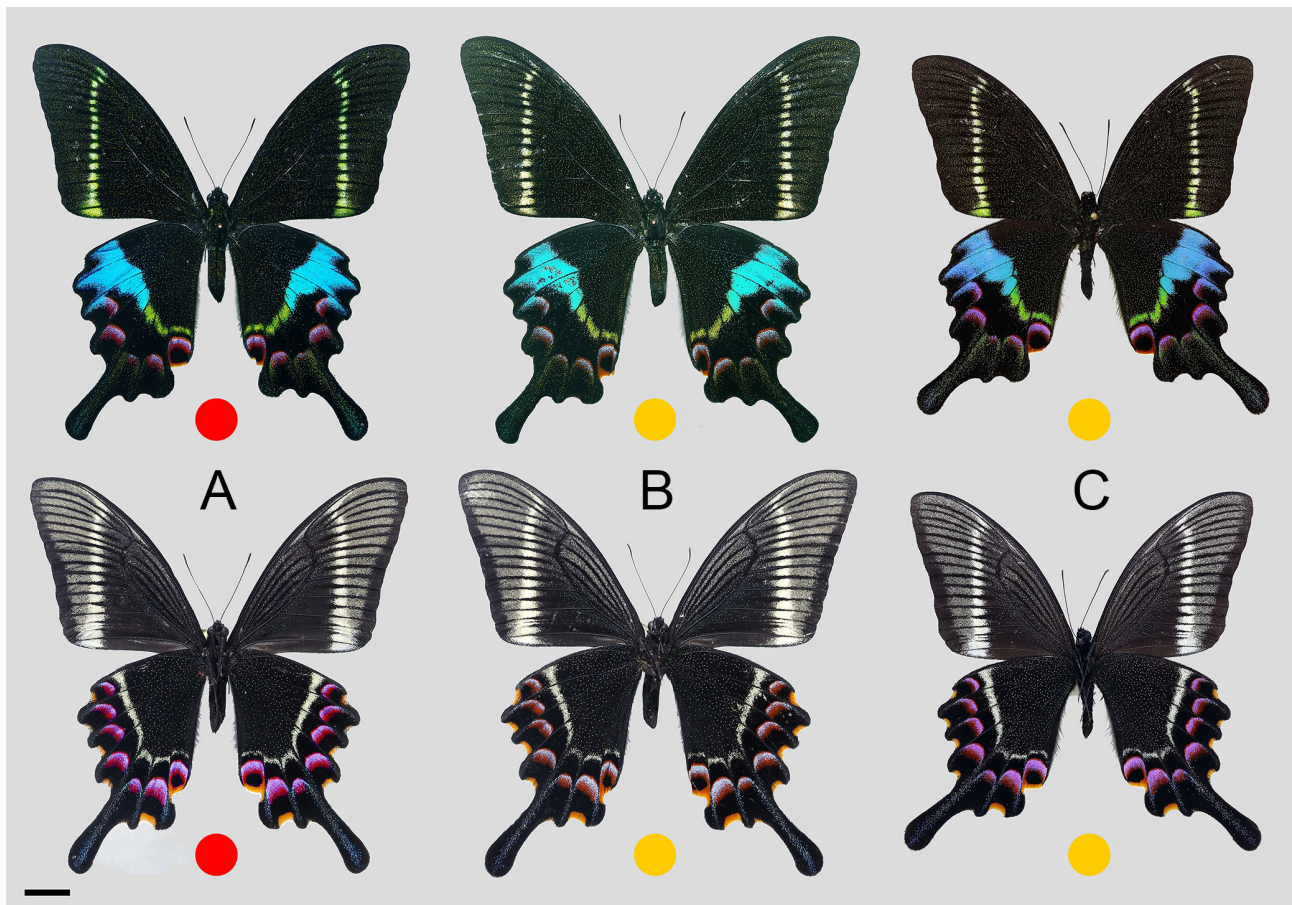
greyish with four black streaks, area below discocell peppered with gold greenish-blue scales, outer half greyish with black veins and intervenous streaks, postdiscal band whitish and broader. Hindwing upperside: velvet black scattered with gold green scales, postdiscal band gold green, connected with large serrate metallic blue apical patch, subterminal lunules purple red shaded with blue and green scales, tornal purple red marking nearly circular. Hindwing underside: ground colour blackish brown, basal half peppered with straw white scales, postdiscal band whitish, continuously zigzagging in cells  $CuA_2$  to  $M_2$ , subterminal lunules larger, purple red shaded with blue scales, termen marked with orange at end of each cell. ♀. Unknown.

**Differential diagnosis:** Size similar to *ssp. thawgawa*, forewing length 54–59 mm. The distinct difference is the creamy postdiscal band on the underside of the hindwing is continuous in spaces  $M_2$  and  $M_3$ , instead of being interrupted as in other known subspecies. Differs from *ssp. charlesi* in the larger size, better developed markings and green hue to the forewings, dull blackish in *ssp. charlesi*.

**Type material:** **HOLOTYPE:** ♂, Pingpo, Yangbi, 2019-V-6, S. J. Hu *leg.* [KIZ]. **PARATYPES:** 4♂♂, the same collecting data as the holotype [SJH]; 1♂, Pingpo, 2,200 m, Dali, 2016-IV-25–V-20, Y. Yang *leg.* [AMC]; 2♂♂, Pingpo, 2,200 m, Dali, 2017-V–VI, Y. Yang *leg.* [AMC].

**Distribution:** currently only known from the Yangbi area of Dali.

**Etymology:** The subspecies name is dedicated to Prof. Ben-Yong Mao in Dali University, who contributed in the survey and conservation of butterflies in Cang Shan. The subspecies name is a masculine noun in the genitive case.



**FIGURE 19.** Types of *Papilio krishna benyongi* Hu & Cotton **ssp. nov.**; upperside on the first row, underside on the second row; A: holotype, ♂, B–C: paratypes, ♂; scale bar = 10 mm.

## 65. *Papilio bianor* Cramer, 1777

*Papilio bianor* Cramer, 1777; Utitl. Kapellen, 2 (9): 10, pl. 103, f. C; TL: ‘Canton, China’ [Guangdong, China].

### 65a. *Papilio bianor triumphator* Fruhstorfer, 1902

*Papilio polyctor triumphator* Fruhstorfer, 1902; Soc. ent., 17 (9): 65; TL: ‘Sikkim ... Assam ... Tonkin ... Siam’ [Sikkim, Assam, N.E. India; N. Vietnam; Thailand].

*P.[apilio] polyctor connectens* Mell, 1938; Dt. ent. Z., 1938 (2): 320; TL: ‘Tali und Chaochow, Westyunnan’ [Dali and Fengyi (9 km E. of Dali township), W. Yunnan, China]; [JH of *Papilio sarpedon connectens* Fruhstorfer, 1906 (Papilionidae)].

*Papilio polyctor kingtungensis* Lee, 1962; Acta ent. Sinica, 11 (2): 139, 144, pl. 2, f. 3, 5; TL: ‘Jingdong, Yunnan, China’.

*Papilio polyctor xiei* Chou, 1994; Monographia Rhopalocerorum Sinensium, 2: 150, 751, f. 5; TL: ‘Mengla, Yunnan, China’.

**Distribution:** commonly found in areas to the west of Ailao Shan in Yunnan; also found from N.E. India to Kachin State of Myanmar and parts of N. Indochina.

**Note:** In the original description of ssp. *triumphator* Fruhstorfer included series of specimens from Sikkim and Assam, plus a single specimen from each of N. Vietnam and S.E. Thailand. He specifically stated that Sikkim and Assam specimens are different and was proposing *triumphator* for the other population to that named *Papilio ganesa* by Doubleday (1842), the type of which he had not examined. Since the Sikkim population belongs to ssp. *ganesa* the type locality of ssp. *triumphator* is effectively Assam by implication (Cotton *et al.* 2021).

### 65b. *Papilio bianor bianor* Cramer, 1777

*Papilio bianor gladiator* Fruhstorfer, 1902; D. ent. Z. Iris., 14 (2): 270; TL: ‘Chiem-Hoa’ [Chiem Hoa, N. Vietnam].

*P.[apilio] bianor bianor* ab. *majalis* Seitz, 1906; Gross-Schmett. Erde, 1 (1): 10, pl. 3c, f. [2]; TL: ‘Kwang-Tung (z. B. auf Hongkong)’ [Guangdong, China, near Hong Kong]. [IFS]

*Pap.[ilio] polyctor titus* Fruhstorfer, 1909; Ent. Z., 22 (41): 167; TL: ‘Tonkin, Chiem-Hoa’ [Chiem Hoa, N. Vietnam].

*Papilio elegans* Chou, Yuan & Wang, 2000; Entomotaxonomia, 22 (4): 266, 273, f. 1–2; TL: ‘Lushan, Sichuan’ [Lushan, Sichuan, China]. [JH]

*Papilio pulcher* Chou, Yuan & Wang, 2000; Entomotaxonomia, 22 (4): 266, 273, f. 3–4; TL: ‘Lushan, Sichuan’ [Lushan, Sichuan, China].

*Papilio longimacula* Wang & Niu, 2002; Entomotaxonomia, 24 (4): 276, 284, f. 3–4, 18–20; TL: ‘Luoshan, Henan’ [Luoshan, Henan, China].

*Achillides polyctor simoni* Sturm, 2006; Notes on Papilionidae, 4: 3, f. 1–6; TL: ‘China, Sichuan, Mt. Quiong-Lai’ [Qionglai Shan, Sichuan, China].

**Distribution:** mainly found in areas to the east of Ailao Shan in Yunnan; also commonly found in C., S., and E. China, as well as N. Vietnam.

**Note:** Cotton *et al.* (2021) placed the taxon *Papilio bianor gladiator* Fruhstorfer, 1902 as a synonym of nominate *Papilio bianor*. Fruhstorfer described ssp. *gladiator* based on a series of dark specimens which do not differ significantly from specimens from southern China. He treated occasional green-marked specimens as belonging to a separate species, *Papilio polyctor* Boisduval, 1836, but these are the result of gene exchange between the two subspecies of *Papilio bianor* found in Yunnan. Intermediate specimens can be found through the area near the Red and Black River valleys.

### 66. *Papilio dialis* (Leech, 1893)

*Papilio dialis* Leech, 1893; Entomologist, 26 (357) (Suppl.): 104; TL: ‘Chia-ting-fu’ [Leshan, Sichuan, W. China].

### 66a. *Papilio dialis doddsi* Janet, 1896

*Papilio doddsi* Janet, 1896; Bull. Soc. ent. Fr., 1896 (9): 215; TL: ‘Laos Tonkinois.—Chaîne de partage des eaux entre le versant du Mékong et celui du golfe du Tonkin’ [the watershed hills between Mekong River in Laos and the Gulf of Tonkin in Vietnam].

*Papilio megei* Oberthür, 1899; Bull. Soc. ent. Fr., 1899 (14): 268; TL: ‘Haut-Tonkin’ [N. Vietnam].

*Papilio dialis schanus* Jordan, 1909; in Seitz, Gross-Schmett. Erde, 9 (33): 77; TL: ‘Southern Shan States’ [S. Shan States, Myanmar].

**Distribution:** only found in lowlands of S.E. Yunnan; also found in S.E. Myanmar, Laos and Vietnam.

**67. *Papilio syfanius* Oberthür, 1886**

*Papilio syfanius* Oberthür, 1886; Étud. Ent., 11: 13, pl. 1, f. 3; TL: Tâ-Tsien-Loû [Kangding, Sichuan, China].

**67a. *Papilio syfanius kitawakii* Shimogôri & Fujioka, 1997**

*Papilio maackii kitawakii* Shimogôri & Fujioka, 1997; in Fujioka *et al.*, Jap. Butts. Relativ. World, 1: 294; TL: ‘23 km N. of Zayu, East Tibet’ [Chayu, E. Tibet, W. China].

*Papilio pavonis* Chou, Zhang & Xie, 2000; Entomotaxonomia, 22 (3): 223, 227, f. 1–2; TL: ‘Yunnan’ [Yunnan, China].

**Distribution:** only found in the N.W. corner of Yunnan; also found in S.E. Tibet.

**67b. *Papilio syfanius albosyfanius* Shimogôri & Fujioka, 1997**

*Papilio maackii albosyfanius* Shimogôri & Fujioka, 1997; in Fujioka *et al.*, Jap. Butts. Relativ. World, 1: 294; TL: ‘Likiang, Yunnan, China’ [Lijiang, Yunnan, China].

**Distribution:** widely distributed in N.W. and C. Yunnan; also found in S. Sichuan.

**68. *Papilio maackii* Ménétériès, 1859**

*Papilio maackii* Ménétériès, 1858; Bull. Cl. phys.-math. Acad. imp. Sci. St.-Pétersb., 17 (12/14): 212; TL: ‘à l'embouchure de l'Oussouri dans l'Amour ... depuis les montagnes de Chingan, jusqu'à Khangar’ [Khingang Mts. in the Amur region to Khangar, F.E. Russia].

**68a. *Papilio maackii han* Yoshino, 1997**

*Achillides maackii han* Yoshino, 1997; Neo Lepidoptera, 2 (2): 2, pl. 1, f. 5–10, 54; TL: ‘Mt. Wuyishan, Fujian prov., China’ [Wuyi Shan, Fujian, E. China].

*Papilio maackii shimogorii* Fujioka, 1997; in Fujioka *et al.*, Jap. Butts. Relativ. World, 1: 293; TL: ‘Mt. Omeishan, Sichuan, China’.

**Distribution:** only found in the lowlands of N.E. Yunnan; but widely distributed in C. to E. China.

**Note:** the species identities of *P. syfanius* and *P. maackii* had previously been disputed, until a recent genomic study confirmed they are two distinct species with a natural genetic exchange zone (Xiong *et al.* 2022). Condamine *et al.* (2023) confirmed this finding under a broader sampling background including over 80% of the world's *Papilio* species.

**Subgenus *Princeps* Hübner, [1807]**

*Princeps* Hübner, [1807]; Samml. Exot. Schmett., 1: pl. [116]; TS: *Papilio demodocus* Esper, 1799.

*Orpheides* Hübner, [1819]; Verz. Bekannt. Schmett., (6): 86; TS: *Papilio demodocus* Esper, 1799. [JOS]

*Opheides* Swinhoe, 1885; Proc. Zool. Soc. Lond., 1885 (1): 145. [ISS]

*Ophiedes* Swinhoe, 1887; J. Bomb. nat. Hist. Soc., 2 (4): 279. [ISS]

**69. *Papilio demoleus* Linnaeus, 1758**

*Papilio demoleus* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 464; TL: ‘Asia’ [Guangzhou, Guangdong, S. China].

**69a. *Papilio demoleus demoleus* Linnaeus, 1758**

*Papilio erithonius* Cramer, 1779; Uitl. Kapellen, 3 (20): 67, pl. 232, f. A–B; TL: ‘en Chine, à Java & sur la Côte de Coromandel’ [China, Java and coastal S.E. India].

*Papilio epius* Fabricius, 1793; Ent. Syst., 3 (1): 35; TL: ‘China’.

*Papilio erithonius* var. *Demoleinus* Oberthür, 1879; Ét. Ent., 4: 57; TL: ‘Chine’ [China].

*Pap.[ilio] demoleus libanius* Fruhstorfer, 1908; Ent. Z., 22 (35): 141; TL: ‘Takau, Formosa’ [Kaohsiung, Taiwan, China].

*P.[apilio] d.[emoleus] demoleus* ab. *rubropunctata* Dufrane, 1946; Bull. Anns. Soc. R. ent. Belg., 82 (5/6): 112; TL: ‘Cho Ganh, Tonkin’ [Cho Ganh, Ninh Binh, N. Vietnam]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *obliterata* Dufrane, 1946; Bull. Anns. Soc. R. ent. Belg., 82 (5/6): 112; TL: ‘Phu-lang-thuong, Tonkin’ [Bac Giang, N. Vietnam]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *jordani* Dufrane, 1946; Bull. Annl. Soc. R. ent. Belg., 82 (5/6): 113; TL: ‘région de Hanoi, Tonkin’ [Hanoi, N. Vietnam]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *bipunctata* Dufrane, 1946; Bull. Annl. Soc. R. ent. Belg., 82 (5/6): 113; TL: ‘Cho Ganh, Tonkin’ [Cho Ganh, Ninh Binh, N. Vietnam]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *punctata* Dufrane, 1946; Bull. Annl. Soc. R. ent. Belg., 82 (5/6): 113; TL: ‘Hoa binh, Tonkin’ [Hoa Binh, N. Vietnam]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *tripunctata* Dufrane, 1946; Bull. Annl. Soc. R. ent. Belg., 82 (5/6): 113; TL: ‘Hoa binh, Tonkin’ [Hoa Binh, N. Vietnam]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *coomani* Dufrane, 1946; Bull. Annl. Soc. R. ent. Belg., 82 (5/6): 113; TL: ‘Hoa binh, Tonkin’ [Hoa Binh, N. Vietnam]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *lemoulti* Dufrane, 1946; Bull. Annl. Soc. R. ent. Belg., 82 (5/6): 113; TL: ‘Longt Che Ou, Chine’ [Longzhou, Guangxi, China]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *joannisi* Dufrane, 1946; Bull. Annl. Soc. R. ent. Belg., 82 (5/6): 113; TL: ‘Cho Ganh, Tonkin’ [Cho Ganh, Ninh Binh, N. Vietnam]. [IFS]

*P.[apilio] d.[emoleus] demoleus* ab. *ochrea* Dufrane, 1946; Bull. Annl. Soc. R. ent. Belg., 82 (5/6): 113; TL: ‘Longt Che Ou, Chine’ [Longzhou, Guangxi, China]. [IFS]

*Papilio demoleus* var. *flavosignatus* Heydemann, 1954; Z. Wien. ent. Ges., 39 (11): 388; TL: ‘Dschellalabad, Afganistan’ [Jalalabad, Afghanistan].

**Distribution:** commonly found in lowlands and river valleys in W., S.W., C., S., and S.E. Yunnan; also found in S. China (including Taiwan Island) and N. Indochina through India westward to the Middle East.

### Subgenus *Araminta* Moore, 1886

*Araminta* Moore, 1886; J. Linn. Soc. Lond. (Zool.), 21 (126): 50; TS: *Papilio demolion* Cramer, 1776.

**Note:** Species of this subgenus had been placed within subgenus *Menelaides* in previous literature (e.g., Lee 1995; Wu 2001). Condamine *et al.* (2023) confirmed the distinct subgeneric status of *Araminta*, only distantly related to *Menelaides*.

### 70. *Papilio noblei* Nicéville, 1889

*Papilio noblei* Nicéville, 1889; J. Asiat. Soc. Bengal (2), 57 (4): 287, pl. 13, f. 2; TL: ‘Karen Hills, Burma’ [N. Kayin State, Myanmar].

*Papilio henricus* Oberthür, 1893; Ét. Ent., 17: 3, pl. 4, f. 39; TL: ‘Muong-Mou’ [N. Vietnam].

*P.[apilio] noblei* f. *vitalisi* Dubois, 1921; in Dubois & Vitalis, Contr. Faune ent. Indoch. Fr., (3): 12; TL: ‘(Ban-van-Nam) Laos’. [NN]

*Papilio noblei haynei* Tytler, 1926; J. Bomb. nat. Hist. Soc., 31 (2): 249; TL: ‘Myitkyina, North Burma’ [Myitkyina, N. Myanmar].

*Papilio noblei hoa* Gabriel, 1945; Entomologist, 78 (989): 152; TL: ‘Central Tonkin, Chiem Hoa’ [Chiem Hoa, N. Vietnam]

*Papilio noblei* f. indiv. ♂ *anteratra* Rousseau-Decelle, 1947; Bull. Soc. ent. Fr., 51 (9): 129; TL: ‘Hoa-Binh, Tonkin’ [Hoa Binh, N. Vietnam]. [IFS]

**Distribution:** only found in lowlands and river valleys in S., and S.E. Yunnan; also found in Myanmar and N. Indochina to C. Vietnam.

### Subgenus *Menelaides* Hübner, [1819]

*Menelaides* Hübner, [1819]; Verz. Bekannt. Schmett., (6): 84; TS: *Papilio polytes* Linnaeus, 1758.

*Nestorides* Hübner, [1819]; Verz. Bekannt. Schmett., (6): 86; TS: *Papilio gambrisius* Cramer, 1777.

*Iliades* Hübner, [1819]; Verz. Bekannt. Schmett., (6): 88; TS: *Papilio memnon* Linnaeus, 1758.

*Ecaudati* Koch, 1860; Stett. ent. Ztg., 21 (4/6): 230; TS: *Papilio memnon* Linnaeus, 1758. [JOS]

*Charus* Moore, [1881]; Lepid. Ceylon, 1 (4): 149; TS: *Papilio helenus* Linnaeus, 1758.

*Sainia* Moore, 1882; Proc. Zool. Soc. Lond., 1882 (1): 260; TS: *Papilio protenor* Cramer, 1775.

*Panosmiopsis* Wood-Mason & Nicéville, [1887]; J. Asiat. Soc. Bengal (2), 55 (4): 374; TS: *Papilio rhetenor* Westwood, 1841.

*Tamera* Moore, 1888; in Hewitson & Moore, Descr. new Ind. Lep. Coll. Atkinson, (3): 284; TS: *Papilio castor* Westwood, 1842.

*Saunia* Kirby, 1896; in Allen, Naturalist's Libr., Lepid. 1, Butts., 2: 301. [ISS]

*Sadengia* Moore, 1902; Lepid. Ind., 5 (58): 213; TS: *Papilio nephelus* Boisduval, 1836.

*Heterocreon* Kirby, 1902; in Wytsman, Samml. exot. Schmett., Addit. Notes, 3: 101; TS: *Papilio polytes* Linnaeus, 1758. [JOS]

*Mimbyasa* Evans, 1912; J. Bomb. nat. Hist. Soc., 21 (3): 972; TS: *Papilio janaka* Moore, 1857.

### 71. *Papilio helenus* Linnaeus, 1758

*Papilio helenus* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 459; TL: 'Asia' [Guangzhou, Guangdong, S. China].

#### 71a. *Papilio helenus helenus* Linnaeus, 1758

*P.[apilio] helenus helenus* ♂-ab. *rufatus* Rothschild, 1895; Novit. zool., 2 (3): 286; TL: 'Sikkim'. [IFS]

*Pap.[ilio] helenus aulus* Fruhstorfer, 1908; Ent. Wochenbl., 25 (9): 38; TL: 'Hainan' [Hainan, China].

*Papilio helenus* ab. *aurea* Boulet & Le Cerf, 1912; Bull. Soc. ent. Fr., 1912 (11): 247; TL: 'Cambodge, Pnom-Penh' [Phnom Penh, Cambodia]. [IFS]

*P.[apilio] helenus aspadantus* Fruhstorfer, 1916; Arch. Naturgesch., (A) 81 (11): 75; TL: 'Malayische Halbinsel' [Malay Peninsula].

**Distribution:** widely distributed in Yunnan except for the high mountains in the N.W. corner, and in W., C. & S.E. China; also found from N. India to Indochina and the Malay Peninsula.

### 72. *Papilio castor* Westwood, 1842

*Papilio castor* Westwood, 1842; Ann. Mag. nat. Hist., 9 (55): 37; TL: 'Sylhet' [southern Khasia Hills, India; north of Sylhet, Bangladesh]; [JH of *Papilio castor* Cramer, 1775 (Nymphalidae)—see Nomenclatural Notes section 2.1 above].

#### 72a. *Papilio castor kanlanpanus* Lee, 1962

*Papilio castor kanlanpanus* Lee, 1962; Acta ent. Sinica, 11 (2): 144, pl. 2, f. 1–2; TL: 'Ganlan Ba, Xishuangbanna, Yunnan, China'.

*Papilio castor kanlinpanus* Lee, 1962; Acta ent. Sinica, 11 (2): 139. [IOS]

**Distribution:** only found in lowlands in S. Yunnan; also found in N.W. Laos.

### 73. *Papilio chaon* Westwood, 1845

*Papilio chaon* Westwood, 1844; Arcana ent., 2 (19): 97, pl. 72, f. 1–1\*; TL: 'Assam' [N.E. India].

#### 73a. *Papilio chaon chaon* Westwood, 1845

*Pap.[ilio] chaon dispensator* Fruhstorfer, 1908; Ent. Z., 22 (18): 73; TL: 'Tonkin' [N. Vietnam].

*Pap.[ilio] chaon duketius* Fruhstorfer, 1908; Ent. Z., 22 (18): 73; TL: 'Siam' [Thailand].

*Pap.[ilio] chaon chaon* ♀ forma *leucacantha* Fruhstorfer, 1908; Ent. Z., 22 (18): 73; TL: 'Sikkim' [N.E. India]. [IFS]

*P.[apilio] chaon chaon* ab. *paraphanta* Jordan, 1909; in Seitz, Gross-Schmett. Erde, 9, (27): 53; TL: 'Cherra Punji, Assam' [Cherrapunji, Meghalaya, N.E. India]. [IFS]

*Papilio chaon* ab. *xanthia* Boulet & Le Cerf, 1912; Bull. Soc. ent. Fr., 1912 (11): 247; TL: 'Cambodge, Pnom-Penh' [Phnom Penh, Cambodia]. [IFS]

*P.[apilio] ch.[aon] chaon* ab. *tripunctata* Dufrane, 1936; Lambillionea, 36 (2): 42; TL: 'Sikkim' [N.E. India]. [IFS]

*P.[apilio] ch.[aon] chaon* ab. *pseudochaonulus* Dufrane, 1936; Lambillionea, 36 (2): 42; TL: 'Sikkim' [N.E. India]. [IFS]

**Distribution:** commonly found in low altitude tropical areas in W. to S.E. Yunnan; also found in S. China, as well as Nepal to Myanmar and Indochina.

**Note:** Condamine *et al.* (2023) confirmed the identity of *Papilio chaon* as a separate species from *P. nephelus*, found in the Malay Peninsular, Sumatra, Borneo and Java. Thus, the species in Yunnan is correctly *P. chaon*, with the nominotypical subspecies and ssp. *rileyi* present in the province.

### 73b. *Papilio chaon rileyi* Fruhstorfer, 1913

*Papilio chaon rileyi* Fruhstorfer, 1913; Dt. ent. Z. Iris, 27 (3): 135; TL: 'Chungking, Szetchuan, Westchina' [Chongqing, W. China].

*Papilio nephelus hefongensis* C. Li & H. Li, 1993; in Huang F. S., Insects of Wuling Mountains Area, S.W. China: 549, 575; TL: 'Hefeng of Wuling Mts., Hubei'.

**Distribution:** confined to the lowlands in N.E. Yunnan; also found in C. China.

### 74. *Papilio polytes* Linnaeus, 1758

*Papilio polytes* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 460; TL: 'Asia' [southern China, probably Guangzhou, Guangdong Province].

#### 74a. *Papilio polytes rubidimacula* Talbot, 1932

*Papilio polytes rubidimacula* Talbot, 1932; Bull. Hill Mus. Witley, 4 (3): 155; TL: 'Tibet (? south-east), Yunnan: Teng-yueh-Ting' [upper Nujiang Valley, Tengchong, Yunnan, China]

*Papilio polytes liujidongi* Huang, 2003; Neue ent. Nachr, 55: 45, pl. 4, f. 7–10; TL: 'Nidadan, Nujiang Valley, NW. Yunnan' [Nidadang, N.W. Yunnan, China].

[*Papilio polytes*] *liujiodngi* Yoshino, 2018; Butterfly Science, (12): 72. [ISS]

**Distribution:** confined to the Nujiang-Salween River valley in W. Yunnan.

#### 74b. *Papilio polytes romulus* Cramer, 1775

*Papilio romulus* Cramer, 1775; Uitl. Kapellen, 1 (4): 67, pl. 43, f. A; TL: 'Côtes de Coromandel & de Ceylon' [S. E. India & Sri Lanka].

*Papilio mutius* Fabricius, 1793; Ent. Syst., 3 (1): 3; TL: 'Tranquebariae' [Tharangambadi, S.E. India].

*Papilio cyrus* Fabricius, 1793; Ent. Syst., 3 (1): 7; TL: '[unknown]'.

*Papilio astyanax* Fabricius, 1793; Ent. Syst., 3 (1): 13; TL: 'India'. [JH of *Papilio astyanax*, Fabricius, 1775 (Nymphalidae)]

*Princeps heroicus Stichius* Hübner, [1808]; Samml. Exot. Schmett., 1: pl. [112], f. 1–2; TL: 'not stated'.

*Papilio polytes ceylanicus* C. Felder & R. Felder, 1864; Verh. Zool.-Bot. Ges. Wien, 14 (3): 319, 367; TL: 'Ceylon (Rambodde)' [Ramboda, Sri Lanka].

*P.[apilio] polytes pammon(?)* forma *cyroides* Fruhstorfer, 1909; Ent. Z., 22 (43): 178; TL: 'Sikkim' [N.E. India]. [IFS]

*P.[apilio] polytes neomelanides* Fruhstorfer, 1909; Ent. Z., 22 (43): 178; TL: 'Singapore'.

*P.[apilio] polytes* ♀ forma *rubida* Fruhstorfer, 1909; Ent. Z., 22 (43): 179; TL: 'Malabar' [S. W. India]. [IFS]

*Papilio chalcas* Fabricius, 1938; in Bryk, Syst. Glossat.: 19; TL: 'in Asiae Chalcas' [JH of *Papilio chalcas* Fabricius, 1775 (Papilionidae)].

*Papilio chalcaevorus* Fabricius, 1938; in Bryk, Syst. Glossat.: 24; TL: 'in Asiae Chalcas'

*Papilio polytes romulus* ♂ f. *abdulazizia* Tung, 1982; Tokurana., 4: 58, pl. 10, f. 1–2; TL: 'Perak: Cameron Highlands 7<sup>th</sup> mile' [E. of Tapah, Perak, W. Malaysia]. [IFS]

**Distribution:** commonly found in most tropical lowlands in S. to S.E. Yunnan; also found from India to Indochina and the Malay Peninsula.

#### 74c. *Papilio polytes latreilloides* Yoshino, 2018

*Papilio polytes latreilloides* Yoshino, 2018; Butterfly Science, (12): 69, f. 1–4; TL: 'Weixi County, North Yunnan, China'.

*P.[apilio] polytes yunnana* Mell, 1938; Dt. ent. Z. Iris, 1938 (2): 313; TL: 'Yunnan, Taligebiet, Mitu und Chipikuan bei Yunnanfu' [Dali mountains (probably Cang Shan), Midu and Bijiguan near Kunming, Yunnan, China]; [JH of *Papilio plutonius yunnana* Oberthür, 1907 (Papilionidae)].

[*Papilio polytes*] *latreilloides* Yoshino, 2018; Butterfly Science, (12): 71. [IOS]

[*Papilio polytes*] *latreilloides* Yoshino, 2018; Butterfly Science, (12): 72. [IOS]

[*Papilio polytes*] *latreilloides* Yoshino, 2018; Butterfly Science, (12): 72. [IOS]

**Distribution:** commonly found on the plateau of C. to W. Yunnan; also found in northernmost Vietnam.

#### 74d. *Papilio polytes polytes* Linnaeus, 1758

*Papilio pammon* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 460; TL: 'Asia' [Guangzhou, Guangdong Province, China].

*Papilio pammon* var. *borealis* C. Felder & R. Felder, 1862; Wien. ent. Monatschr., 6 (1): 22; TL: 'Ning-po' [Ningbo, Zhejiang, E. China].

*P.[apilio] polytes borealis* ♀-f. *mandane* Rothschild, 1895; Novit. zool., 2 (3): 348; TL: 'Western China ... Loo Choo Islands'. [IFS]

*Papilio richardi* Fernández, 1912; Boln. R. Soc. Esp. Hist. nat., 12 (5): 302, f. 1; TL 'Ya-lan, Hu-nan setentrional' [Yalan, Hunan, China].

*P.[apilio] polytes* v. *porealis* Draeseke, 1923; Dt. ent. Z. Iris, 37 (3/4): 58. [ISS]

*Papilio polytes flavolineatus* Chou, Yuan & Wang, 2000; Entomotaxonomia, 22 (4): 267, f. 9–10; TL: 'Nantong, Jiangsu' [Nantong, Jiangsu, China].

*Papilio obscurus* Chou, Yuan & Wang, 2000; Entomotaxonomia, 22 (4): 267, 273, f. 11–12; TL: 'Lushan, Sichuan' [Lushan, Sichuan, China]. Here chosen as the available name under the ICZN Code First Reviser Principle.

*Papilio obscuras* Chou, Yuan & Wang, 2000; Entomotaxonomia, 22 (4): 273. Here chosen as an incorrect original spelling under the ICZN Code First Reviser Principle. [IOS]

[*Papilio polytes*] *polytes* Yoshino, 2018; Butterfly Science, (12): 70. [ISS]

*Papilio polytes sakiboso* Yoshino, 2018; Butterfly Science, (12): 74, f. 5–8; TL: 'Ximen County 1,500 m, Mt. Kongashan, West Sichuan, China' [SE slope Mt. Gonggashan, West Sichuan, China] **syn. nov.**

*Papilio polytes boreales* Yoshino, 2018; Butterfly Science, (12): 74. [ISS]

**Distribution:** confined to the lowlands in N.E. Yunnan; also found in C., S., to E. China.

**Note:** Yoshino (2018) described *Papilio polytes sakiboso* from the S.E. slope of Mt. Gonggashan, W. Sichuan, but these specimens are identical to nominate *Papilio polytes* which occurs widely around the eastern side of the mountain and the name is synonymised here (**syn. nov.**).

#### 75. *Papilio protenor* Cramer, 1775

*Papilio protenor* Cramer, 1775; Uitl. Kapellen, 1 (5): 77, pl. 49, f. A–B; TL: 'China'.

#### 75a. *Papilio protenor protenor* Cramer, 1775

*Papilio laomedon* Fabricius, 1793; Ent. Syst., 3 (1): 12; TL: 'China'; [JH of *Papilio laomedon* Cramer, 1775 (Papilionidae)].

*Pap.[ilio] protenor euanthes* Fruhstorfer, 1908; Ent. Z., 22 (11): 46; TL: 'Hainan' [Hainan, China].

*P.[apilio] protenor sulphitius* Fruhstorfer, 1909; Ent. Z., 22 (42): 175; TL: 'Tonkin, Annam' [N. & C. Vietnam].

**Distribution:** widely distributed in Yunnan except for the high mountains in the N.W. corner; very common in China to the south of Qinling Mountains and eastwards; also found from N.W. India, Myanmar and Indochina.

#### 76. *Papilio alcmenor* C. Felder & R. Felder, 1865

*Papilio alcmenor* C. Felder & R. Felder, 1865; Reise Öst. Fregatte Novara, 2: 129, pl. 20, f. d; TL: 'India Septentrionalis' [E. India].

#### 76a. *Papilio alcmenor alcmenor* C. Felder & R. Felder, 1865

*Papilio rhetenor* Westwood, 1841; Arcana ent., 1 (4): 59, pl. 16, f. 1–1a; TL: 'Assam' [N.E. India]; [JH of *Papilio rhetenor* Cramer, 1775 (Nymphalidae)].

*Papilio icarius* Westwood, 1847; Cab. Orient. ent., 5, pl. 2; TL: 'Assam'; [JH of *Papilio Icarius* Esper, 1793 (Lycaenidae)].

*Papilio alcmenor* C. Felder & R. Felder, 1864; Verh. Zool.-Bot. Ges. Wien, 14 (3): 324; TL: 'India Septentr.' [E. India]. [NN]

*P.[apilio] rhetenor turificator* Fruhstorfer, 1909; Ent. Z., 22 (42): 175; TL: 'Sikkim' [N.E. India].

*P.[apilio] rhetenor turificator* forma *albolunata* Fruhstorfer, 1909; Ent. Z., 22 (42): 175; TL: 'Sikkim' [N.E. India]. [IFS]

*P.[apilio] rhetenor* ♂-ab. *leucocelis* Jordan, 1909; in Seitz, Gross-Schmett. Erde 9 (33): 76; TL: '[not stated]'. [IFS]

**Distribution:** found in the lowlands in W. to S. Yunnan; also found from Nepal to Myanmar and N. Indochina.

**77. *Papilio bootes* Westwood, 1842 (Figure 20)**

*Papilio bootes* [sic] Westwood, 1842; Ann. Mag. nat. Hist., 9 (55): 36; TL: ‘Sylhet in the East Indies’ [southern Khasia Hills, India; north of Sylhet, Bangladesh].

**77a. *Papilio bootes mindoni* Tytler, 1939**

*Papilio bootes mindoni* Tytler, 1939; J. Bomb. nat. Hist. Soc., 41 (2): 237; TL: ‘Hthawgaw, N.-E. Burma’ [Hthawgaw, E. Kachin State, N.E. Myanmar].

**Distribution:** confined to the Dulong-Irrawaddy watershed; also found in Kachin State of Myanmar.

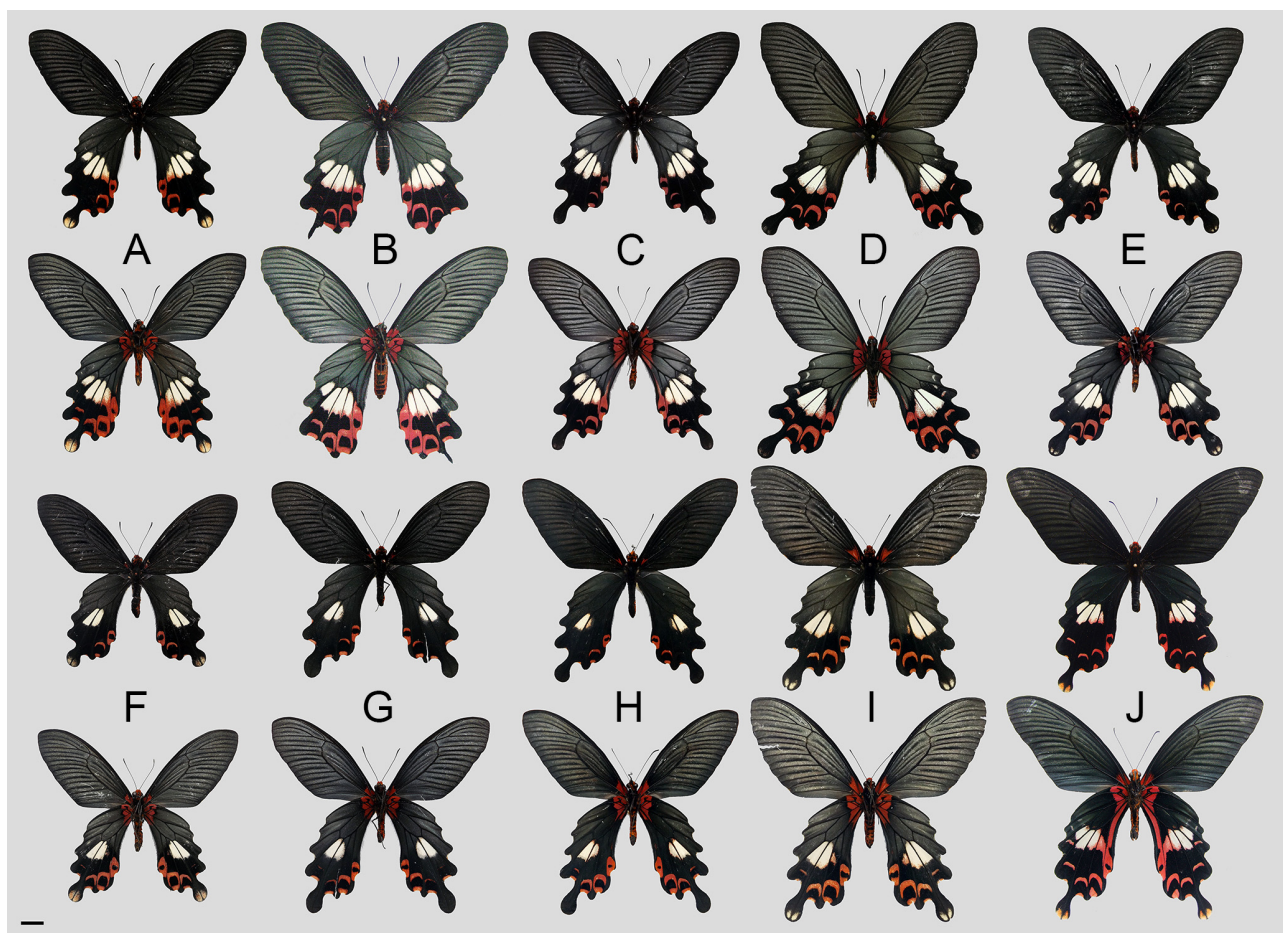
**Note:** HW basal area dark grey; 4 well developed postdiscal white spots, the spot in cell  $R_5$  usually well developed; tails usually with a paired spot at least indicated, sometimes distinctly red.

**77b. *Papilio bootes parcesquamata* Rosen, 1929**

*P.[apilio] bootes parcesquamata* Rosen, 1929; in Seitz, Gross-Schmett. Erde, Suppl. 1: 12, pl. 2c; TL: ‘from Lutsekiang and from Rohand [sic] in the Province of Yunnan’ [upper Salween Valley and Baihanluo, N.W. Yunnan, China].

**Distribution:** confined to the Nujiang-Salween watershed.

**Note:** HW basal area pale grey; 4 postdiscal white spots, the spot in cell  $R_5$  usually smaller than in ssp. *mindoni*; tails black, sometimes with a paired spot just indicated.



**FIGURE 20.** Comparison of four subspecies of *Papilio bootes* Westwood, 1842 found in Yunnan, China and *Papilio janaka* Moore, 1857. A: ♂, *P. bootes mindoni* Tytler, 1939 from Yingjiang, W. Yunnan; B: ♀, ditto, Tengchong, W. Yunnan; C: ♂, *P. bootes parcesquamata* Rosen, 1929 from Fugong, W. Yunnan; D: ♀, ditto, Fugong, W. Yunnan; E: ♂, *P. bootes rubicundus* Fruhstorfer, 1909 from Jinping, S. Yunnan; F: ♂, ditto, Yangbi, W. Yunnan; G: ♂, ditto, Dali, W. Yunnan; H: ♂, *P. bootes nigricauda* Lamas & Cotton nom. nov. from Yulong, N.W. Yunnan; I: ♀, ditto, Zhongdian, N.W. Yunnan; J: ♂, *P. janaka* Moore, 1857 from Dulongjiang, N.W. Yunnan. Scale bar = 10 mm.



**77c. *Papilio bootes rubicundus* Fruhstorfer, 1909**

*P.[apilio] bootes rubicundus* Fruhstorfer, 1909; Ent. Z., 22 (42): 176; TL: 'Tsekou' [Yanmen, N.W. Yunnan, China].

**Distribution:** found in the Lancang-Mekong and Yuanjiang-Red River watersheds; also found in N. Vietnam.

**Note:** HW basal area darker than ssp. *parcesquamata*; with 1–3 postdiscal white spots, sometimes the spot in cell  $M_1$  indicated; tails black, sometimes with a small paired spot.

**77d. *Papilio bootes nigricauda* Lamas & Cotton nom. nov.**

*Papilio bootes nigricauda* Lamas & Cotton nom. nov.; [Replacement name].

*P.[apilio] bootes nigricans* Rothschild, 1895; Novit. zool., 2 (3): 335; TL: 'Western China'; [JH of *Papilio aristeus* var. *nigricans* Eimer, 1889 (Papilionidae)].

**Distribution:** found in the Yangtze watershed in Yunnan; also found in Sichuan Province.

**Note:** HW without postdiscal white spots, or with 1–2 wedge-shaped spots, often diffuse; tails black, but can be marked with a pale spot in the female.

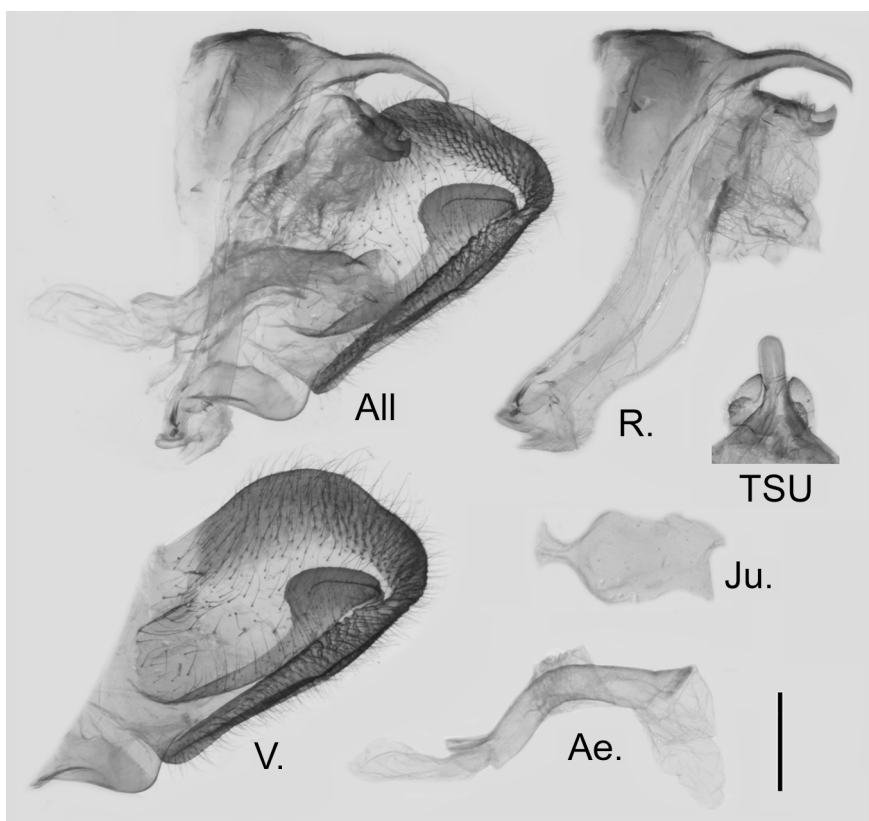
**78. *Papilio janaka* Moore, 1857 (Figure 20)**

*Papilio janaka* Moore, 1857; Proc. Zool. Soc. Lond., 1857 (333): 104, Annulosa, pl. 45; TL: 'Darjeeling' [N.E. India].

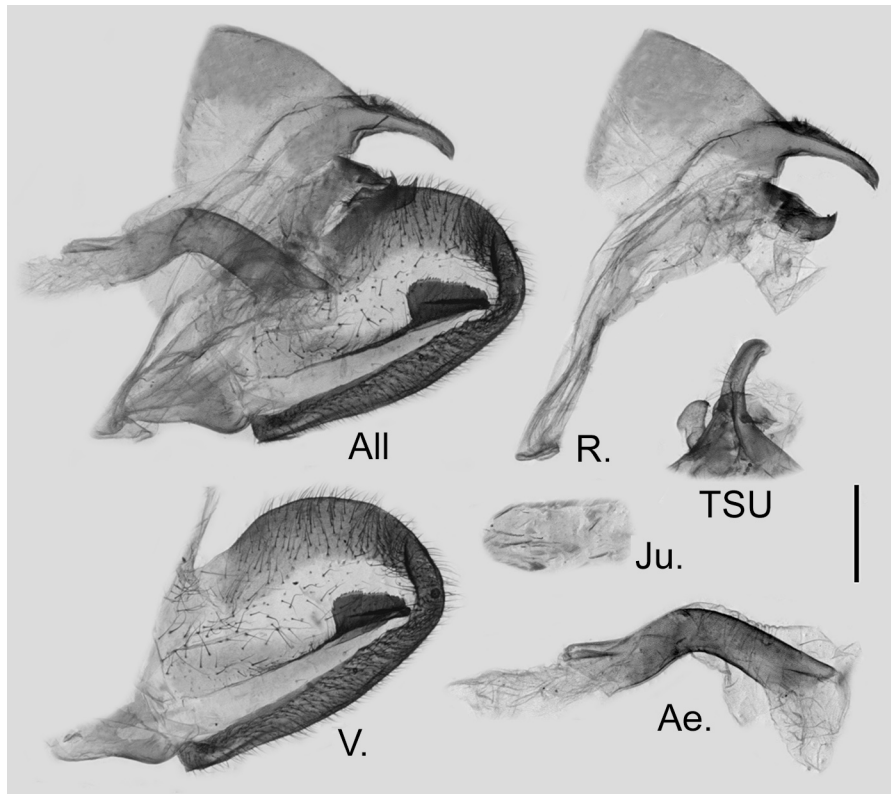
*Papilio sikkimensis* Wood-Mason, 1882; Ann. Mag. nat. Hist., (5) 9 (50): 103; TL: 'Sikkim Hills' [N.E. India].

*P.[apilio] kala* Tytler, 1915; J. Bomb. nat. Hist. Soc., 23 (3): 515; TL: 'Loharjang in Western Garhwal' [N.W. India].

**Distribution:** only found in areas to the west of Gaoligong Shan and Dulongjiang valley, N.W. Yunnan; also found in S. Tibet and from N.W. India to N. Myanmar.



**FIGURE 21.** Male genitalia of *Papilio bootes parcesquamata* Rosen, 1929 from Gongshan, N.W. Yunnan, China. All: whole genitalia with right valve removed, R.: ring, V.: right valve, TSU: tegumen, socii, and uncus, Ae.: aedeagus, Ju.: juxta. Scale bar = 1 mm.



**FIGURE 22.** Male genitalia of *Papilio janaka* Moore, 1857 from Dulongjiang, N.W. Yunnan, China. All: whole genitalia with right valve removed, R.: ring, V.: right valve, TSU: tegumen, socii, and uncus, Ae.: aedeagus, Ju.: juxta. Scale bar = 1 mm.

**Note:** Condamine *et al.* (2023) confirmed the distinct species identity of *Papilio janaka*, separate from *P. bootes*. The two species are sympatric in the Dulongjiang valley in N.W. Yunnan and in N.E. Kachin State, Myanmar. The male genitalic structures support such separation with constant differences in the space between superuncus and uncus, the shapes of harpe and juxta (Figures 21 and 22).

### 79. *Papilio agenor* Linnaeus, 1758

*Papilio agenor* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 460; TL: 'Asia' [Guangzhou, Guangdong, China].

### 79a. *Papilio agenor agenor* Linnaeus, 1758

*Papilio androgeos* Cramer, 1776; Uitl. Kapellen, 1 (8): 142, pl. 91, f. A–B; TL: 'China'.

*Papilio alcanor* Cramer, 1777; Uitl. Kapellen, 2 (14): 107, pl. 166, f. A; TL: 'China'.

*Papilio androgeus* Stoll, 1782; in Stoll, C. (ed.), Uitl. Kapellen 4 (Essai): 2. [ISS]

*Iliades mestor* Hübner, [1819]; Verz. Bek. Schmett., (6): 89; TL: 'China'.

*Papilio esperi* Butler, 1877; J. linn. Soc. Lond. (Zool.), 13 (68): 197; TL: 'Malacca'. [NN]

*Papilio esperi* Butler, 1879; Trans. Linn. Soc. Lond. (Zool.), 1 (8): 553, pl. 68, f. 7; TL: 'Malacca, Penang' [W. Malaysia].

*Papilio phoenix* Distant, 1885; Rhop. Malay.: 340, pl. 27b, f. 7; TL: 'Malay Peninsula; Province Wellesley' [Seberang Perai, Penang State, Malaysia].

*Papilio cilix* Distant, 1885; Rhop. Malay.: 340, pl. 29, f. 4, 5; TL: 'Malay Peninsula; Malacca'; [JH of *Papilio cilix* Godman & Salvin, 1879 (Papilionidae)].

*P.[apilio] androgeos* var. *depelchini* Robbe, 1892; Annl. Soc. ent. Belg., 36 (3): 125; TL: 'Kurseong' [Dajeeling, N.E. India].

*P.[apilio] memnon agenor* ♂ -ab. *primigenius* Rothschild, 1895; Novit. zool., 2 (3): 319; TL: 'Khasia Hills' [Meghalaya, N. E. India]. [IFS]

*P.[apilio] memnon agenor* ♀ -ab. *butlerianus* Rothschild, 1895; Novit. zool., 2 (3): 320; TL: '[not stated]'. [IFS]

*P.[apilio] memnon agenor* ♀ -ab. *distantianus* Rothschild, 1895; Novit. zool., 2 (3): 320; TL: '[not stated]'. [IFS]

*Iliades polymnestoroides* Moore, 1902; Lepid. Ind., 5 (58): 202, pl. 451, f. 1–2; TL: 'Jaintia Hills, Assam ... Barrackpur Park, near Calcutta' [N.E. India].

*P.[apilio] memnon agenor* ♀ ab. *vinius* Fruhstorfer, 1903; Dt. ent. Z. Iris, 15 (2): 307; [Replacement name for *cilix* Distant, 1885]. [IFS]

*P.[apilio] memnon agenor* ♀-f. *rhetenorina* Jordan, 1909; in Seitz, Gross-Schmett. Erde, 9 (33): 73; TL: 'North India'. [IFS]

*Papilio memnon agenor* ♀ form *phoeniciana* Strand, 1916; Lepidoptera Niepeltana, (2): 25, pl. 13, f. 8; TL: 'Sikkim' [N. E. India]. [IFS]

*Papilio memnon* L. ab ♀, *aphrodite* Röber, 1927; Int. ent. Z., 21 (13): 97 TL: 'Naga-Bergen (Assam)' [Naga Hills, Nagaland, N. E. India]. [IFS]

*Papilio memnon* ♀ f. *bootesina* Talbot, 1932; Bull. Hill Mus. Witley, 4 (3): 156. TL: 'Unknown'.

*Papilio Memnon-Agenor* ♀ *alcanor* f. ind. *ensifer* Rousseau-Decelle, 1933; Bull. Soc. ent. Fr., 37 (20): 301; TL: 'Khasia Hills, Assam' [Meghalaya, N. E. India]. [IFS]

*Papilio memnon aurantiaca* Rousseau-Decelle, 1933; Bull. Soc. ent. Fr., 38 (17): 273; TL: 'ne porte pas de localité d'origine' [without locality of origin].

*P.[apilio] memnon agenor* ab. *pohli* Dufrane, 1946; Bull. Anns Soc. r. ent. Belg., 82 (5/6): 116. TL: 'de l'Inde, sans localité précise' [India, without precise locality]. [IFS]

*Papilio memnon agenor* f. indiv. ♂ *coeruleocinctus* Rousseau-Decelle 1947; Bull. Soc. ent. Fr., 51 (9): 130; TL: 'Khasia Hills, Assam' [Meghalaya, N. E. India]. [IFS]

*Papilio memnon agenor* ♀-f. *tanahsahi* Eliot, 1982; Malay nat. J., 35 (1/2): 179; TL: 'Peninsular Malaysia, Perak, Gopeng, Ulu Groh 800 ft'. [IFS]

*Papilio memnon agenor* ♂ f. *syedzahiruddini* Tung, 1982; Tokurana, 4: 59, pl. 9, f. 1–2; TL: 'Perak: Cameron Highlands 17th mile' [W. Malaysia]. [IFS]

*Papilio angustus* Chou, Yuan & Wang, 2000; Entomotaxonomia, 22 (4): 267, 273, f. 5–6; TL: 'Fujian' [incomplete collecting data, Fujian, China].

*Papilio memnon* f. *yunnanensis* Chou, Yuan & Wang, 2000; Entomotaxonomia, 22 (4): 267, 273, f. 7–8; TL: 'Yunnan' [incomplete collecting data, Yunnan, China]. [IFS]

*Papilio memnon* f. *rhenorina* Chou, Yuan & Wang, 2000; Entomotaxonomia, 22 (4): 267, 273. [ISS]

**Distribution:** found in most parts of Yunnan at elevations below 2,500 m, more common in the tropical areas; widely distributed in W., C., S., and E. China, as well as N. India, Myanmar, Indochina to the Malay Peninsula.

**Note:** Condamine *et al.* (2023) confirmed *Papilio agenor* in mainland Asia as a distinct species from *P. memnon* in Sundaland.

### Subgenus *Chilasa* Moore, [1881]

*Chilasa* Moore, [1881]; Lepid. Ceylon, 1 (4): 153; TS: *Papilio dissimilis* Linnaeus, 1758.

*Clytia* Swainson, [1833]; Zool. Illustr., (2) 3 (26): pl. 120; TS: *Papilio clytia* Linnaeus, 1758 [JH of *Clytia* Lamouroux, 1812 (Cnidaria, Hydrozoa)].

*Cadugoides* Moore, 1882; Proc. Zool. Soc. Lond., 1882 (1): 260; TS: *Papilio agestor* G. Gray, 1831.

*Euploeopsis* Nicéville, 1887; in Elwes & Nicéville, J. Asiat. Soc. Bengal (2), 55 (5): 433; TS: *Papilio telearchus* Hewitson, 1852.

*Menamopsis* Nicéville, 1887; in Elwes & Nicéville, J. Asiat. Soc. Bengal (2), 55 (5): 433; TS: *Papilio tavoyanus* Butler, 1882.

*Isamiopsis* Moore, 1888; in Hewitson & Moore, Descr. New Ind. Lep. Coll. Atkinson, (3): 284; TS: *Papilio telearchus* Hewitson, 1852. [JOS]

*Chylasa* Medicielo & Hanafusa, 1994; Futao, (15): 16. [ISS]

**Note:** Condamine *et al.* (2023) confirmed that *Chilasa* is a subgenus of *Papilio* rather than a distinct genus.

### 80. *Papilio clytia* Linnaeus, 1758

*Papilio clytia* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 479; TL: 'Indiis' [mainland Asia, precise origin unknown (Honey & Scoble, 2001)].

### 80a. *Papilio clytia clytia* Linnaeus, 1758

*Papilio dissimilis* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 479; TL: 'Asia' [China].

*Papilio panope* Linnaeus, 1758; Systema Naturae (Ed. 10), 1: 479; TL: 'Asia' [China].

*Papilio lacedemon* Fabricius, 1793; Ent. Syst., 3 (1): 36; TL: 'Malabaria' [S.W. India].

*Papilio panopes* Godart, 1819; Encyc. Méth., 9 (Ins.)(1): 75. [ISS]

*Papilio papone* Westwood, 1872; Trans. ent. Soc. Lond., 1872 (2): 94, pl. 3, f. 2; TL: 'India orientali' [E. India].

*Papilio saturata* Moore, 1878; Proc. Zool. Soc. Lond., 1878 (3): 697; TL: 'Hainan' [Hainan, China].

*Papilio onpape* Moore, [1879]; Proc. Zool. Soc. Lond., 1878 (4): 840; TL: 'Hatsiega; Hougnduran source; Naththoung' [Tanintharyi, S. Myanmar].

*Papilio casyapa* Moore, 1879; Proc. Zool. Soc. Lond., 1879 (1): 143; TL: 'Calcutta district' [Kolkata, N.E. India].

*P.[apilio] clytia clytia* ab. *commixtus* Rothschild, 1895; Novit. zool., 2 (3): 367; TL: 'Khasia Hills' [Khasia Hills, Meghalaya, N.E. India].

*Papilio clytia* ab. *janus* Fruhstorfer, 1901; Ins. Börse, 18 (52): 413; TL: 'Annam und Siam' [C. Vietnam and Thailand]. [IFS]

*Pap.[ilio] clytia lanatus* Fruhstorfer, 1907; Ent. Z., 20 (37): 269; TL: 'Süd-Indien. Malabar- und Coromandelküste, Nilgherries und Karwar' [S. India]. Here chosen as the available name under the ICZN Code First Reviser Principle.

*Pap.[ilio] clytia lanata* Fruhstorfer, 1907; Ent. Z., 20 (37): 269. Here chosen as an incorrect original spelling under the ICZN Code First Reviser Principle. [IOS]

*P.[apilio] clytia* f. *vitalisi* Dubois, 1914; Anns. Soc. ent. Belg., 58 (5): 147; TL: 'Hué (Annam)' [Thua Thien Hue, C. Vietnam]. [IFS]

*P.[apilio] clytia* f. *saint Chaffrayi* Vitalis, 1919; Essai Traité ent. Indochin.: 212; TL: 'Huê (Annam)' [Thua Thien Hue, C. Vietnam]. [IFS]

*Chilasa clytia clytia* v. *dissimillima* Evans, 1923; J. Bomb. nat. Hist. Soc., 29 (1): 234; TL: 'N. E. India-Burma'. [IFS]

*Papilio clytia dissimilis* ab. *nigra* Dufrane, 1933; Lambillionea, 33 (7): 164; TL: 'Cho Ganh (Tonkin)' [Cho Ganh, Ninh Binh, N. Vietnam]. [IFS]

*Papilio clytia dissimilis* ab. *pallida* Dufrane, 1933; Lambillionea, 33 (7): 164; TL: 'Cho Ganh (Tonkin)' [Cho Ganh, Ninh Binh, N. Vietnam]. [IFS]

**Distribution:** only found in the lowlands and river valleys in W. to S. and S.E. Yunnan; widely distributed in S. to E. China and India, Myanmar, Indochina to the Malay Peninsula.

### 81. *Papilio paradoxa* (Zincken, 1831)

*Zelima paradoxa* Zincken, 1831; Nova Acta phys.-med. Acad. Caesar. Leop. Carol., 15 (1): 162, pl. 15, f. 9–10; TL: 'Java' [Java, Indonesia].

### 81a. *Papilio paradoxa telearchus* Hewitson, 1852

*Papilio telearchus* Hewitson, 1852; Trans. ent. Soc. Lond. (2) 2 (1): 22, pl. 6, f. 3; TL: 'Sylhet' [southern Khasia Hills, India; north of Sylhet, Bangladesh].

*Papilio danisepa* Butler, 1885; Ann. Mag. nat. Hist., (5) 16 (95): 343; TL: 'Near Assam ... Silhet' [N.E. India].

**Distribution:** only found in lowlands in S. Yunnan; also found in N.E. India, Myanmar and Indochina.

### 82. *Papilio agestor* G. Gray, 1831

*Papilio agestor* G. Gray, 1831; in J. Gray, Zool. Miscell., 1: 32; TL: 'Sumatra' [loc. err. = Nepal].

### 82a. *Papilio agestor agestor* G. Gray, 1831

*P.[apilio] agestor senchalus* Fruhstorfer, 1909; Ent. Z., 22 (45): 190; TL: 'Sikkim, Bhutan' [Sikkim, N.E. India; Bhutan].

*P.[apilio] agestor cresconius* Fruhstorfer, 1909; Ent. Z., 22 (45): 190; TL: 'Oberbirma, Assam' [N. Myanmar; Assam, N.E. India].

*P.[apilio] agestor agestorides* Fruhstorfer, 1909; Ent. Z., 22 (45): 190; TL: ‘Tibet(?), SW.-China, Lou-Tse-Kiang’ [the upper portion of Salween River, S.W. China].

*Papilio agestor ouvrardi* Bang-Haas, 1927; Horae Macrolep. Reg. Pal., 1: 1; TL: ‘Yünnan (Oui Siou, Wei-si); Petschong, südl. der Statd Yunnan’ [Weixi, N.W. Yunnan, China]; [JH of *Papilio ravana ouvrardi* Oberthür, 1920 (Papilionidae)].

*Chilasa agestor inaokai* Funahashi, 2003; Wallace, 8: 5, pl. 2, f. 4; TL: ‘near Dalat, 1800 m, S. Vietnam’.

**Distribution:** found in the lowlands and river valleys in W., S., to S.E. Yunnan; also found from Nepal to Myanmar and Indochina.

### 82b. *Papilio agestor restricta* Leech, 1893

*Papilio agestor* var. *restricta* Leech, 1893; Butts. China Japan Corea, (4): 557, pl. 35, f. 5; TL: ‘Chang-yang’ [Changyang, Hubei, C. China].

*Papilio tahmourath* Ehrmann, 1902; Ent. News, 13 (9): 291; TL: ‘S. China’.

*Papilio [restrictus]-undulosus* Oberthür, 1911; Ét. Lépid. Comp., 5 (1): 325, pl. 68, f. 651; TL: ‘Frontière chinoise orientale du Thibet’ [W. Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *emarginata* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *submarginata* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *marginata* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *bimarginata* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *ferrugineus* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *obscura* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *castaneus* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *binervata* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

*Papilio agestor restrictus* ab. *trinervata* Bang-Haas, 1934; Ent. Z., 47 (22): 179; TL: ‘Stzschwan mer. occ., Bango, Ginfu Shan’ [Jinfoshan, Sichuan, China]. [IFS]

**Distribution:** only found in the valley of the upper Yangtze River in Yunnan; also found in Sichuan and Shaanxi provinces.

### 83. *Papilio epycides* Hewitson, 1864

*Papilio epycides* Hewitson, 1864; Ill. Exot. Butts., 3 (49): [1], pl. [1], f. 16; TL: ‘North India’.

*Chilasa epycides* Yoshino, 2008; Futao, (54): 8. [ISS]

### 83a. *Papilio epycides curiatus* Fruhstorfer, 1902

*P.[apilio] epycides curiatus* Fruhstorfer, 1902; Dt. ent. Z. Iris, 14 (2): 349; TL: ‘Ruby-Mines, Ober-Birma’ [Kachin State, N. Myanmar].

*P.[apilio] epycides curiatus* Fruhstorfer, 1902; Dt. ent. Z. Iris, 14 (2): 350. [IOS]

*Papilio epycides* subsp. *curiatus* Moore, 1903; Lepid. Ind., 6 (67): 105. [ISS]

**Distribution:** confined to the valleys of the Nujiang-Salween and Dulong-Irrawaddy rivers in N.W. Yunnan; also found in S. Tibet and N. Myanmar.

### 83b. *Papilio epycides yamabuki* (Yoshino, 2008)

*Chilasa epycides yamabuki* Yoshino, 2008; Futao, (54): 7, pl. 1, f. 13–14; TL: ‘Zhondian County, North Yunnan, China’. [Zhongdian, N.W. Yunnan, China]

**Diistribution:** confined to the valleys of the upper Langcang-Mekong and Yangtze rivers.

### 83c. *Papilio epycides hypochra* Jordan, 1909

*P.[apilio] epycides hypochra* Jordan, 1909; in Seitz, Gross-Schmett. Erde, 9 (24): 41; TL: 'Shan States...Karen Mountains (Salween River)' [Shan States, Kayah State and N. Kayin State, Myanmar].

*Chilasa epycides hypochroa* D'Abrera, 1982; Butterflies of the Oriental Region, (1): 90. [ISS]

**Distribution:** only found in tropical lowlands in S. Yunnan; also found in S. Myanmar and N. Indochina.

### 83d. *Papilio epycides camilla* Rousseau-Decelle, 1947 stat. rev.

*Papilio epycides* subsp. *camilla* Rousseau-Decelle, 1947; Bull. Soc. ent. Fr., 51 (9): 128; TL: 'Hoa Binh, Tonkin' [Hoa Binh, N. Vietnam].

*Chilasa* (s. str. (*Cadugoides*)) *epycides* ssp. *muhabbet* Koçak, 2005; Misc. Pap. Centre ent. Stud., (91/92): 10. [replacement for *camilla* Rousseau-Decelle, 1947] **syn. nov.**

*Chilasa epycides camila* Yoshino, 2008; Futao, (54): 7. [ISS]

**Distribution:** found in lowlands in S.E. Yunnan; also found in Guangxi Province and N. Vietnam.

**Note:** This taxon name was not used as valid by authors after it was described by Rousseau-Decelle, but is adopted here for populations from S.E. Yunnan, Guangxi and N. Vietnam which differ from ssp. *hypochra* by the distinctly darker hindwings.

### 84. *Papilio slateri* Hewitson, 1859

*Papilio slateri* Hewitson, 1859; Ill. Exot. Butts., 2 (30): [3], pl. [2], f. 9; TL: 'Borneo' [loc. err. = Darjeeling, India].

*Papilio slateri* G. Gray, 1856; List Spec. Lepid. Ins. Br. Mus., 1: 85. [NN]

### 84a. *Papilio slateri hainanensis* (Chou, 1994)

*Chilasa slateri hainanensis* Chou, 1994; Monographia Rhopalocerorum Sinensium, 1: 122; 2: 750, f 3; TL: 'Hainan'.

**Distribution:** found in lowlands of S. to S.E. Yunnan; also found in S. to S.E. China and N. Vietnam.

**Note:** *Chilasa slateri hainanensis* Chou, 1994 is regarded as a valid subspecies based on wing morphology, especially the hindwing submarginal spots. Populations from Hainan, Guangxi, and N. Vietnam are all of the same subspecies, and the populations in Yunnan are treated as belonging to this taxon.

### Subgenus *Pterourus* Scopoli, 1777

*Pterourus* Scopoli, 1777; Introd. Hist. nat.: 433; TS: *Papilio troilus* Linnaeus, 1758.

*Agehana* Matsumura, 1936; Insecta matsum., 10 (3): 86; TS: *Papilio maraho* Shiraki & Sonan, 1934.

**Note:** Wu *et al.* (2015) confirmed the Asian mimetic '*Agehana*' species belong to *Pterourus*, and synonymised *Agehana* with *Pterourus*. Condamine *et al.* (2023) confirmed that *Pterourus* is a subgenus of *Papilio* rather than a distinct genus.

### 85. *Papilio elwesi* Leech, 1889

*Papilio elwesi* Leech, 1889; Trans. ent. Soc. Lond., 1889 (1): 113, pl. 7, f. 1; TL: 'Kiukiang' [Jiujiang, Jiangxi, E. China].

*Papilio elwesi cavaleriei* Le Cerf, 1923; Bull. Mus. Natnl. Hist. nat. Paris, 29 (5): 362; TL: 'Kouy-Tchéou, Kouy-Yang, China méridionale' [Guiyang, Guizhou, S.W. China].

*Agehana elwesi moritai* Sorimachi, 2010; Dino, (65): 87, f. 12A; TL: 'Luzhou, Sichuan, China'.

**Distribution:** only found in the N.E. corner of Yunnan; widely distributed in W., C., and E. China, also found in northernmost Vietnam.

### Taxa requiring confirmation

This section lists taxa documented in literature which require further confirmation.

### 1. *Parnassius citrinarius* Motschulsky, 1866

**Recorded Distribution:** Low altitude area in Zhaotong Prefecture, N.E. Yunnan.

**Note:** The record of this species is based on a single specimen in the collection of Yunnan University. However, it has not been collected in recent expeditions.

**Specimen examined:** 1♂, Yiliang, Zhaotong, N.E. Yunnan, 1995-VIII-7, J. C. He leg. [YNU].

### 2. *Lamproptera curius curius* (Fabricius, 1787)

**Recorded distribution:** Yunnan and Sichuan (Wu 2001: 186)

**Note:** Almost all available literature listed *L. curius curius* from S. Yunnan, Indo-China, Malay Peninsula, to Sumatra. However, such subspecies delimitation and range is facing an inevitable challenge now.

Hu *et al.* (2014) discussed the identity of the type specimen of *L. curius* in BMNH, which is a female *L. meges annamiticus* (Fruhstorfer, 1909) with bleached median band. By analysing the diary of Koenig (1894), Chanthaburi of Thailand was designated as the type locality of *L. curius*. This issue questions whether the nominotypical *L. curius* actually occurs in China. Further comparison between all Chinese populations and the Chanthaburi population using morphological and molecular characters is required, as well as resolution of the resultant nomenclatural problem.

### 3. *Lamproptera meges virescens* (Butler, 1870)

**Recorded distribution:** S.W. and S. Yunnan (Lee 1995: 45).

**Note:** There are two commonly seen morphologically separable subspecies of *L. meges* in Yunnan, one being *L. meges pallidus* (Fruhstorfer, 1909) in the Red River (Yuanjiang River) and Pearl River (Nanpan River) watersheds, and the other being *L. meges indistincta* (Tytler, 1912) occupying the Irrawaddy (Dulongjiang River), Salween (Nujiang River), and Mekong (Lancang River) watersheds. Many specimens previously identified as *virescens* were later proven to be *indistincta*. Whether true *virescens* really exists in Yunnan still needs further investigation.

### 4. *Papilio alcmenor nausithous* Oberthür, 1918

**Recorded distribution:** Xishuangbanna (Chen 2001: 51).

**Note:** The population Chen (2001) referred to this taxon in Xishuangbanna actually belongs to the nominotypical subspecies of *Papilio (Menelaides) alcmenor* C. Felder & R. Felder, 1865. *P. alcmenor nausithous* occurs in Sichuan and Shaanxi (Wu & Hsu 2017), and is probably present in N.E. Yunnan, which requires future confirmation.

## Excluded taxa and names

This section contains taxa documented in literature which are confirmed as erroneous or not found in Yunnan.

### 1. *Bhutanitis mansfieldi pulchriata* Saigusa & Lee, 1982 (Stetten & Bozano, 2021: 55)

This subspecies is confined to W. Sichuan, but was reported from Yulong Shan by Stetten & Bozano (2021) based on a series of commercial specimens with erroneous locality data (Stetten, pers. comm.), and does not occur in Yunnan.

### 2. *Ipyclides* [sic] *mandarinus* (Lee 1991: 352)

This is an incorrect combination of *Graphium (Pazala) mandarinus* (Oberthür, 1879) under genus *Ipyclides* Hübner, [1819], the genus name '*Ipyclides*' was misspelt.

### 3. *Paranticopsis macareus macareus* (Godart, 1819) (Chen 2001: 51)

The nominotypical subspecies of *G. (Pathysa) macareus* (Godart, 1819) only occurs in Java (Tsukada & Nishiyama 1980) and cannot be found anywhere in Yunnan. More notes are listed under the following taxon.

### 4. *Paranticopsis macareus lioneli* (Fruhstorfer, 1902) (Chen 2001: 51)

This subspecies is confined to N.E. India (Assam) and cannot be found anywhere in Yunnan. The misidentification was likely caused by seasonal and individual variation of wing pattern (striation width) of *G. (Pathysa) macareus*. The subspecies occurring in Yunnan are ssp. *burmensis* Moonen, 1984, ssp. *vadimi* sp. nov., and ssp. *indochinensis* (Fruhstorfer, 1901).

**5. *Paranticopsis xenocles xenocles* (Fruhstorfer, 1902) (Chen 2001: 51)**

This subspecies of *G. (Pathysa) xenocles* (Doubleday, 1842) is confined to Hainan Is. The subspecies occurring in Yunnan are ssp. *phrontis* (Nicéville, 1897) and ssp. *kephisos* (Fruhstorfer, 1902). Like *G. (P.) macareus*, the wing pattern of *G. (P.) xenocles* is also variable.

**6. *Graphium chiron* (Wallace, 1865) (Huang 1995: 43; Lee 1995: 40)**

The original name *Papilio chiron* Wallace, 1865 is a junior primary homonym of *Papilio chiron* Fabricius, 1775 (Nymphalidae) and *Papilio chiron* Rottemburg, 1775 (Lycaenidae), and therefore is unavailable. The name was replaced by *Papilio chiron* var. *chironides* Honrath, 1884, which is now *Graphium (Graphium) chironides* (Honrath, 1884) (Racheli & Cotton, 2009).

**7. *Graphium bathycles* (Zincken, 1831) (Lee 1962: 174)**

The range of true *G. bathycles* includes lower Malay Peninsula, Sumatra, Java, Borneo, and Palawan (Tsukada & Nishiyama 1980), far beyond Yunnan. The use of this name was caused by misidentification of the spring/dry season form of *G. chironides*, which has expanded green spots on both wings (Racheli & Cotton 2009).

**8. *Graphium eurypylus mecisteus* (Distant, 1885) (Lee 1995: 42)**

The range of this subspecies is Malay Peninsula, Sumatra, Java, Borneo, and Palawan (Tsukada & Nishiyama 1980). This subspecies does not occur in Yunnan.

**9. *Graphium eurypylus cheronus* (Fruhstorfer, 1903) (Lee 1962a: 174; Lee 1995: 42)**

According to Racheli & Cotton (2009), the original name, *Papilio eurypylus acheron* f. pluv. *cheronus* Fruhstorfer, 1903, is an unavailable infrasubspecific seasonal form, so cannot be used as the valid subspecies name and is a synonym of *G. eurypylus acheron* (Moore, 1885).

**10. *Graphium sarpedon sirkari* Page & Treadaway, 2013 (Page & Treadaway, 2013: 234)**

Page & Treadaway listed this taxon from 'Donggan, Mengallan, S. W. Yunnan', 'Dongchuan, N. E. Yunnan' and 'Ping Bian (Geiju), Yunnan'. This subspecies does not occur in Yunnan. The subspecies of *G. sarpedon* (Linnaeus, 1758) in Yunnan are the nominate subspecies and ssp. *luctatius* (Fruhstorfer, 1907).

**11. *Graphium cloanthus kuge* (Fruhstorfer, 1908) (Chen 2001: 51)**

This subspecies is confined to Taiwan and cannot be found anywhere in Yunnan (Racheli & Cotton 2009; Hsu 2013). The confusion must be caused by misidentification of the spring/dry season form, which has broader glassy green bands on both wings.

**12. *Meandrusa payeni evan* (Doubleday, 1845) (Chen 2001: 51)**

This subspecies is confined to N. and N.E. India (Sikkim and Assam) and Bhutan (Tsukada & Nishiyama 1980). The subspecies of *M. payeni* (Boisduval, 1836) in Yunnan are ssp. *amphis* (Jordan, 1909) and ssp. *langsonensis* (Fruhstorfer, 1901).

**13. *Dabasa gyas hercules* (Blanchard, 1871) (Lee 1995: 40)**

This is a false combination of two taxa. The name 'gyas' applies to *Meandrusa lachinus* (Fruhstorfer, 1902), since *Papilio gyas* (Westwood, 1841) is unavailable as a junior primary homonym of *Papilio gyas* Cramer, 1775 (Riodininae) (Racheli & Cotton 2009). The name 'hercules' applies to *Meandrusa sciron* (Leech, 1890), but *Papilio hercules* Blanchard, 1871 is unavailable as a junior primary homonym of *Papilio hercules* Dalman, 1823 (Morphinae) (Racheli & Cotton 2009). Additionally, the genus name *Dabasa* Moore, 1888 is a junior synonym of *Meandrusa* Moore, 1888. The description and illustration under this name in Lee (1995) matches *M. sciron*.

**14. *Byasa latreillei kabrua* (Tytler, 1915) (Lee 1962a: 172; Lee 1995: 38)**

The range of this subspecies is from N.E. India (Nagaland) to S. Tibet (Metok), which is completely outside of Yunnan. Li (1995) stated that *B. latreillei kabrua* occurs in Jinping (S. Yunnan, bordering with N. Vietnam), Zhenkang and Yongde (S.W. Yunnan, bordering with Shan State of Myanmar). Racheli & Cotton (2010) believed the population in S.W. border areas of Yunnan could be *B. latreillei ticona* (Tytler, 1939) which is also found in the



west of Gaoligong Shan in Yunnan (e.g., Dulongjiang) and N.E. Myanmar, and the authors adopted this treatment therein. However, the population from Jinping is *B. genestieri robus* (Jordan, 1928), **comb. nov.**

**15. *Byasa philoxenides* (Fruhstorfer, 1908) (Li 1989: 77)**

The original name *Papilio philoxenus lama* f. *philoxenides* Fruhstorfer, 1908 is an infrasubspecific name and therefore unavailable (Racheli & Cotton 2010); *philoxenides* actually referred to a morphological variation of *B. polyeuctes lama* (Oberthür, 1876) from W. Sichuan.

**16. *Pachliopta aristolochiae floresianus* (Rothschild, 1908) (Li 1991: 352; Lee 1995: 49)**

The name in the original text is “*Pachliopta aristolochiae floresiana*”, which is an unjustified emendation of the subspecific name. This taxon is restricted to Flores Is. of Indonesia and belongs to *Pachliopta adamas* (Zincken, 1831) (Page & Treadaway, 1995), and cannot be found anywhere in Yunnan (listed from Kunming and Dali). The misidentification is caused by the wide range of morphological variation of *P. aristolochiae*.

**17. *Pachliopta aristolochiae asteris* (Rothschild, 1908) (Li 1991: 352)**

This subspecies of *P. aristolochiae* is restricted to the Malay Peninsula (Tsukada & Nishiyama 1980), and cannot be found anywhere in Yunnan (listed from Yongsheng and Dali). The misidentification is due to the same reason mentioned above.

**18. *Pachliopta aristolochiae abasteris* [sic] (Lee 1995: 49)**

There is no such subspecies name in *P. aristolochiae*. It can be only an incorrect subsequent spelling of *P. aristolochiae asteris* (Rothschild, 1908).

**19. *Pachliopta aristolochiae interpositus* (Fruhstorfer, 1904) (Chen 2001: 51)**

This subspecies is confined to Taiwan Island of China, S.W. Japan, and Batanas of the Philippines (Page & Treadaway 2003; Racheli & Cotton 2010; Hsu 2013), and cannot be found anywhere in mainland China, including Yunnan. The subspecies Chen (2001) referred to should be ssp. *goniopeltis* (Rothschild, 1908) (Racheli & Cotton 2010).

**20. *Troides helena spilotia* Rothschild, 1908 (Lee 1995: 53)**

The name in the original text is ‘*Troides helena spilotius*’, which is an unjustified emendation of the subspecific name. This subspecies from Hainan does not occur in Yunnan.

**21. *Menelaides noblei* (Nicéville, 1889) (Lee 1995: 48)**

This is a false combination. *Papilio noblei* Nicéville, 1889 belongs to subgenus *Araminta* Moore, 1886. Genitalic structure and phylogenetic research (Condamine *et al.*, 2023) proved its relationship with other *Araminta* species rather than *Menelaides* species. The confusion was likely caused by external morphological resemblance to *Papilio helenus* Linnaeus, 1758.

**22. *Achillides polyctor* (Boisduval, 1836) (Lee 1995: 140)**

According to Cotton *et al.* (2021), *Papilio polyctor kingtungensis* Lee, 1962 (Lee 1962a: 173; Lee 1962b: 143) and *P. polyctor xiei* Chou, 1994 (Chou 1994: 150, 751) both belong to *P. bianor triumphator* Fruhstorfer, 1902, which is commonly found in the west to southwestern part of Yunnan. *Papilio polyctor* Boisduval, 1836 is a distinct species found in N.W. India (Condamine *et al.* 2023).

**23. *Chilasa epycides epycides* (Hewitson, 1864) (Chen 2001: 51)**

This subspecies is confined to N.E. India (Sikkim and Assam) and does not occur anywhere in Yunnan.

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