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RESEARCH ARTICLE

A new species of the genus *Paranthrenopsis* (Lepidoptera: Sesiidae) from China with a catalogue of the genus

Новый вид рода *Paranthrenopsis* (Lepidoptera: Sesiidae) из Китая с каталогом рода

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Abstract. A new species, *Paranthrenopsis sichuanensis* **sp. nov.** from the province of Sichuan, China, is described and figured. A preliminary catalogue of species of the genus *Paranthrenopsis* Le Cerf, 1911 is provided. The catalogue contains updated taxonomic information including the references to the original descriptions, information on name-bearing types, nearly complete bibliography, and the data on the known distribution of species.

Резюме. Приведено описание нового вида *Paranthrenopsis sichuanensis* **sp. nov.** из провинции Сычуань в Китае. Составлен предварительный каталог видов рода *Paranthrenopsis* Le Cerf, 1911, который включает данные о первоначальных описаниях, информацию о номенклатурных типах, почти полную библиографию и современные данные о распространении видов.

Key words: clearwing moths, taxonomy, Sichuan Province, China, Oriental Region, Sesiidae, Tinthiinae, Tinthiini, new species

Ключевые слова: бабочки-стеклянницы, таксономия, Сычуань, Китай, Ориентальный регион, Sesiidae, Tinthiinae, Tinthiini, новый вид

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Introduction

Despite rather high publication activity in the last three decades or so (Yang & Wang, 1989a, 1989b; Gorbunov & Eitschberger, 1990; Wang & Yang, 1992, 1994, 2002; Špatenka et al., 1999; Kallies & Arita, 2004; Jin et al., 2008; Kallies et al., 2014a, 2014b, 2016; Gorbunov et al., 2017; Xu et al., 1999, 2019; Arita et al., 2019; Yu et al., 2019, 2021; Arita et al., 2021a; etc), the knowledge of the Chinese sesiid fauna still remains uneven and is generally at a relatively low level. Only the fauna of the clearwing moths of Taiwan may be considered well studied (Strand, 1916; Wileman & South, 1918; Matsumura, 1931a; Zukowsky, 1932; Arita, 1992; Arita & Gorbunov, 2001, 2002; Liang & Hsu, 2015, 2017, 2019; Arita et al., 2016; etc.).

The genus *Paranthrenopsis* Le Cerf, 1911 was established with a single species, *P. harmandi* Le Cerf, 1911, collected near Tokyo in Japan (Le Cerf, 1911). Later *P. harmandi* was considered a junior synonym of *Tinthia editha* Butler, 1878 described from Yokohama, which is also located near

Tokyo (Hampson, 1919). Later, Strand (1916) described a monotypic genus *Oligophlebiella* Strand, 1916 from Formosa (now Taiwan). A revision of the type species of this genus (Arita & Gorbunov, 1998) revealed serious differences from the type species of the genus *Paranthrenopsis*. However, despite this, *Oligophlebiella* was formally synonymised with *Paranthrenopsis* (Kallies & Arita, 2001). I cannot agree with this decision but do not formally restore the genus *Oligophlebiella* from synonymy due to the lack of sufficient collection material.

The genus *Paranthrenopsis* currently contains seven species, including a new one described below. Species of the genus are distributed from the province of Sichuan in the west to the island of Honshu in Japan in the east and from southern Primorie (Primorskiy Territory) in the Far East of Russia in the north to northern Vietnam in the south. Unfortunately, host plants and larval bionomics are unknown for all species of the genus, but oviposition on the leaves of *Isodon trichocarpus* (Maxim.) Kudô (Lamiaceae) has been recorded for *P. editha* (Butler, 1878) in the Aomori Province of Japan (Kudo & Kudo, 2014).

The present article includes the description of a new species, *Paranthrenopsis sichuanensis* **sp. nov.** In addition, I provide an annotated catalogue of the genus *Paranthrenopsis*, which contains updated taxonomic information including the references to the original descriptions, information on the name-bearing types, nearly complete bibliography, and the data on flight periods and distribution of all seven species.

Material and methods

The descriptions of the specimens were made using a Leica EZ4 stereomicroscope with LED illumination. All images of the type series were taken with a Sony Alpha DSLR A-450 camera equipped with a Minolta 50 mm f/2.8 Macro lens. The genitalia were photographed using a Keyence BZ-9000 Biorevo fluorescence microscope. Processing of all illustrations was finalised using Adobe Photoshop CC 2020 software.

All labels of the holotype are cited verbatim. The labels with geographical data, data on photos and preparation numbers of the genitalia are printed on white paper, but the type label of the holotype and paratypes are printed on red paper. Each label is separated from other labels by a semicolon (;); lines in a label are separated by a slash (/). All pictures of specimens are labelled with a number consisting of letters and digits: name of the family, two consecutive digits separated by an n-dash and a year following the m-dash (e.g. SESIIDAE pictures Nos 0527-0528–2021). These letter and digit codes correspond to the numbering system of the figured specimens in the author's archive. Each preparation of the genitalia is stored in a microtube with glycerol pinned under the specimen. The dissected genitalia are equipped with the corresponding number placed in the microtube. This number as a label (e.g. genitalia preparation No. OG–001-2022) is pinned under the specimen and listed in the author's archive.

The material examined or mentioned herein is deposited in the following collections abbreviated in the text as follows: the Natural History Museum [formerly the British Museum (Natural History)], London, UK (BMNH); Insect Collection of Beijing Agricultural University, Beijing, China (CBAU); the A.N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences, Moscow, Russia (COGM); Entomological Institute of Hokkaido University, Sapporo, Japan (EHUS); Muséum national d'Histoire naturelle, Paris, France (MHNP); the National Museum of Nature and Science, Tsukuba, Tokyo (formerly Natural Science Museum Tokyo), Japan (NSMT); Senckenberg Deutsche Entomologische Institut, Müncheberg, Germany (SDEI).

Taxonomic account

Order **Lepidoptera**

Family **Sesiidae**

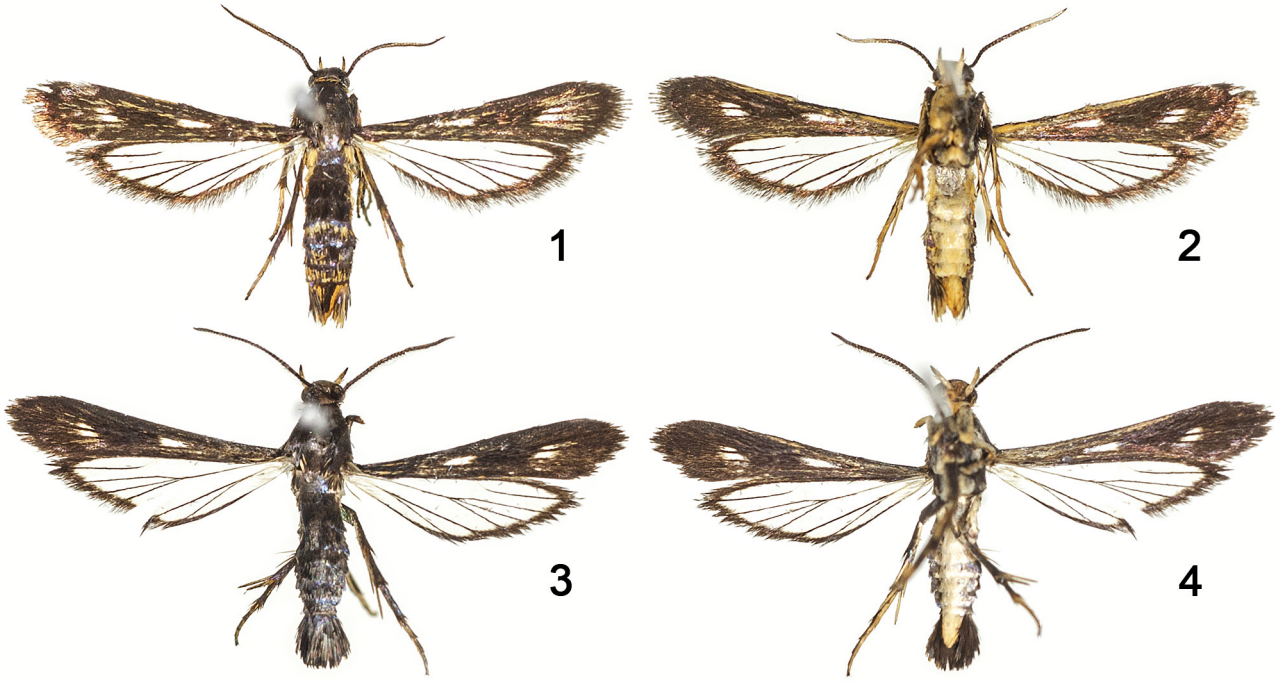
Subfamily **Tinthiinae**

Tribe **Tinthiini**

Genus ***Paranthrenopsis*** Le Cerf, 1911

***Paranthrenopsis sichuanensis* sp. nov.**
(Figs 1–9)

Holotype. Female, with labels: "China, Sichuan, / Qingcheng Hou Shan Mts., / 70 km W Chengdu, 1500 m, / 25.VI.2005, / S. & V. Murzin leg."; "SESIIDAE / Pictures №№ / 0527-0528–2021 / Photo by



Figs 1–4. *Paranthrenopsis sichuanensis* **sp. nov. 1–2**, female (holotype; alar expanse 15.8 mm; Sesiidae picture No. 0527-0528–2021); **3–4**, male (paratype; alar expanse 16.0 mm; Sesiidae picture No. 0529-0530–2021). Dorsal view (1, 3) and ventral view (2, 4).

O. Gorbunov"; "HOLOTYPUS ♀ / *Paranthrenopsis sichuanensis* / O. Gorbunov, 2022 / O. Gorbunov des., 2021" (COGM).

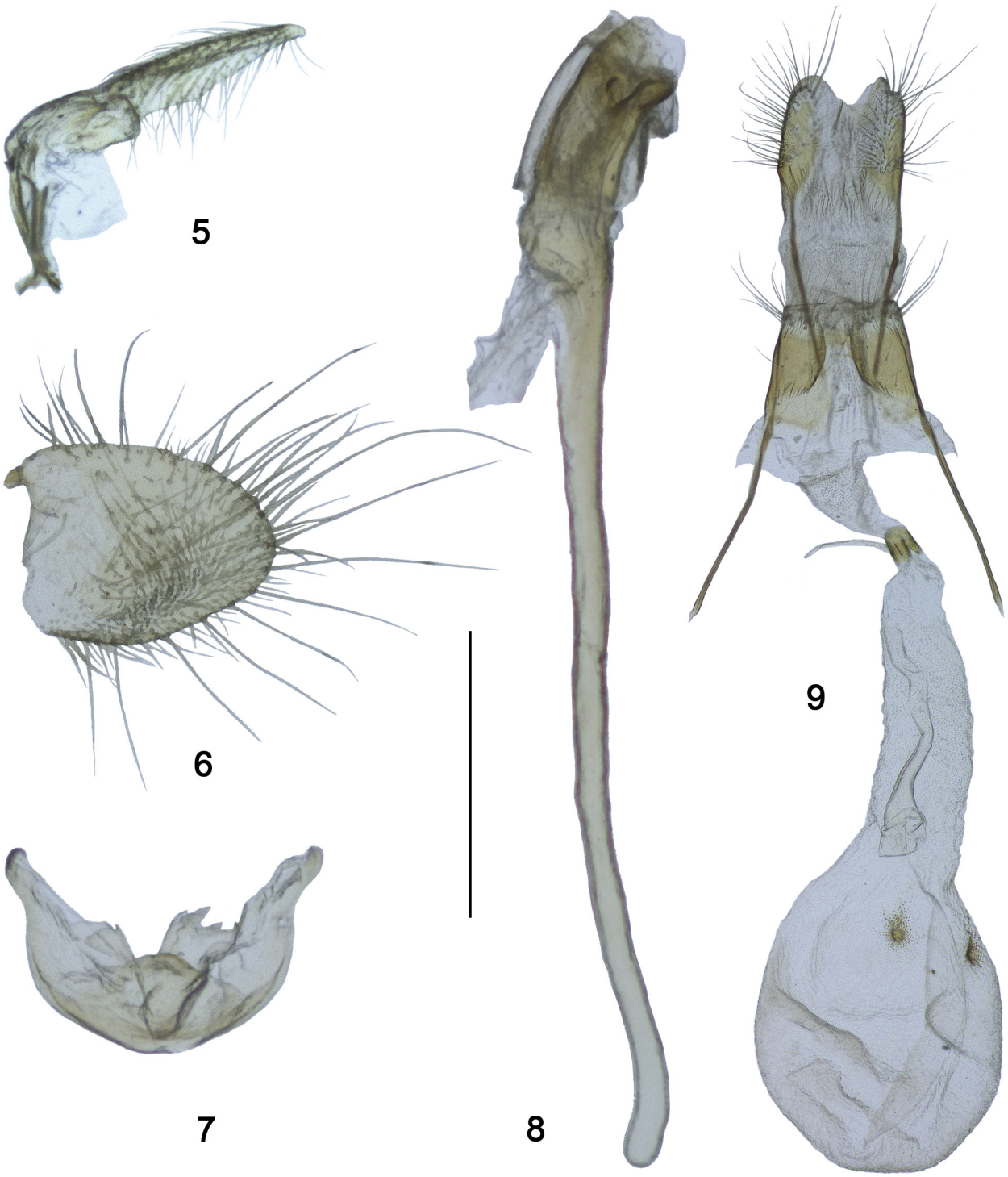
Paratypes. 1 male, 1 female, with same locality and date as in holotype, S. & V. Murzin leg. (COGM).

Description. *Female* (holotype) (Figs 1–2, 9). Alar expanse 15.8 mm; body length 6.7 mm; forewing length 7.0 mm; antenna length 3.0 mm.

Head. Antenna dorsally brown with dark violet sheen in basal two-thirds and pale yellowish in distal third, ventrally brown with bronze sheen. Scapus brown with dark violet sheen. Frons brown with violet sheen. Labial palpus smooth-scaled, pale yellow to yellow with a few brown scales apically. Vertex brown with greenish violet sheen and a few yellowish scales anteriorly. Pericephalic hairs yellow, with a few dark brown scales dorsally. Neck plate yellow with golden sheen.

Thorax. Patagia brown with violet sheen and a few yellow scales laterally. Tegula brown with violet sheen and a few yellow scales both at inner margin and distally. Mesothorax brown with violet sheen throughout. Metathorax brown with violet sheen and a few yellow scales laterally. Thorax laterally dark grey-brown with bright violet sheen and a large yellow spot with golden sheen medially. Posteriorly both metepimeron and metameron smooth-scaled, pale yellow with golden sheen.

Legs. Fore coxa yellow with golden sheen throughout. Fore femur yellow with golden sheen and admixture of individual grey-brown scales with violet sheen externally. Fore tibia dorsally brown with violet sheen and a few yellow scales both medially and distally, ventrally yellow with golden sheen. Basal and apical tarsomeres of fore tarsus dorsally brown with violet sheen and a few yellow scales both medially and distally; remaining tarsomeres dorsally yellow with admixture of brown scales with violet sheen; fore tarsus ventrally yellow with golden sheen throughout. Mid coxa yellow with golden sheen. Mid femur brown with violet sheen and narrow yellow posterior margin. Mid tibia brown with violet sheen and dense admixture of yellow scales with golden sheen externally; spurs yellow with golden sheen externally and grey-brown internally. Mid basal tarsomere brown with violet sheen and dense admixture of yellow scales with golden sheen externally; remaining tarsomeres yellow with golden sheen and a few grey-brown scales on each



Figs 5–9. Genitalia of *Paranthrenopsis sichuanensis* **sp. nov. 5–8**, male (paratype; genital preparation No. OG–001-2022): tegumen–uncus complex (5), valva (6), saccus (7), aedeagus (8); **9**, female (paratype; genital preparation No. OG–002-2022). Scale bar: 0.5 mm (5–8), 1.0 mm (9).

tarsomere dorsally. Hind coxa brown with violet sheen and narrow yellow posterior margin. Hind femur brown with violet sheen and narrow yellow posterior margin. Hind tibia externally brown with violet sheen, internally yellow with golden sheen, dorsally with a few longitudinal, pointed apically, dark yellow scales both medially and distally; spurs yellow with golden sheen externally and grey-brown internally. Hind basal tarsomere externally brown with violet sheen, internally yellow with golden sheen; remaining tarsomeres yellow with golden sheen and a few grey-brown scales dorsally on each tarsomere.

Forewing dorsally brown, with admixture of individual yellow scales and with bronze-violet sheen at costal margin and bronze sheen on remaining surface; transparent areas poorly developed, anterior transparent area small triangular, posterior transparent area undeveloped, external transparent area consists from two small cells between veins M_1 and M_3; cilia dorsally brown with bronze sheen. Forewing ventrally brown to dark brown, with bronze-purple sheen and yellow scales both at costal and anal margins; cilia ventrally brown with bronze sheen. Hind wing transparent but densely covered with transparent scales with purple-violet sheen; dorsally veins narrowly brown to dark brown with violet sheen; discal spot undeveloped; outer margin narrow, about half as broad as cilia, brown to dark brown with bronze sheen; ventrally veins and outer margin brown to dark brown with purple sheen, vein *CuP* yellow basally; cilia dorsally and ventrally brown with bronze sheen.

Abdomen dorsally dark brown with dark violet sheen; tergites 1 and 2 yellow laterally; tergites 4–6 each with admixture of individual yellow scales; abdomen ventrally yellow with golden-purple sheen throughout; anal tuft dark brown with purple-violet sheen and admixture of yellow-orange and yellow scales.

Female genitalia (paratype; genital preparation No. OG–002-2022; Fig. 9). Papillae anales broad, well-sclerotised but membranous ventrally, with numerous short and long setae on membranous parts. Apophysis posterioris about 0.8 times as long as apophysis anterioris. Tergite 8 relatively narrow, well-sclerotised, with numerous long setae at distal margin. Ostium bursae opening near posterior margin of sternite 7, broad, membranous. Antrum short, well-sclerotised. Ductus bursae broad and long. Corpus bursae ovoid, with two rounded groups of minute pointed spines.

Male (paratype) (Figs 3–8). Alar expanse 16.0 mm; body length 7.4 mm; forewing length 7.5 mm; antenna length 3.5 mm.

Different from female as follows: Antenna dorsally only with a few pale yellow scales in distal third. Labial palpus with more numerous brown scales apically. Legs with fore coxa yellow with golden sheen and dense admixture of brown scales with violet sheen, and other parts of legs with more numerous dark-coloured scales. Forewing dorsally with noticeably fewer yellow scales. Abdomen dorsally dark brown with dark greenish violet sheen and a few thin yellow-orange scales on tergite 6; abdomen ventrally entirely pale yellow with golden sheen; anal tuft entirely dark brown with greenish sheen.

Male genitalia (paratype; genital preparation No. OG–001-2022; Figs 5–8). Uncus narrow, covered with rather long setae. Tegumen short, without gnathos (Fig. 5). Valva (Fig. 6) broad, ovoid, relatively short, covered with long and short setae on inner surface. Saccus (Fig. 7) broad, short, rounded basally. Aedeagus (Fig. 8) rather broad, about as long as valva, with extremely long coecum penis. Vesica membranous.

Individual variability. Unknown for males. Females display no variation in the coloration of various parts of the body but slightly vary in the individual size: alar expanse 15.8–16.0 mm, body length 6.7–7.0 mm, forewing length 7.0–7.2 mm, antenna length 3.0–3.1 mm.

Comparison. The new species seems to be closest to *P. flavitaenia* Wang et Yang, 2002, but it clearly differs from the latter in the coloration of the abdomen ["dark brown dorsally with a pale yellow belt in the base of the fourth segment, anal tuft developed, blackish brown. Ventral surface of abdomen dark brown with a broad longitudinal yellow belt in the centre" (Wang & Yang, 2002: 24) in *P. flavitaenia*, *vs.* abdomen dorsally dark brown with dark greenish violet sheen and with a few thin yellow-orange scales on tergite 6, ventrally entirely pale yellow with golden sheen in *P. sichuanensis* **sp. nov.**; *cf.* Figs 1–4 in this article with figs 2, 3, 5 and 7 in Arita et al., 2021a].

From *P. flaviventris* Kallies et Arita, 2001, the new species can be distinguished by the coloration of the labial palpus (orange-yellow in *P. flaviventris*, *vs.* pale yellow to yellow with a few brown scales apically in *P. sichuanensis* **sp. nov.**), neck plate (entirely orange-yellow in *P. flaviventris*, *vs.* entirely yellow with golden sheen in *P. sichuanensis* **sp. nov.**), hind tibia and tarsus (orange-yellow, laterally party mixed with yellow in *P. flaviventris*, *vs.* hind tibia externally brown with violet sheen and internally yellow with golden sheen, basal hind tarsomere externally brown with violet sheen and internally yellow with golden sheen, remaining tarsomeres yellow with golden sheen and a few grey-brown scales dorsally on each tarsomere in *P. sichuanensis* **sp. nov.**) and abdomen (all tergites orange-yellow laterally, with coloration particularly intense on tergite 1, tergite 1 with narrow whitish posterior margin, tergite 4 orange-yellow in anterior half, tergite 5 with some orange-yellow scales in anterior half and tergite 6 with such scales in posterior half, all tergites ventrally bright orange-yellow throughout in *P. flaviventris*, *vs.* tergites 1 and 2 yellow laterally, tergites 4–6 each with admixture of individual yellow scales, all tergites ventrally yellow with golden-purple sheen throughout in *P. sichuanensis* **sp. nov.**; *cf.* Figs 1 and 3 in this article with fig. 4 in Kallies & Arita, 2001). In addition, these two species are very different in size (alar expanse 22.0–24.5 mm in *P. flaviventris*, *vs.* 15.8–16.0 mm in *P. sichuanensis* **sp. nov.**). From *P. siniaevi* Gorbunov et Arita, 2000, the new species is clearly separable by the distinctly smaller size (alar expanse 29.6 mm in *P. siniaevi*, *vs.* 15.8–16.0 mm in *P. sichuanensis* **sp. nov.**) and by the coloration of labial palpus and vertex (labial palpus dirty yellow-orange throughout and vertex dirty yellow-orange with an admixture of brown scales in *P. siniaevi*, *vs.* pale yellow to yellow with a few brown scales apically and vertex brown with a few yellowish scales anteriorly in *P. sichuanensis* **sp. nov.**), hind tibia and hind tarsus (hind tibia externally dirty yellow-orange with strong golden-bronze sheen, in basal half exterior-dorsally with admixture of brown to dark brown scales with purple sheen, and hind tarsus dirty yellow-orange with golden sheen throughout in *P. siniaevi*, *vs.* hind tibia externally brown with violet sheen, internally yellow with golden sheen, and basal hind tarsomere externally brown with violet sheen, internally yellow with golden sheen, remaining tarsomeres yellow with golden sheen and a few grey-brown scales dorsally on each tarsomere in *P. sichuanensis* **sp. nov.**) and abdomen (dorsally dark brown with greenish sheen and admixture of thin light brown scales, tergite 1 laterally narrowly dirty yellow-orange, ventrally dirty yellow-orange to yellow-orange with golden sheen and with a few brown scales on sternite 1+2 in *P. siniaevi*, *vs.* dorsally dark brown with dark violet sheen, tergites 1 and 2 yellow laterally, tergites 4–6 each with admixture of individual yellow scales, ventrally yellow with golden-purple sheen throughout in *P. sichuanensis* **sp. nov.**; *cf.* Figs 1 and 2 in this article with fig. 1 in Gorbunov & Arita, 2000). In addition, the new species differs from all congeners in the smallest size and colour details of various parts of the body.

Etymology. The name *sichuanensis* is a Latin adjective derived from the name of the Chinese province of Sichuan, where the new species was collected.

Distribution. The new species is known only from the type locality in Sichuan, China.

Bionomics. The larval host plant is unknown. The specimens of the type series were collected sitting on leaves of undetermined shrubs, in the second half of June, using an entomological net.

Habitat. The type series was collected in a deep mountain valley in a degraded rather humid secondary forest.

Catalogue of the genus *Paranthrenopsis* Le Cerf, 1911

Paranthrenopsis Le Cerf, 1911: 302 ("Genre *Paranthrenopsis* nov. gen."). Type species: *Paranthrenopsis harmandi* Le Cerf, 1911 (synonym of *Tinthia editha* Butler, 1878), by monotypy.

Oligophlebiella Strand, 1916: 49 ("Gen. *Oligophlebiella* Strand n. g."). Type species: *Oligophlebiella polishana* Strand, 1916, by monotypy. Synonymised by Kallies & Arita, 2001: 195.

Literature. Hampson, 1919: 118 (*Paranthrenopsis*; as a synonym of *Zenodoxus* Grote et Robinson, 1868); Dalla Torre & Strand, 1925: 4 (*Oligophlebiella*), 180 (*Paranthrenopsis*; as a synonym of *Zenodoxus*); Fletcher, 1929: 153 (*Oligophlebiella*), 163 (*Paranthrenopsis*); Gaede, 1933: 778 (*Oligophlebiella*); Naumann,

1971: 22 (*Oligophlebiella*), 23 (*Paranthrenopsis*); Heppner & Duckworth, 1981: 22 (*Paranthrenopsis*), 44 (*Oligophlebiella*); Fletcher & Nye, 1982: 112 (*Oligophlebiella*), 119 (*Paranthrenopsis*); Arita, 1992: 97 (*Oligophlebiella*); Špatenka et al., 1993: 85 (*Paranthrenopsis*); Arita & Gorbunov, 1998: 142 (*Oligophlebiella*); Gorbunov, 1998: 454, 455 (*Paranthrenopsis*); Špatenka et al., 1999: 35 (key), 44 (*Paranthrenopsis*); Kallies & Arita, 2001: 189, 195 (*Paranthrenopsis*); Pühringer & Kallies, 2004: 6 (*Paranthrenopsis*); Gorbunov, 2008: 110 (*Paranthrenopsis*); Jin et al., 2008: 524 (*Paranthrenopsis*, *Oligophlebiella*); Gorbunov, 2019: 158 (*Paranthrenopsis*); Pühringer & Kallies, 2021 (*Paranthrenopsis*).

Distribution. This genus is distributed in the southeastern Palaearctic and the northeastern Indo-Malayan regions, from western part of the Sichuan Province in the west to northern Honshu (Japan) in the east and from southern part of the Primorskiy Territory (the Russian Far East) in the north to northern Vietnam in the south.

Paranthrenopsis editha (Butler, 1878)

Tinthia editha Butler, 1878: 61, pl. XL, fig. 9 ("*Tinthia editha*, n. sp."). Type locality: "Yokohama (Jonas)" [= Japan, Honshu: Yokohama]. Lectotype: female (BMNH); designated by Špatenka (1992).

Paranthrenopsis harmandi Le Cerf, 1911: 302, pl. V, fig. 4 ("*P.*[*aranthrenopsis*] *Harmandi* nov. sp."). Type locality: "... Japon, Nippon moyen, environs de Tokio (1906)..." [= Japan, Honshu: environs of Tokyo]. Holotype: male (should be in MHNP, but I did not find it there; possibly lost during examination by C. Naumann). Synonymised by Hampson, 1919: 119.

Literature. Matsumura, 1905: 188 (*Tinthia* Walker, 1865); Bartel, 1912: 413, pl. 52, row f (*Tinthia*); Hampson, 1919: 119 (*Zenodoxus*); Dalla Torre & Strand, 1925: 181 (*Zenodoxus*); Matsumura, 1931a: 1017 (*Zenodoxus*); Kawada, 1950: 556, fig. 1532 (*Zenodoxus*); Inoue, 1954: 46 (*Trichocerota* Hampson, 1893); Shirozu, 1959: 229, pl. 164, fig. 5 (*Zenodoxus*); Yano, 1960: 230 (key), 231, figs 1A, 1B (*Zenodoxus*); Naumann, 1971: 52, Abb. 14, 53, 94, 132, 168, 213; Heppner & Duckworth, 1981: 22; Inoue, 1982: 238, pl. 4, figs 42, 43, pl. 296, fig. 21; Kozlov, 1989: 45, figs 1a, 2; Špatenka, 1992: 498; Špatenka et al., 1993: 85; Arita, 1994: 69, figs 4a, 4b; Gorbunov & Tshistjakov, 1995: 3; Špatenka et al., 1996: 3; Kozlov et al., 1998: 247, 248; Gorbunov, 1998: 455; Gorbunov & Tshistjakov, 1999: 294, figs 172–1–4, 177–1; Špatenka et al., 1999: 44, pl. 2, figs 16, 17, text figs 20, 286; Arita & Ikeda, 2000: 104, pl. [4], figs 1–6; Kallies & Arita, 2001: 195; Arita et al., 2004: 4, fig. 2; Pühringer & Kallies, 2004: 6; Gorbunov, 2008: 110; Jin et al., 2008: 524; Kudo & Kudo, 2014; Tshistjakov, 2016: 214; Gorbunov, 2019: 158; Arita et al., 2021b: 7, 50, figs 5a–c; Pühringer & Kallies, 2021.

Flight period. Adults occur from mid-July to mid-August.

Distribution. Japan (Tsushima, Kyushu, Shikoku, Honshu) and the Russian Far East (Primorskiy Territory). The records of this species from the provinces of Zhejiang and Fujian in China (Špatenka et al., 1999: 45, map) need confirmation.

Paranthrenopsis flavitaenia Wang et Yang, 2002

Paranthrenopsis flavitaenia Wang et Yang, 2002: 14, 23, fig. 26–536 ("*Paranthrenopsis flavitaenia*, sp. nov."). Type locality: "...Fujian: Xianfengling..." [= China, Fujian Prov., Wuyishan Distr.: Xianfengling Mt. near Guadun, 27°42′N 117°39′E]. Holotype: male (CBAU).

Literature. Pühringer & Kallies, 2004: 7; Arita et al., 2021a: 307, figs 2–8, 73, 90; Pühringer & Kallies, 2021.

Flight period. The type series was collected in June.

Distribution. The species is known only from the type locality.

Remark. The female is unknown.

Paranthrenopsis flaviventris Kallies et Arita, 2001

Paranthrenopsis flaviventris Kallies et Arita, 2001: 198, figs 4, 47 ("*Paranthrenopsis flaviventris* sp. nov."). Type locality: "...N. Vietnam, Ha Tay Prov., Mt. Tan Vien, 690–1,000 m...". Holotype: female (NSMT).

Literature. Pühringer & Kallies, 2004: 6; Pühringer & Kallies, 2021.

Flight period. The type series was collected from late April to late May.

Distribution. The species is known only from three localities in northern Vietnam.

Remark. The male is unknown.

Paranthrenopsis polishana (Strand, 1916)

Oligophlebiella polishana Strand, 1916: 49 ("*Oligophlebiella polishana* Strand n. sp."). Type locality: "...von Polisha IV.1910." [= China, Taiwan, Nantou Hsien County: Puli]. Lectotype: female (SDEI); designated by Arita & Gorbunov (1998).

Literature. Dalla Torre & Strand, 1925: 4 (*Oligophlebiella*); Gaede, 1933: 778, pl. 94, row a (*Oligophlebiella*); Heppner & Duckworth, 1981: 44 (*Oligophlebiella*); Arita, 1992: 97 (*Oligophlebiella*); Arita & Gorbunov, 1998: 143, figs 1, 2, 14, 16 (*Oligophlebiella*); Wang et al., 2000: 194, fig. (*Oligophlebiella*); Arita & Gorbunov, 2001: 132, fig. 1 (*Oligophlebiella*); Kallies & Arita, 2001: 195; Pühringer & Kallies, 2004: 6; Jin et al., 2008: 524 (*Oligophlebiella*); Arita et al., 2021b: 34, fig. 366a–d; Pühringer & Kallies, 2021.

Flight period. The type series was collected from late April to mid-July.

Distribution. The species is known only from the island of Taiwan, China.

Remark. The male is unknown.

***Paranthrenopsis sichuanensis* sp. nov.**

Paranthrenopsis sichuanensis **sp. nov.**: present publication: 55–60, Figs 1–9 ("*Paranthrenopsis sichuanensis* **sp. nov.**"). Type locality: China, Sichuan: Qingcheng Hou Shan Mts., 70 km W Chengdu, 1500 m. Holotype: female (COGM).

Flight period. The type series was collected in late October.

Distribution. The species is only known from the type locality.

Paranthrenopsis siniaevi Gorbunov et Arita, 2000

Paranthrenopsis siniaevi Gorbunov et Arita, 2000: 247, figs 1, 2 ("*Paranthrenopsis siniaevi* sp. nov."). Type locality: "...China, Shaanxi Prov., S. Taibashan Mts., Tsinling Mts., 1,900 m, Houzhenzi, 33°53′N, 107°47′E...". Holotype: female (COGM).

Literature. Pühringer & Kallies, 2004: 6; Jin et al., 2008: 524; Pühringer & Kallies, 2021.

Flight period. The holotype was collected in early August.

Distribution. The species is known only from the type locality.

Remark. The male is unknown.

Paranthrenopsis taiwanella (Matsumura, 1931)

Zenodoxus taiwanellus Matsumura, 1931a: 1018, fig. 1872 ("*Zenodoxus taiwanellus* Mats."). Type locality: "Formosa Shinchiku..." [= China, Taiwan: northern Taiwan]. Holotype: male (EHUS).

Literature. Matsumura, 1931b: 5, pl. I, fig. 9 (*Zenodoxus*); Gaede, 1933: 800 (*Tinthia*); Arita, 1991: 230, figs 15, 22 (*Tinthia*); Pühringer & Kallies, 2004: 6; Xu et al., 2019: 41, fig. 37, pl. II, fig. 9 (*Zenodoxus*); Pühringer & Kallies, 2021.

Flight period. The holotype was collected on 18 July.

Distribution. The species is known only from the type locality.

Remark. The female is unknown.

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