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TAXONOMIC NOTES ON *ARASCHNIA DORIS* LEECH, 1892 (LEPIDOPTERA, NYMPHALIDAE) FROM CHINA

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Two new synonyms are proposed: *Araschnia doris* Leech, 1892 = *A. burejana leechi* Oberthür, 1909, **syn. n.**, = *A. zhangi* Chou, 1994, **syn. n.** The taxon *leechi* is well known as a subspecies of *A. burejana* (Bremer, 1861), but it is actually the first generation of *A. doris*. The male and female genitalia of all confirmed species of the genus *Araschnia* Hübner, 1819 are illustrated.

KEY WORDS: Nymphalidae, *Araschnia*, seasonal dimorphism, generation, taxonomy, new synonymy, China.

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Два названия сведены в синонимы: *Araschnia doris* Leech, 1892 = *A. burejana leechi* Oberthür, 1909, **syn. n.**, = *A. zhangi* Chou, 1994, **syn. n.** Таксон *leechi*, ранее считавшийся подвидом *A. burejana* (Bremer, 1861), на самом деле представляет собой первую генерацию *A. doris*. Для всех сравниваемых видов рода *Araschnia* Hübner, 1819 приведены иллюстрации гениталий самцов и самок.

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INTRODUCTION

Araschnia doris Leech, 1892 is a small nymphalid butterfly which is distributed from West Sichuan eastwards to South-East China along the wide transitional belt between Palaearctic and Oriental regions in East Asia. Except for *A. doris*, other four confirmed species have been known for the genus *Araschnia* Hübner, 1819, they are: *A. levana* (Linnaeus, 1758), *A. burejana* (Bremer, 1861), *A. prorsoides* (Blanchard, 1871), and *A. davidis* Poujade, 1885. Among the above-mentioned species, *A. levana* and *A. burejana* are famous for their quite distinct seasonal dimorphism of two generations. For a long time *A. burejana leechi* Oberthür, 1909 was known as a subspecies or a form of *A. burejana* (Oberthür, 1909; Gaede, 1930; D'Abbrera, 1992; Chou, 1994). Recently Zhang & Chen (2006) pointed out that *A. leechi* is a bona species, but not a subspecies of *A. burejana*. In this study, I make a conclusion that *A. leechi* is only a seasonal form of *A. doris*. The dubious species *A. zhangi* Chou, 1994, which was described only basing upon a single female from Nanjing in Jiangsu Province (China), is just an individual aberrance of *A. doris*. Taking this opportunity, I publish the photographs of male genitalia (Figs 9-14) and female genitalia (Figs 15-20) of *A. doris* and all other confirmed species of *Araschnia*. Materials in this study are deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

TAXONOMIC NOTES

***Araschnia doris* Leech, 1892**

Figs 1-10, 15, 16

Araschnia doris Leech, 1892, Butterflies from China, Japan, and Corea 1: 272, pl. 26: 4, 5. Type locality: Moupin [Baoping, Sichuan].

Araschnia burejana leechi Oberthür, 1909, Études de Lépidopterologie comparée 3: 203. Type locality: Su Tchien [Sichuan]; **syn. n.**

Araschnia zhangi Chou, 1994, Monographia Rhopalocerorum Sinensium 2: 584, 767. Type locality: Nanjing, Jiangsu; **syn. n.**

MATERIAL. FIRST GENERATION (f. *leechi*). CHINA, Zhejiang: Mt. Tianmu-shan, IV-V 1935, IV 1937, 2 ♂, 2 ♀; Fujian: Jianyang, 350-460 m, 29.IV 1960, 1 ♂; Sichuan: Guanxian [Dujiangyan], 700-1000 m, 14.IV 1963, 8-23.IV 1964, 3 ♂, 1 ♀; Sichuan: Mt. Qingchengshan, 700-1600 m, 10.IV 1963, 3 ♂; Sichuan: Mt. Omei, 550-1000 m, 31.III-25.IV 1957, 2 ♂, 1 ♀; Sichuan: Lushan, 2007, 1 ♂. SECOND GENERATION (f. *doris*). CHINA, Shaanxi: Huangboyuan, 14.VII 1980, 1 ♀; Zhejiang: Mt. Tianmu-shan, 5.VII 1930, 8.V-VIII 1933, 15.VI-25.VIII 1947, 24.VII-16.IX 1947, 14 ♂, 9 ♀; Hubei: Mt. Shennongjia, 870-900 m, 19.VII 1998, 1 ♂; Hubei: Xuan'en, 30.VII 1989, 1 ♀; Hubei: Hefeng, 1200-1400 m, 30.VII-13.VIII 1989, 6 ♂; Hubei: Lichuan, Mt. Xingdoushan, 800 m, 24.VII 1989, 1 ♂; Jiangxi: Ku-ling, VIII 1935, 1 ♀; Hunan: Sangzhi, Mt. Tianpingshan, 1500-1650 m, 14-15.

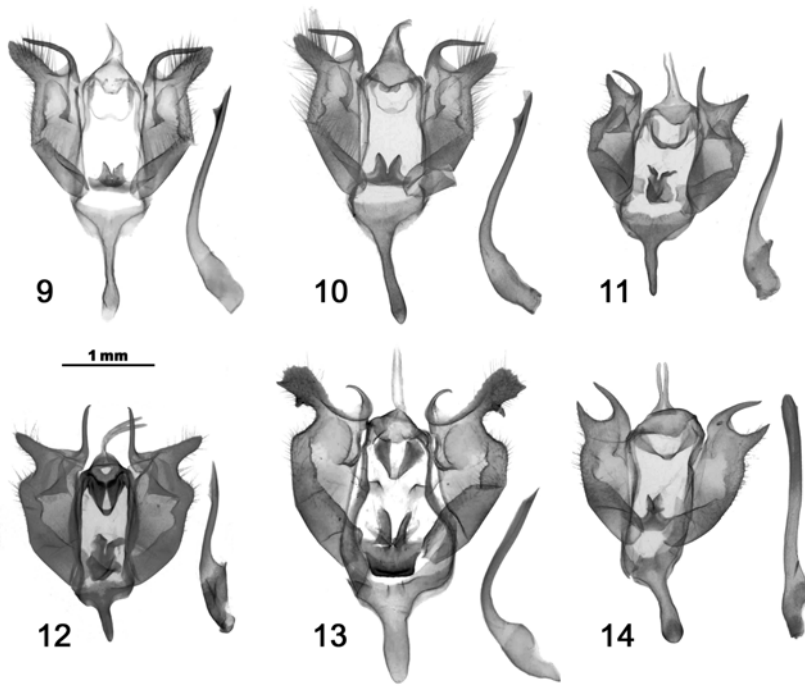
VIII 1988, 3 ♂; Hunan: Yongshun, 600-800 m, 5-7.VIII 1988, 3 ♂; Fujian: Mt. Wuyishan, 704 m, 20.X 2005, 1 ♂; Sichuan: Guanxian [Dujiangyan], 700-1000 m, 19.V-29.VIII 1963, 1.VI-24.VII 1964, 11 ♂, 1 ♀; Sichuan: Mt. Qingchengshan, 700-1600 m, 25.V-18.VII 1963, 30.VI-6.IX 1964, 13 ♂, 5 ♀; Sichuan: Mt. Omei, 800-1000 m, 15-22.VI 1957, 2 ♂; Yunnan: Yanjin, 800 m, 17.VI 1980, 1 ♂.



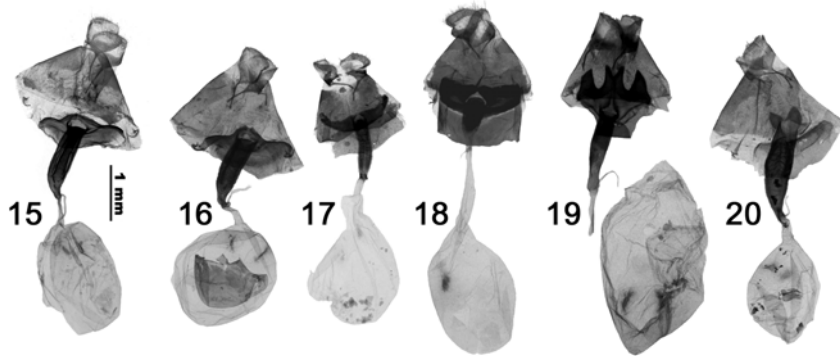
Figs 1-8. *Araschnia doris*, adults. 1) first generation, ♂ (Mt. Qingchengshan, Sichuan), dorsal; 2) ibidem, ventral; 3) first generation, ♀ (Mt. Omei, Sichuan), dorsal; 4) ibidem, ventral; 5) second generation, ♂ (Dujiangyan, Sichuan), dorsal; 6) ibidem, ventral; 7) second generation, ♀ (Hefeng, Hubei), dorsal; 8) ibidem, ventral.

DISTRIBUTION. China (Shaanxi, Jiangsu, Zhejiang, Hubei, Jiangxi, Hunan, Fujian, Sichuan, Guizhou, North Yunnan).

REMARKS. The subspecies status of *A. burejana leechi* accepted by many authors for a long time, until the work of Zhang & Chen (2006), in which *A. leechi* was raised to species status. Although *A. leechi* is quite different from *A. doris* externally, both have the same features of male and female genitalia. All species of *Araschnia* can be easily distinguished from each other by their own distinct diagnostic characters of both male and female genitalia (Figs 9-20). So, *A. leechi* and *A. doris* must be conspecific basing upon evidence from genitalia. After study on dates from the labels of specimens, it is found that all materials of *A. leechi* were collected from March to early May and all *A. doris* were collected from late May to September. Additionally, both taxa are sympatric in biogeography. Taking into account all these factors, I can safely reach the conclusion that *A. doris* and *A. leechi* are just one species, which has two distinct generations as *A. levana* and *A. burejana*. For these two names, the older *doris* is a valid name and *leechi* therefore is a junior subjective synonym of *A. doris*. The two generations of *A. doris* are respectively f. *leechi* (first generation) and f. *doris* (second generation).



Figs 9-14. *Araschnia*, male genitalia. 9) *A. doris*, second generation, Mt. Qingchengshan, Sichuan; 10) *A. doris*, first generation, Dujiangyan, Sichuan; 11) *A. levana*, Yablonya, Heilongjiang; 12) *A. davidis*, Barkam, Sichuan; 13) *A. burejana*, Yichun, Heilongjiang; 14) *A. prorsoides*, Hailuo Valley, Luding, Sichuan.



Figs 15-20. *Araschnia*, female genitalia. 15) *A. doris*, second generation, Mt. Qingchengshan, Sichuan; 16) *A. doris*, first generation, Dujiangyan, Sichuan; 17) *A. levana*, Yichun, Heilongjiang; 18) *A. davidis*, Miyalo, Lixian, Sichuan; 19) *A. burejana*, Jilin; 20) *A. prorsoides*, Eryuan, Yunnan.

A. zhangii Chou, 1994, which described only basing upon a single ill marked female, is only an individual aberrance of the second generation of *A. doris*. Therefore, I put it to a junior subjective synonym of *A. doris*.

BIOLOGY. Flight period: March to early May and late May to September, in two generations.

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