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**THREE NEW SYNONYMS OF SATYRINAE (LEPIDOPTERA, NYMPHALIDAE)  
FROM WESTERN CHINA**

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The article establishes three new synonyms of Nymphalidae (Satyrinae) *Minois undate* Chou, Yuan & Zhang, 2001 = *Satyrus ferula liupiuschani* O. Bang-Haas, 1933, **syn. nov.**, *Boeberia polyommata* Chou, Yuan & Zhang, 2001 = *Satyrus ferula liupiuschani* O. Bang-Haas, 1933, **syn. nov.** and *Erebia karamayensis* Chou, Yuan & Zhang, 2001 = *Arethusana arethusana* ([Denis & Schiffermüller], [1775]), **syn. nov.** The discovery of *Lyela macmahoni* Swinhoe, 1908 on the territory of NW China is disproved.

*Key words: fauna, Lepidoptera, Satyrinae, China, new synonym, Satyrus, Arethusana, Minois undate, Boeberia polyommata, Erebia karamayensis, Lyela macmahoni.*

**INTRODUCTION**

The Papilionoidea of Palaearctic are rather well studied, but in poorly investigated regions of Asia some taxons are still discovered as new for science. So, Chou et al. (2001) have described several new species and presented interesting faunistic discoveries, in particular, several species new for China. The holotypes are stored in the Entomological Museum, Northwest Sci-Tech University of Agriculture and Forestry (Yangling, Shaanxi, China). Later one species, *Hyponephela* (sic!) *nordoccidentalis* Chou, Yuan & Zhang, 2001 (type locality – Wudu, Gansu Province) was synonymized to *Hyponephela sifanica deiphobe* (Leech, 1894) (type locality – “... north of Ta-chien-lu” [N of Kangding, Sichuan, China]). It is necessary to note that Eckweiler and Bozano (2011), when establishing the synonym, made a mistake in the taxon spelling. They used the epithet “*nordoccidentalis* Chou, Yuan & Zhang, 2001” (Eckweiler, Bozano, 2011: 45, 101) instead of the epithet published in the first description: “*nordoccidentaris* Chou, Yuan & Zhang, 2001” (Chou et al., 2001: 203, 209, 215).

**RESULTS**

The study reveals several erroneous descriptions and establishes three new synonyms.

*Minois undate* Chou, Yuan & Zhang, 2001 (Figs 1–2) was described by a single female with the label “Gansu Province, VII-1989, coll. Tian Jianbei”. The holotype is shown on figures 19–20 (Chou et al., 2001: 210). The analysis of the images of the holotype show that *Minois undate* Chou, Yuan & Zhang, 2001 = *Satyrus ferula liupiuschani* O. Bang-Haas, 1933 (Figs 3–4) (type locality – Kansu mer., Tsing-Schui, Liu-Pin-Schan), **syn. nov.**



*Boeberia polyommata* Chou, Yuan & Zhang, 2001 (Figs 5–6) was described by a single male with the label “Gansu Province, V-1989, coll. Tian Jianbei”. The holotype is shown on figures 23–24 (Chou et al., 2001: 210).

The analysis of the images of the holotype show that *Boeberia polyommata* Chou, Yuan & Zhang, 2001 = *Satyrus ferula liupiuschani* O. Bang-Haas, 1933 (Figs 7–8), syn. nov. The date of collecting in the description is probably given incorrectly because the species of the genus *Satyrus* Latreille, 1810 belong to the late summer group.

*Erebia karamayensis* Chou, Yuan & Zhang, 2001 (Figs 9–10) was described by a small series (2 males, 1 female) from “Karamay, Xinjiang Autonomous Region”.

The female was designated as the holotype (collections of 1996, legit Zhang Chuanshi). 2 paratypes (males) were collected on 17.VII.1995 by the same collector. The holotype is shown on figures 45–46 (Chou et al., 2001: 213).

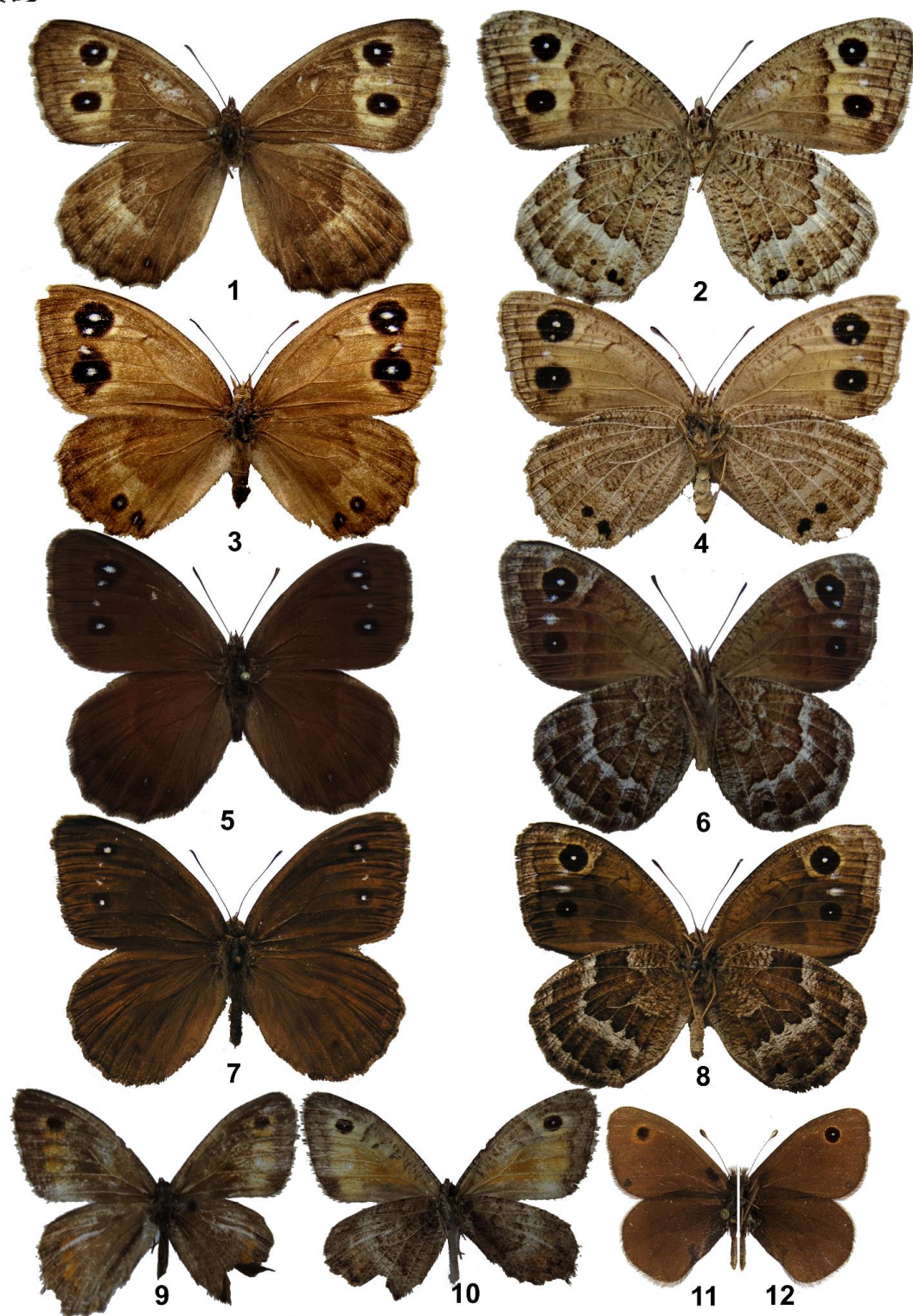
The analysis of the images of type specimen show that *Erebia karamayensis* Chou, Yuan & Zhang, 2001 = *Arethusana arethusana* ([Denis & Schiffermüller], [1775]) (type locality – Wien), syn. nov.

Besides, this study based on the collections from “Karamay, Xinjiang Autonomous Region” gives the species *Coenonympha* (*Lyele* (sic!)) *macmahoni* (Swinhoe, 1908) (Figs 11–12) as new for the Chinese fauna.

It is a rare species described by a series of specimen of both sexes collected in Quetta by the colonel A.H. MacMahon (Swinhoe, 1908). It is known from several localities (Quetta, Gwal, Urak and Zhob) of Baluchistan (Pakistan). The discovery of this rare species in the Chinese portion of the Dzungarian Gobi in 2200 km to NE from its known habitat was rather unexpected (Fig. 13).

The specimens determined as *Lyela macmahoni* Swinhoe, 1908 are shown on figures 57–58 (Chou et al., 2001: 213). The analysis of the images shows that in fact in Karamay the specimens of the group *Erebia callias* Edwards, 1871 were collected.

The specimens' determination is not known because the species in this group can be distinguished only by the male genitalia structure. Certainly, *Erebia* sp. could be collected not in the Dzungarian Gobi but probably in a few dozen kilometers to the East (in the Dzungarian Alatau system where the group *Erebia callias* has not been registered yet) or which is more possible, in 90–110 km to the North of Karamay in the Chinese portion of Tarbagatai, where *Erebia sibirica* Staudinger, 1881, known from the Kazakhstan portion of Saur and Tarbagatai, can be met (Bogdanov, 2008; Rubin & Yakovlev, 2013).



Figures 1–12.



Adult specimens of Satyrinae: 1. *Minois undate* Chou, Yuan & Zhang, 2001, holotype, upperside, (Entomological Museum Northwest A & F University); 2. *Minois undate* Chou, Yuan & Zhang, 2001, holotype, underside; 3. *Satyrus ferula liupiuschani* O. Bang-Haas, 1933, syntype, female, upperside (Museum für Naturkunde, Leibniz Institut für Evolution und Biodiversitätsforschung, Berlin); 4. *Satyrus ferula liupiuschani* O. Bang-Haas, 1933, syntype, female, underside; 5. *Boeberia polyommata* Chou, Yuan & Zhang, 2001, holotype, upperside, (Entomological Museum Northwest A & F University); 6. *Boeberia polyommata* Chou, Yuan & Zhang, 2001, holotype, underside; 7. *Satyrus ferula liupiuschani* O. Bang-Haas, 1933, syntype, male, upperside (Museum für Naturkunde, Leibniz Institut für Evolution und Biodiversitätsforschung, Berlin); 8. *Satyrus ferula liupiuschani* O. Bang-Haas, 1933, syntype, male, underside; 9. *Erebia karamayensis* Chou, Yuan & Zhang, 2001, paratype, male, upperside, (Entomological Museum Northwest A & F University); 10. *Erebia karamayensis* Chou, Yuan & Zhang, 2001, paratype, male, underside; 11. *Lyela macmahoni* Swinhoe, 1908, male, upperside, Toryhar, Balutschistan, 16.04.30, ex coll. Cl. Hörhammer (Zoologische Staatssammlung der Bayerischen Staaten, München); 12. *Lyela macmahoni* Swinhoe, 1908, male, underside.

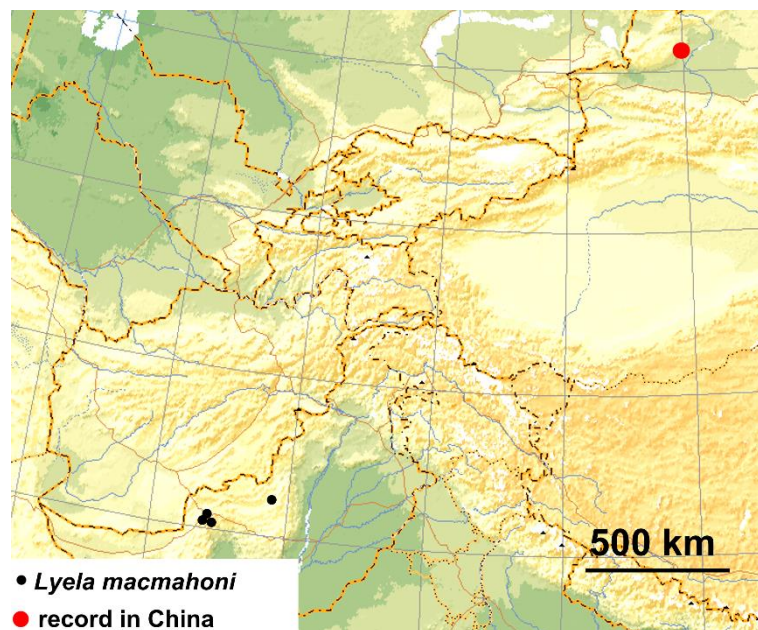


Figure 13. Map of distribution of *Lyela macmahoni* Swinhoe, 1908 and record in China.



## DISCUSSION

In the article of the Chinese colleagues a few more taxons of the species group from the South provinces of China have been described. Not being a specialist in the tropical fauna of Papilionoidea, I can not judge about the real status of the described forms, but I consider the taxons *Minois paupera guangxiensis* Chou, Yuan & Zhang, 2001, *Boeberia parmenio guangxiensis* Chou, Yuan & Zhang, 2001, *Zipaetis scyllax yunnanensis* Chou, Yuan & Zhang, 2001, *Erebia grandis* Chou, Yuan & Zhang, 2001 necessary to be revised. The illustrations for *Coenonympha tianshanica* Chou, Yuan & Zhang, 2001 are of low quality and do not allow to diagnose this taxon accurately.

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