

Notes on *Lethe sura* (DOUBLEDAY, 1849) and *Lethe dura* (MARSHALL, 1882) from China

(Lepidoptera, Nymphalidae, Satyrinae)

by

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Abstract: In this paper, the former study of *Lethe sura* (DOUBLEDAY, 1849) and *L. dura* (MARSHALL, 1882) from China by LANG (2017) is revised. *Lethe dura gammiei* (MOORE, 1892) is recorded from China for the first time.

Lethe sura (DOUBLEDAY, 1849) and *L. dura* (MARSHALL, 1882), belonging to the *sura*-group of the subgenus *Zophoessa* DBLD., 1849, are superficially similar species known from the oriental region. The range of *Lethe sura* (DBLD.) is known from C. Nepal eastwards to N. Indo-China and S. Yunnan. The range of *Lethe dura* (MARSH.) is from Sikkim eastwards to S.E. China including Taiwan, and it has five known subspecies as following, *L. dura gammiei* (MOORE, 1892), *L. d. dura* (MARSH.), *L. d. mansonii* FRUHSTORFER, 1911, *L. d. neoclydes* FRUHST., 1909 and *L. d. moupinensis* (POUJADE, 1884). In LANG (2017), i.e. “The Nymphalidae of China (Lepidoptera, Rhopalocera). Part II”, the present author reviewed the genus *Lethe* HÜBNER, [1819] from China. In this work, a specimen illustrated as *Lethe sura* (DBLD.) (LANG, 2017: pl. III: 1) is found to be a misidentification of *L. dura gammiei* (MR.) which formerly known from Bhutan and N. India. Therefore, it is the first record of this subspecies from China.

Specimens in this study are preserved in Dr. SONG-YUN LANG’s collection, Chengdu (LSY). Prof. NORIO NAKAMURA provided photos of related specimens from Vietnam kept in his collection in Yokohama (NN).

Lethe sura (DOUBLEDAY, 1849) (Figs. 5-6)

Zophoessa sura DOUBLEDAY in DOUBLEDAY, WESTWOOD & HEWITSON, 1849, Gen. Diurn. Lep. (2): 362, pl. 61: 1. Type locality (TL): Sylhet.

Material: 5 ♂♂, CHINA: Yunnan, Pingbian, Dawei-shan, 1800 m, 2.V.2019, leg. S-Y. LANG & JIANG HOU; 3 ♂♂, THAILAND: Fang Cheang Dao, Jun 1999.

Distribution: China (S. Yunnan, S.E. Tibet), N. Vietnam, N. Thailand, Myanmar, Nepal, Bhutan, N.E. India.

Lethe dura (MARSHALL, 1882)

Lethe dura dura (MARSHALL, 1882) (Fig. 1)

Zophoessa dura MARSHALL, 1882, J. Asiat. Soc. Bengal. 51: 38, pl. 4: 2. TL: Thoungyen forests, Upper Tenasserim.

Material: 1 ♀, CHINA: Yunnan, Gongshan, Nujiang valley, 1400 m, 16.VI.2015, leg. S-Y. LANG; 1 ♂, CHINA: Yunnan, Malipo, Laoshan Reserve, 1580 m, 29.IV.2019, leg. YI LANG; 4 ♂♂, CHINA: Yunnan, Pingbian, Dawei-shan, 1800 m, 2.V.2019, leg. S-Y. LANG & YI LANG; photo, 1 ♂, 1 ♀ N. VIETNAM, Lao Cai P. 13-14 km N of Sapa alt. 1630-1720m May 6, 2017. KAZUMA KITAGAWA leg. (NN).

Distribution: China (S. & N.W. Yunnan), N.W. Vietnam, Laos, E. Myanmar, N. Thailand.

Lethe dura gammiei (MOORE, 1892) (Fig. 4)

Zophoessa gammiei MOORE, 1892, Lep. ind. 1: 294, pl. 91: 3. TL: Bhotan.

Lethe sura: LANG (nec DOUBLEDAY), 2017, Nymphalidae of China II: 43, pl. III: 1, Fig. 32.

Material: 1 ♂, CHINA: Yunnan, Longchuan, Mangdong, 2.X.2016, leg. XIAODONG YANG.

Notes: Mr. HUANG HAO received 2 ♂♂ of this kind from his friend in the winter of 2016 and sent to me one of them for study. Both 2 ♂♂ are very large in size and it seems that they are quite different from other subspecies of *Lethe dura* (MARSH.) known from China. It confused me and made me wrongly consider these specimens as *L. sura* (DBLD.) in my recent review work (LANG, 2017: pl. III: 1). After examining true *L. sura* (DBLD.) as well as studying figures and photos in different literatures, I believe this specimen is more similar to *L. dura gammiei* (MR.) than to others. Moreover, SHIZUYA et al. (2005) illustrated a ♂ *L. dura dura* (MARSH.) from Kachin, N. Myanmar, this ♂ should also be *L. dura gammiei* (MR.). Recently, Mr. DAS from Kolkata sent to me some photos of *L. dura gammiei* (MR.) from India and Bhutan, it seems this subspecies can vary from moderate to large. Therefore, further study of Indian and Bhutan populations is needed to clarify whether there is a hidden new species or they are only seasonal forms in different sizes. Distribution: China (W. Yunnan), N. Myanmar, Bhutan, N.E. India.

Lethe dura mansonii FRUHSTORFER, 1911 (Fig. 2)

In SEITZ (1911), Macrolepid. World 9: 314, pl. 99: a. TL: Manson Mts [Mt Mau Son], Tonkin.

Material: 10 ♂♂, 1 ♀, CHINA: Hainan, Mt. Wuzhishan, 1300-1839 m, 14-18.IV.2015, leg. S-Y. LANG; photo, 2 ♂♂, N. VIETNAM, Lang Son P. Mt Mau Son alt. 1100-1160m April 28, 2017 NORIO NAKAMURA leg. (NN).

Notes: ♂ genitalia of related subspecies of *Lethe dura* (MARSH.) are illustrated (Fig. 7) in this paper, some differences can be found between them. Maybe some subspecies deserve species status, for example, *L. dura mansonii* FRUHST. from Hainan, whose uncus is short with its crest more protruding and valva apex is more pointed than others. OSADA et al. (1999) illustrated a pair of *L. dura mansonii* FRUHST. from Xam Neua, Laos, I think they should be *L. dura dura* (MARSH.).

Distribution: China (Hainan), N.E. Vietnam.

***Lethe dura moupinensis* (POUJADE, 1884) (Fig. 3)**

Debis moupinensis POUJADE, 1884, Bull. Soc. ent. Fr. **1884**: cxl. TL: Mou-pin.

Zophoessa libitina LEECH, 1891, Entomologist **24** (Suppl.): 2. TL: Chia-ting-fu.

Material: 1 ♂, CHINA: Zhejiang, West-Tian-mu-shan, 1500 m, 25.VI.2009, leg. JIANQING ZHU; 1 ♂, CHINA: Jiangxi, Longnan, Mt. Jiulianshan, 14.V.2012, leg. HUALIN HU; 6 ♂♂ CHINA: Jiangxi, Lushan, Kuling, 1100-1300 m, 12.-17.IX.2015, leg. S-Y. LANG & JIANG HOU; 1 ♂, CHINA: Hunan, Yizhang, Mang-shan, 1300 m, 23.V.2014, leg. GUOXI XUE; 4 ♂♂, CHINA: Hunan, Shimen, 1100-2050 m, 2-3.IX.2018, leg. S-Y. LANG & JIANG HOU; 1 ♂, CHINA: Guangdong, Ruyuan, Nan-ling, 1000-1200 m, 25.V.2014, leg. S-Y. LANG; 6 ♂♂, CHINA: Guangxi, Tianlin, Mt. Cenwang-laoshan, 1300-1700 m, 8.V.2015, leg. S-Y. LANG; 8 ♂♂, 4 ♀♀, CHINA: Guangxi, Xing'an, Mt. Maoer-shan, 1600 m, 27-29.V.2015, leg. S-Y. LANG; 9 ♂♂, CHINA: Sichuan, Omei, Jiulinggang, 1700 m, 6.-9.VIII.2013, leg. S-Y. LANG; 4 ♂♂, CHINA: Sichuan, Omei, Jiulinggang, 1900 m, 14.-15.VI.2014, leg. S-Y. LANG; 1 ♂, CHINA: Sichuan, Jinkouhe, Dawashan, 1800 m, 2013.VIII.13, leg. S-Y. LANG; 1 ♂, CHINA: Chongqing, Jiangjin, Mt. Simianshan, 1000-1500 m, 4.IX.2008, leg. LIJIANG WANG; 2 ♂♂, CHINA: Chongqing, Chengkou, 1180 m, 17.VIII.2008, leg. AIMIN LI; 1 ♂, CHINA: Chongqing, Wuxi, Jixinling, 1600 m, 28.VI.2018, leg. S-Y. LANG; 2 ♂♂, CHINA: Yunnan, Yiliang, Xiaocaoba, 1700 m, 14.V.2018, leg. S-Y. LANG; 1 ♂, CHINA: Yunnan, Yanjin, Miaoba, 1130 m, 14.V.2018, leg. S-Y. LANG.

Distribution: China (S.E. Gansu, S. Shaanxi, Hubei, Zhejiang, Fujian, Jiangxi, Hunan, Guangdong, Guangxi, Sichuan, Chongqing, Guizhou, N.E. Yunnan).

***Lethe dura neoclide* FRUHSTORFER, 1909**

Lethe dura neoclide FRUHSTORFER, 1909, Societas ent. **24**: 121. TL: Formosa.

Distribution: China (Taiwan).

Postscript: When I was invited to participate in the Annual Meeting of the Butterfly Society of Japan in the last December, Prof. YAGO from Todai accompanied me and Prof. YUFENG HSU from Taiwan to visit an insect exhibition & sale fair at Meguro in Tokyo. For a person from mainland China, an insect fair was indeed an uncommon thing, so I really enjoyed it. I went through those boxes full of specimens one by one and found a box of unexpanded butterflies from Thailand. These specimens were respectively kept in their own semitransparent triangular paper bags with price tags. Among those goods, the price of each "*Lethe sura*" was 2000 yen, whereas the price of each "*Lethe dura*" was only 200 yen. At last, I have not bought expensive "*Lethe sura*" but bought a set of 3 "*Lethe dura*" which were cheap and only costs me 600 yen. After back home, I examined these 3 "*Lethe dura*" and found that actually they are *Lethe sura* (DBLD.) (Fig. 6). Therefore, they are worth 6000 yen and I think I owe the seller 5400 yen.

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Fig. 1: *Lethe dura dura* (MARSH., 1882), ♂, Yunnan, Malipo.

Fig. 2: *Lethe dura mansonii* FRUHST., 1911, ♂, Hainan, Wuzhishan, SATY0502.

Fig. 3: *Lethe dura moupinensis* (POUJ., 1884), ♂ Sichuan, Omei.

Fig. 4: *Lethe dura gammiei* (MR., 1892), ♂, Yunnan, Longchuan, SATY0493.

Fig. 5-6: *Lethe sura* (DBLD., 1849): (5) ♂, Yunnan, Pingbian; (6) ♂, THAILAND: Cheang Dao.

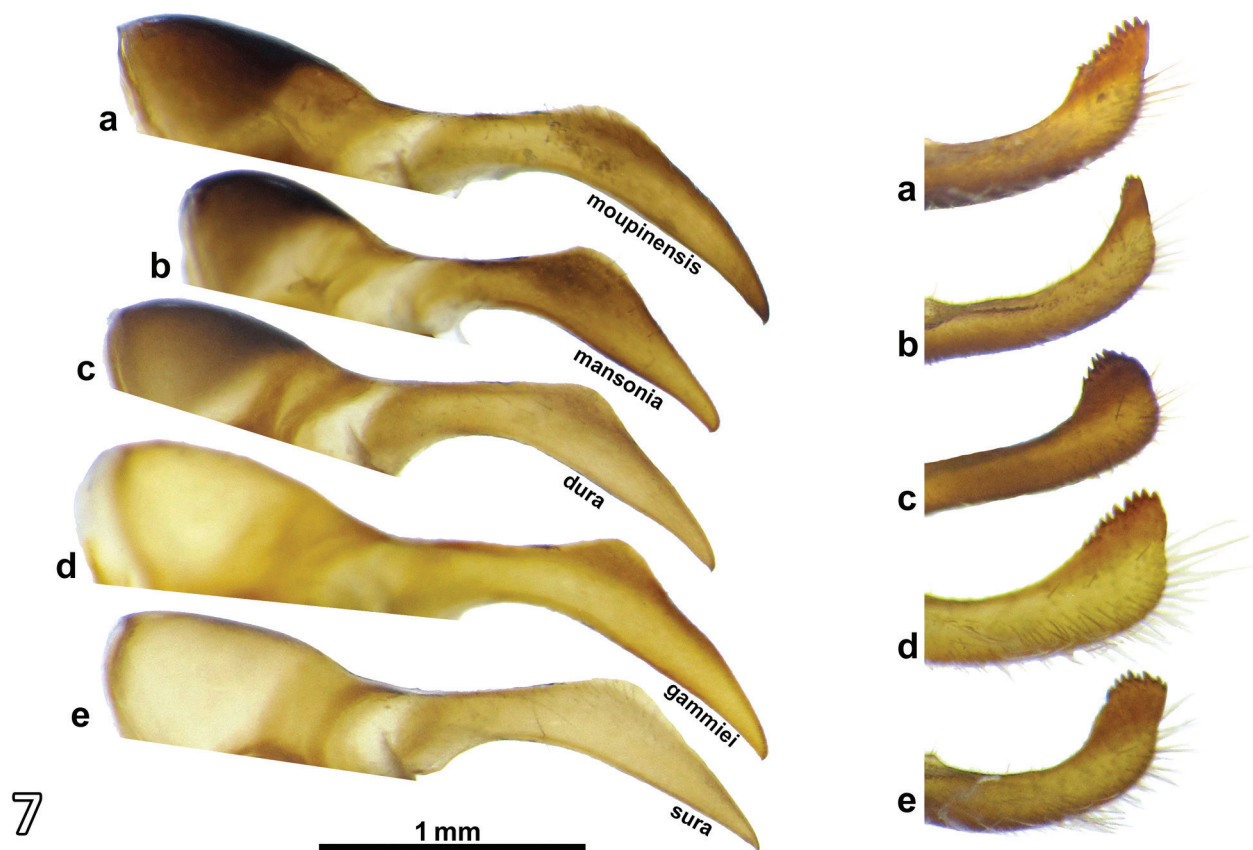


Fig. 7: ♂ genitalia - uncus and tegumen in lateral view (left); valva apex in dorsal view (right).

- (a) *Lethe dura moupinensis* (POUJ., 1884), Sichuan, Omei, SATY0508;
- (b) *Lethe dura mansonii* FRUHST., 1911, Hainan, Wuzhishan, SATY0502;
- (c) *Lethe dura dura* (MARSH., 1882), Yunnan, Pingbian, SATY0792;
- (d) *Lethe dura gammiei* (MR., 1892), Yunnan, Longchuan, SATY0493;
- (e) *Lethe sura* (DBLD., 1849), Yunnan, Pingbian, SATY0791.



Fig. 9: Habitat of *Lethe sura* (DBLD., 1849) and *Lethe dura dura* (MARSH., 1882), Yunnan, Pingbian.

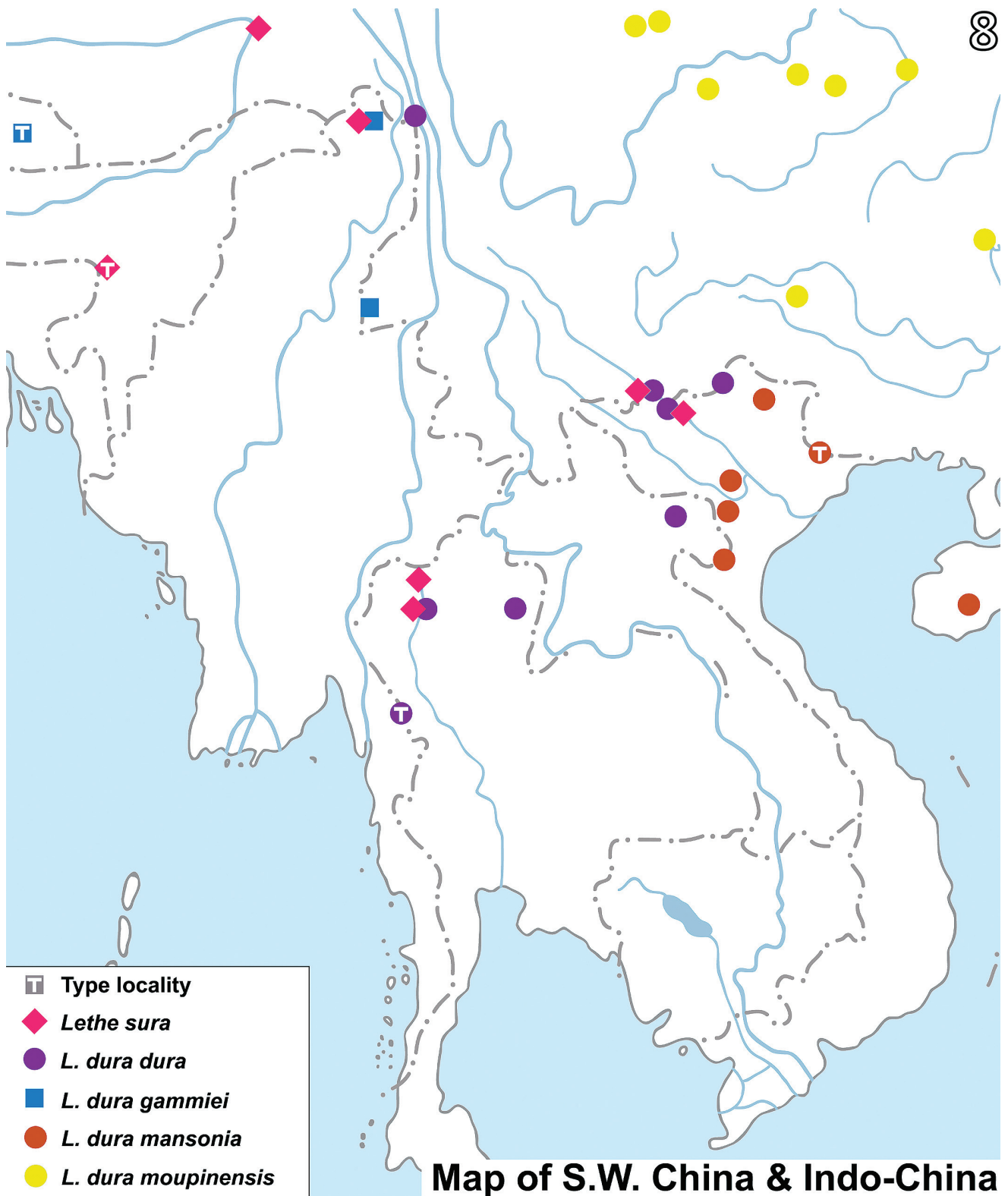


Fig. 8: Distribution map of *Lethe sura* (DBLD., 1849) and *L. dura* (MARSH., 1882) from S.W. China & Indo-China (Sources of data: Specimens kept in LSY and NN; INAYOSHI's website; HUANG & WU, 2016; LANG, 2014, 2017; MONASTYRSKII, 2005; OSADA et al., 1999; SHIZUYA et al., 2005).

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