

## A new species of *Lethe* HÜBNER, 1819 from W. China

(Lepidoptera, Nymphalidae)

by

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**Abstract:** A new species, *Lethe yuemingae* spec. nov. from Sichuan and Chongqing, W. China, is described and illustrated.

*Lethe sura* (DOUBLEDAY, 1849) and *L. dura* (MARSHALL, 1882), belonging to the subgenus *Zophoessa* DOUBLEDAY, 1849, Satyrinae, are superficially similar species known from the oriental region. The range of *Lethe dura* (MARSHALL) is from Sikkim eastwards to S. China, including Taiwan, with five known subspecies as following, *L. dura gam-miei* (MOORE, 1892) from Bhutan, Sikkim and NE. India, *L. dura dura* (MARSHALL) from W. Yunnan, Myanmar and Thailand, *L. dura mansonii* FRUHSTORFER, 1911 from Laos and Vietnam, *L. dura neoclidus* FRUHSTORFER, 1909 from Taiwan and *L. dura moupinensis* (POUJADE, 1884) from SE. to W. China. Comparatively, the range of *L. sura* (DBLD.) is somewhat restricted with only the typical form known from C. Nepal eastwards to N. Indo-China. According to TALBOT (1947) and MONASTYRSKII (2005), *L. sura* (DBLD.) is also collected from W. China. TALBOT (1947) mentioned *L. sura* (DOUBLEDAY) from W. China and noted that "The species occurs also in Western China, where it appears to form another subspecies". MONASTYRSKII (per. comm.) has examined a specimen from Tien-Tsuen (Tianquan, Sichuan) which is deposited in the Natural History Museum, London and according to him, it is much smaller than the typical form of *L. sura* (DBLD.). In this study, the author examined a series of the so called "*sura*" from W. China, including Sichuan and Chongqing, and it is quite different from *L. sura* (DBLD.) as well as *L. dura* (MARSHALL) and it deserves a species status. Therefore, a distinct new species is described as below.

### *Lethe yuemingae* spec. nov. (figs: 1-3)

Holotype ♂ (Forewing length, FWL: 33 mm): Sichuan, Ebian, Heizhu-gou [Black bamboo valley (fig: 7)], 1800-2000 m, 18.VIII.2013, leg. SONG-YUN LANG, deposited in Dr. SONG-YUN LANG's private collection in Shuangliu, Chengdu, Sichuan, China (LSY). Paratypes (FWL: 32.5-34 mm): 17 ♂♂, Sichuan, Ebian, Heizhu-gou, 1800-2000 m, 17.-18. VIII.2013, leg. SONG-YUN LANG, LSY; 1 ♂, Sichuan, Tianquan, Erlang-shan, 1800 m, VII.2011, leg. HUANG HAO, deposited in Mr. HUANG HAO's private collection in Qingdao, Shandong, China, HH; 1 ♂, Chongqing, ginfu [Mt. Jinfo-shan, Nanchuan, formerly E. Sichuan], 1800 m, 25 AUG 1932, leg. WANG, deposited in Chongqing Museum of Natural History, Beibei, Chongqing, China (CMNH); 1 ♂, Chongqing, ginfu, 26 AUG 1932, CMNH.

### Diagnosis

1. The new species can be distinguished from *L. sura* (DBLD.) by the following superficial characters:
  - 1a. It is smaller in size.
  - 1b. Its forewing apex is less protruding.
  - 1c. Its hindwing tail of vein 4 is obviously shorter than the very protruding tail of *L. sura* (DBLD.).
  - 1d. On forewing upperside, the darkish band in the ♂ is comparatively narrow in width and its zigzag outer line is far away from the termen, whereas in *L. sura* (DBLD.) the band is broad and its outer line is near the termen.
  - 1e. On forewing upperside, the darkish band in the ♂ is interrupted in space 1b, whereas in *L. sura* (DBLD.) it is continuous.
  - 1f. On the underside, the lilac markings are less developed than in *L. sura* (DBLD.).
  - 1g. On the hindwing underside, the inner edge of the darkish discal band is angled between veins 4 and 6 as in *L. dura* (MARSHALL), whereas in *L. sura* (DBLD.) the inner edge of the discal band between veins 4 and 6 is straight.
2. The new species can be recognised from *L. d. moupinensis* (POUJADE) which is known from W. China by the following superficial characters:
  - 2a. On the forewing upperside, the ground colour is brownish, whereas in *L. d. moupinensis* (POUJADE) it is uniformly blackish.
  - 2b. On the forewing upperside, the darkish band is clear in ♂, whereas in *L. d. moupinensis* (POUJADE) it is invisible.
  - 2c. On the hindwing upperside, the basal half ground colour is brownish, whereas in *L. d. moupinensis* (POUJADE) it is blackish.
  - 2d. On the hindwing upperside, the blackish postdiscal ocelli are well developed, whereas in *L. d. moupinensis* (POUJADE) they are very small in size.
  - 2e. On the underside, the lilac markings are less violet than those of *L. d. moupinensis* (POUJADE).
3. The ♂ genitalia of the new species (fig: 9) can be distinguished from those of *L. sura* (DBLD.) (fig: 11, 12) and *L. dura* (MARSHALL) (fig: 10) by the following characters:
  - 3a. The uncus (fig: 13) of the new species is normal in shape, whereas in *L. sura* (DBLD.) (fig: 14) and *L. dura* (MARSHALL) (fig: 15) their dorsal ridge are broadly protruding upwards. Comparing with that of *L. dura* (MARSHALL), the protruding ridge on the uncus of *L. sura* (DBLD.) is more closer to the apex of the uncus.

**Etymology:** The specific name *yuemingae* is named after my mother, Ms. FANG YUE-MING, who is a local artist from Chengdu, capital of Sichuan.

**Notes:** *Lethe yuemingae* spec. nov. and *L. dura moupinensis* (POUJADE) are both collected from W. China. But until now, they have not been collected sympatric at the same time. When I collected more than a dozen of *L. yuemingae* spec. nov. from Heizhu-gou, Ebian, no single *L. d. moupinensis* (POUJADE) was encountered. Similarly, a series of *L. d. moupinensis* (POUJADE) was collected from Omei but with no *L. yuemingae* spec. nov. accompanied. Maybe the two taxa have the same ecological niches and are exclusive from each other, but to clarify this hypothesis, more field work is necessary in the future.

In this study, series of ♂♂ genitalia of the new species and *L. d. moupinensis* (POUJADE) are examined. Pictures of *L. sura* (DBLD.) ♂ genitalia from N. Vietnam were provided by Dr. UÉMURA, others also are illustrated in DE LESSE (19569) with the explanatory text as “FIG. 5, *Zophoessa sura* DBLD., Sikkim et Bhootan (Inde anglaise)”. Except *L. d. moupinensis* (POUJADE), the author also examined figures or photographs of the ♂ genitalia of *L. d. neoclidus* FRUHST. from Taiwan in SHIRÔZU (1960), *L. d. dura* (MARSHALL) from Gongshan, NW. Yunnan provided by Mr. HUANG HAO and *L. d. mansonii* FRUHST., 1911 from Lao Cai, N. Vietnam provided by Dr. UÉMURA.

**Distribution** (fig. 8): China, Sichuan, Chongqing.

*Lethe sura* (DOUBLEDAY, 1849) (figs. 5, 6)

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

**Material:** Photo (provided by Dr. A. L. MONASTYRSKII), 1 ♂, N. Vietnam, Lao Cai Province, Hoang Lien N. P.; Photo (provided by Dr. YOSHINOBU UÉMURA), 1 ♂, N. Vietnam, Lao Cai Province, Sa Pa, VI.2004.

**Notes:** No specimen of *L. sura* (DBLD.) could be examined by the author. Except the high quality photographs provided by Dr. MONASTYRSKII and Dr. UÉMURA, other pictures of *L. sura* (DBLD.) can be seen in D’ABRERA (1985, 1990), EK-AMNUAY (2012), MONASTYRSKII (2005), SHIZUYA et al. (2005) and SMITH (1993).

In CHOU (1994) 1 ♂ (both, the dorsal and ventral sides) and 1 ♀ (with the dorsal side only) of *L. sura* (DBLD.) from Tibet are figured. After a careful comparison of this illustrations with the figures in D’ABRERA (1985), it is very surprising to see that all figures of *L. sura* (DBLD.) in CHOU (1994) are only copies of the figures in D’ABRERA (1985) with some trivial but obvious modifications. In fact, the specimens illustrated in D’ABRERA (1985) are not from Tibet. D’ABRERA (1990) illustrated *L. sura* (DBLD.) from Tibet and Kashmir but without exact locality. EVANS (1915) recorded 1 ♂ of *L. sura* (DBLD.) from Lower Tsang Po and it was caught by Captain BAILEY in S.E. Tibet during 1913. Tsang Po, or called Yarlung Zangbo, is the upriver of Bramaputra, and Lower Tsang Po approximately equals the area of nowadays the Medog County in SE. Tibet. Therefore, *L. sura* (DBLD.) can be surely listed in the fauna of China, and taking into account its current range, it also might be found from S. and W. Yunnan Province in the future.

**Distribution:** SE. Tibet; N. Vietnam, N. Thailand, Myanmar, Bhutan, Sikkim, N. India, Nepal.

*Lethe dura moupinensis* (POUJADE, 1884) (fig. 4)

*Debis moupinensis* POUJADE, 1884, Bull. Soc. ent. Fr. 1884: CXI. TL: Mou-pin [Baoxing, Sichuan].  
*Zophoessa libitina* LEECH, 1891. Entomologist 24 (Suppl.): 2. TL: Chia-ting-fu [Leshan, Sichuan].

**Material:** 9 ♂♂, Sichuan, Omei, Jiuling-gang, 1700 m, 6-9.VIII.2013, leg. SONG-YUN LANG, LSY; 1 ♂, Sichuan, Jin-kouhe, Dawashan [Wa-shan], 1800 m, 13.VIII.2013, leg. SONG-YUN LANG, LSY; Photo, 1 ♂, Sichuan, Qingcheng-hou-shan, 25.VIII.2011, leg. HUANG HAO, HH; 1 ♂, Chongqing, Jiangjin, Mt. Simianshan, 1000-1500 m, 4.IX.2008, leg. WANG LI-JIANG, LSY; 2 ♂♂, Chongqing, Chengkou, 1180 m, 17.VIII.2008, leg. LI AI-MING, LSY; Photo, 2 ♂♂, Guizhou, Suiyang, Kuankuoshui, 1500 m, 2.VI.2010, leg. LI YU-JIAN, deposited in Mr. ZHU JIAN-QING’s private collection in Shanghai, China, ZJQ; Photo, 1 ♂, 1 ♀, Guizhou, Yanhe, Mayang-he, 800 m, 7.X.2007, leg. ZHU JIAN-QING, ZJQ; Photo, 1 ♂, GANSU, Huixian, 1250 m, 3.VI.1991, leg. G. C. BOZANO, HH; Photo, 1 ♀, Shaanxi, Huxian, Zhuque Park, 28.V.1995, leg. LI YU-FEI, deposited in Mr. LI YU-FEI’s private collection in Xi’an, Shaanxi, China, LFY; Photo, 1 ♀, Shaanxi, Ningshan, 16.VI.2012, leg. LI YU-FEI, LFY; Photo, 2 ♂♂, Shaanxi, Nanzheng, Xiaonanhai, 25.V.2002, leg. LI YU-FEI, LFY; Photo, 1 ♀, Shaanxi, Nanzheng, Tangkou, 26.V.2002, leg. LI YU-FEI; Photo, 1 ♂, Shaanxi, Pingli, Zhengyang, 13.VI.2013, leg. LI YU-FEI; Photo, 1 ♂, Shaanxi, Zhenping, Jixinling, 14.VI.2013, leg. LI YU-FEI, LFY; 1 ♂, Jiangxi, Longnan, Mt. Jiulianshan, 14.V.2012, leg. HU HUA-LIN, LSY; Photo, 1 ♂, Fujian, Wuyi-shan, V.1986, leg. SHEN SHUIGEN, HH; Photo, 1 ♂, Fujian, Longyan, Meihua-shan, 1300 m, 5.VI.2007, leg. HUANG HAO, HH; Photo, 2 ♂♂, Zhejiang, West-Tian-mu-shan, 1300-1500 m, 23.V.2008, leg. CHEN ZHI-BIN & ZHU JIAN-QING, ZJQ.

**Distribution:** China (SE. Gansu, S. Shaanxi, Hubei, Zhejiang, Fujian, Jiangxi, Guangdong, Sichuan, Chongqing, Guizhou).

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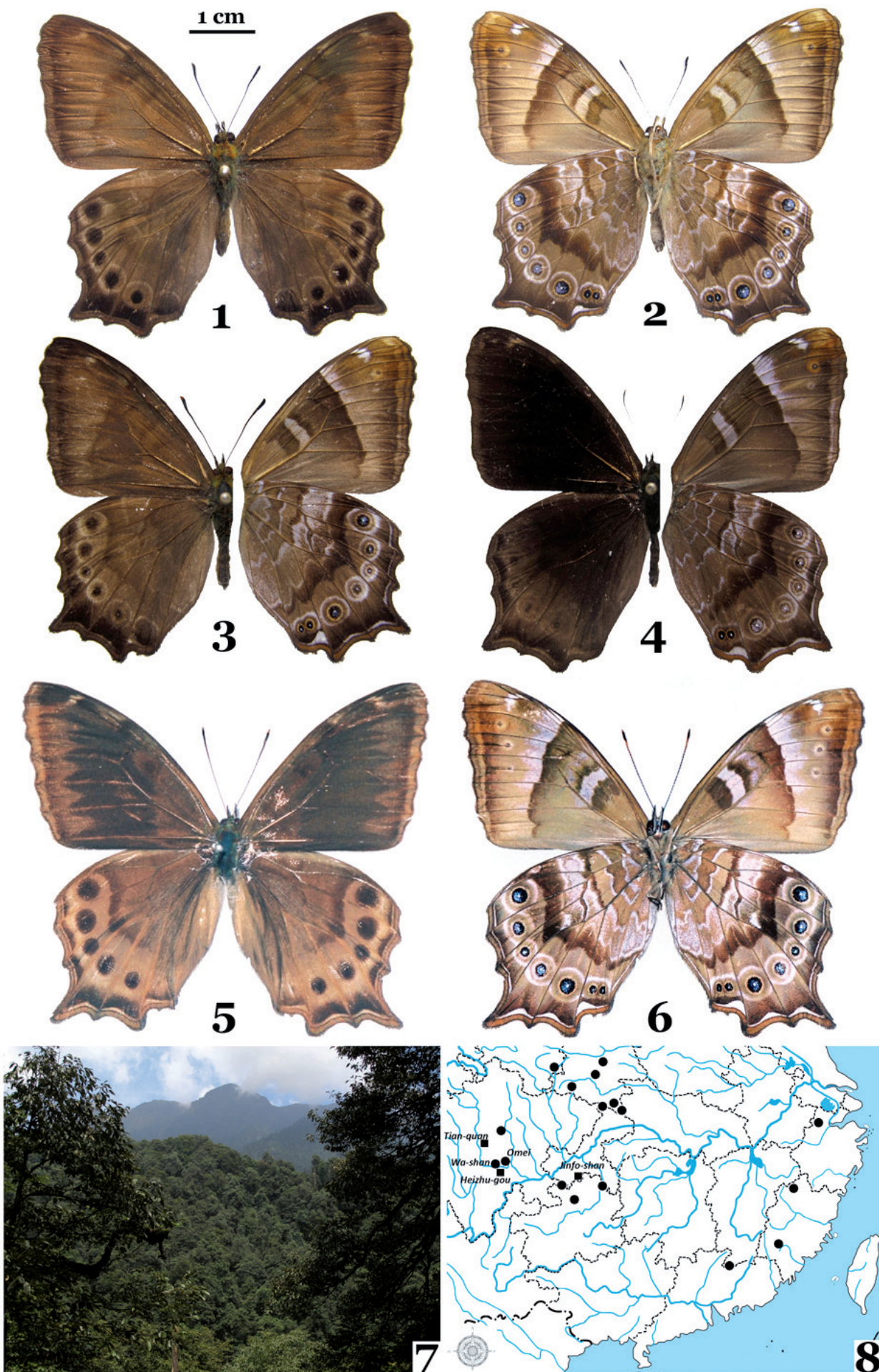


Fig. 1-3: *Lethe yueningae* spec. nov., China, Sichuan, Ebian, Heizhu-gou, LSY, (1, 2) holotype ♂, (3) paratype ♂. Fig. 4: *Lethe dura moupinensis* (POUJADE, 1884), ♂, China, Sichuan, Omei, Jiuling-gang, LSY, upper- and underside. Scale bar (1 cm) for figs. 1-4. Fig. 5, 6: *Lethe sura* (DOUBLEDAY, 1849), ♂, Vietnam, Lao Cai, Sa Pa, upper- and underside, photos Dr. YOSHINOBU UEMURA. Fig. 7: The landscape of Heizhu-gou or called Black Bamboo Valley in Ebian County, Sichuan Province, China. Fig. 8: Distribution map of *Lethe yueningae* spec. nov. (black squares) and *L. dura moupinensis* (POUJADE, 1884) (black round spots) in China.

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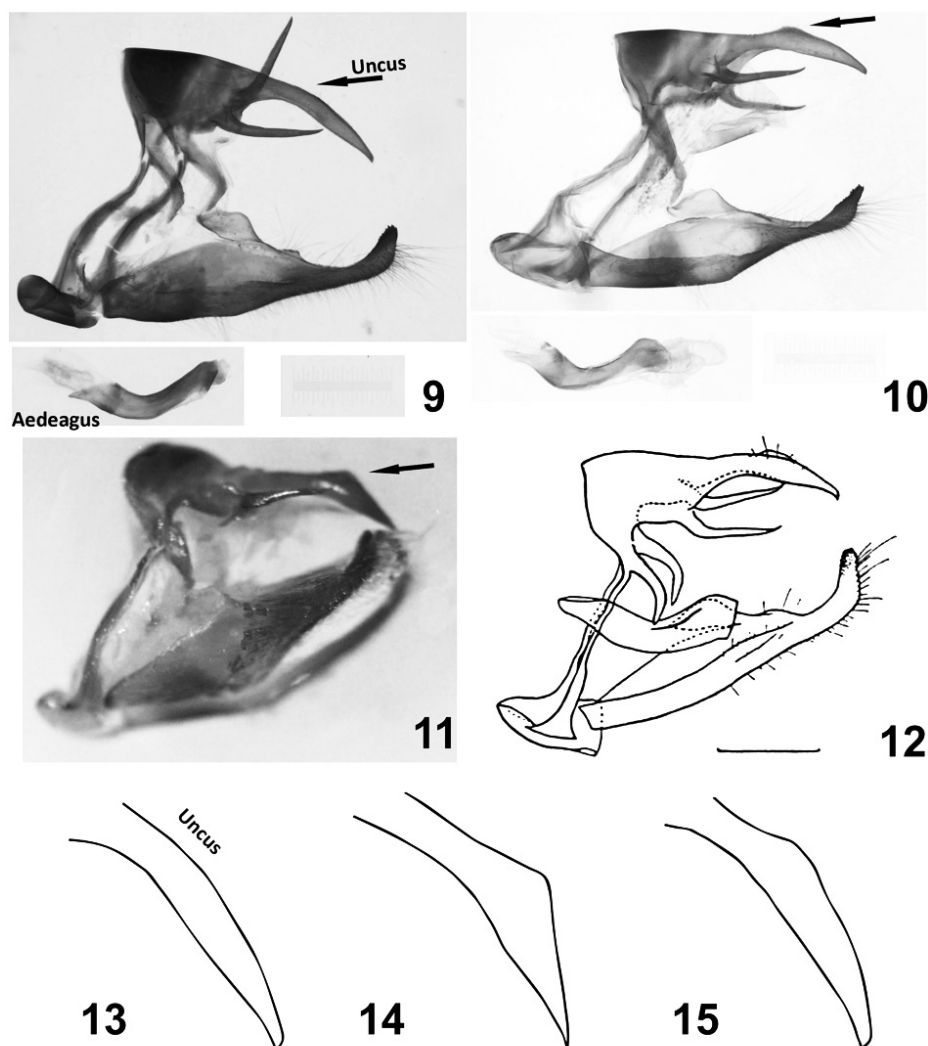
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**Fig. 9:** ♂ genitalia of *Lethe yuemingae* spec. nov. in lateral view with left valva removed, holotype, China, Sichuan, Ebian, LSY. **Fig. 10:** ♂ genitalia of *Lethe dura* moupinensis (POUJADE, 1884) in lateral view with left valva removed, China, Sichuan, Omei, LSY. **Fig. 11:** ♂ genitalia of *Lethe sura* (DOUBLEDAY, 1849) in lateral view with aedeagus removed, N. Vietnam, Lao Cai, Sa Pa, photo Dr. YOSHINOBU UEMURA. **Fig. 12:** ♂ genitalia of *Lethe sura* (DOUBLEDAY, 1849) in lateral view with left valva removed, "FIG. 5, *Zophoessa sura* DBLD." in DE LESSE (1956). **Fig. 13:** ♂ uncus of *Lethe yuemingae* spec. nov. in lateral view. **Fig. 14:** ♂ uncus of *Lethe sura* (DOUBLEDAY, 1849) in lateral view. **Fig. 15:** ♂ uncus of *Lethe dura* (MARSHALL, 1882) in lateral view.

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