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What is true *Chelonia alba* Bremer et Grey, [1852] ? (Lepidoptera, Arctiidae)

Vladimir V. DUBATOLOV [1] and Yasunori KISHIDA [2]

[1] Siberian Zoological Museum, Institute of Animal Systematics and Ecology, SB RAS, Frunze street 11, Novosibirsk 91, 630091 Russia
[2] Kitazawa 5-20-1-103, Setagaya, Tokyo, 155-0031 Japan

Abstract Based on examination of the lectotype, *Chelonia alba* Bremer et Grey, [1852] is synonymized with *Spilosoma robustum* Leech, 1890. *Diacrisia kikuchii* Matsumura, 1927, based on the male genitalia structure, is downgraded to the subspecies of *Spilarctia alba* (=*robustum*). The correct name of the former *Spilarctia alba* auct. is *S. rubidus* (Leech, 1890) (=*leucopterus* Alpheraky, 1897).

Chelonia alba Bremer et Grey, [1852] was described on one male and two females from the region of Beijing (Bremer et Grey, [1852]; Dubatolov, 1996a, 1996b), and for a long time it was considered as a senior synonym of *Dionychopus rubidus* Leech, 1890 and *Spilosoma leucoptera* Alpheraky, 1897. Unfortunately, nobody paid any attention to the definite character from the description (fig. 1): "...thorace albo, punctis nigris duobus; ...". This is a nice distinctive character of quite another species described as *Spilosoma robustum* Leech, 1899. The lectotype of *Chelonia alba* Bremer et Grey, [1852] was designated in the Zoological Institute (St.-Petersburg, Russia) collection by Dubatolov (1996a, 1996b) in 1994, but he didn't notice at that time the clear specific differences between the latter and *Spilosoma leucoptera* Alpheraky, 1897 (Fig. 2). Only this year, after examination of the male genitalia characters of the lectotype (Fig. 4), it became clear that they are quite different species. A review of these two species is given below.

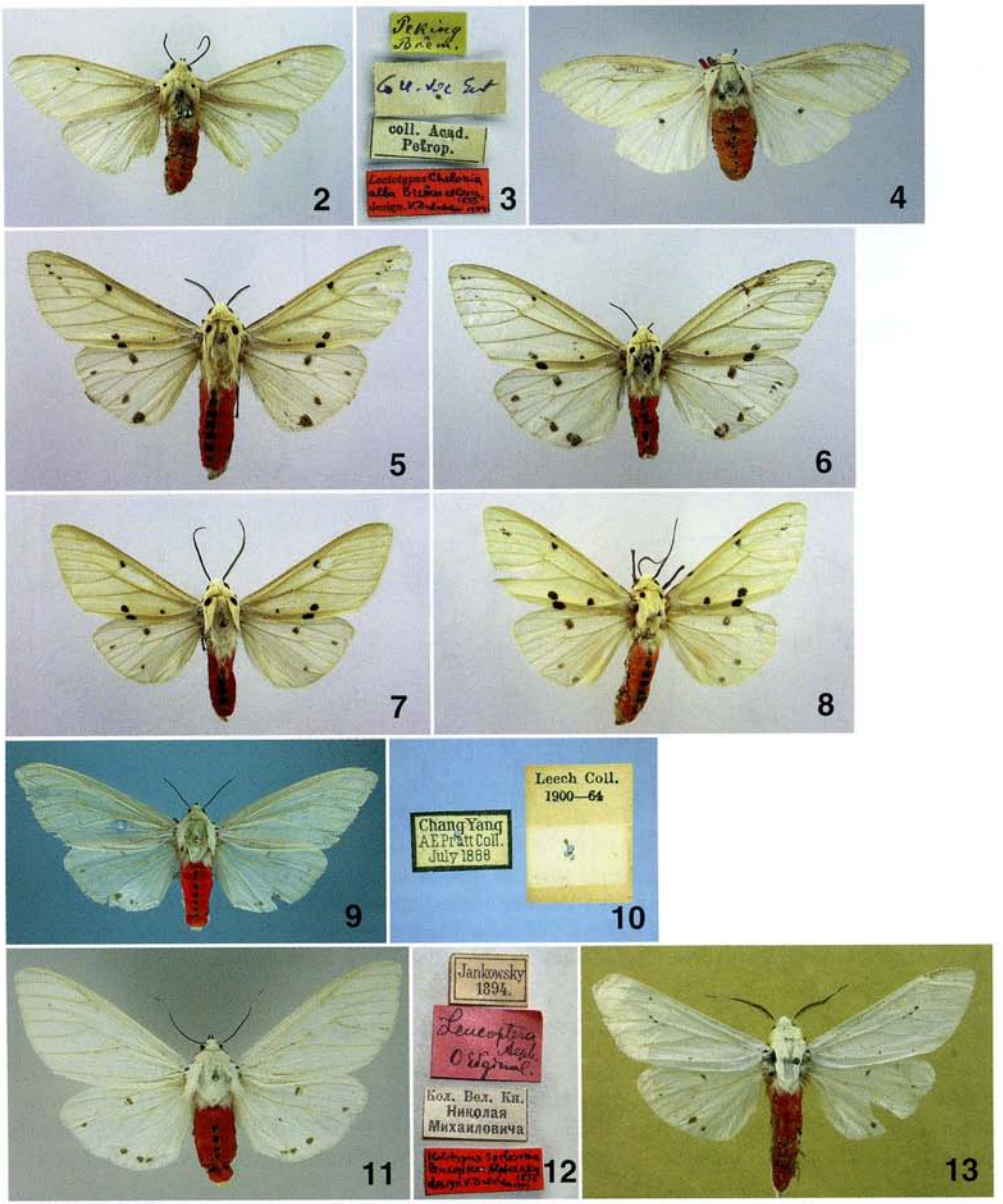
Spilarctia alba (Bremer et Grey), **stat. rev.** (Figs 2–7)

Chelonia alba Bremer et Grey, [1852]: 64.
Spilosoma robustum Leech, 1899: 149-150. **Syn. nov.**
Diacrisia robusta: Hampson, 1901: 257, 269, pl. 44, fig. 14; Strand, 1919: 217.
Spilarctia robusta: Seitz, 1910: 86, fig. 15c; Daniel, 1943: 698-700, fig. 10 (genitalia), pl. 21, fig. 4, Fang, 1982: 215, pl. 69, fig. 1592; Fang, 1985: 56, pl. 5, fig. 76; Fang, 2000: 438, fig. 312 (genitalia), pl. 18, fig. 1
Diacrisia robusta hainana Rothschild, 1910: 123.
Spilarctia robusta tapaishani Daniel, 1943: 700, pl. 20, fig. 22.

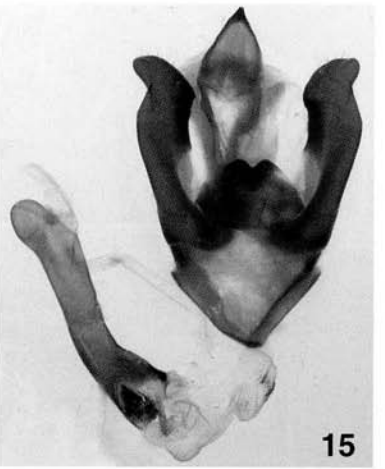
Material. China: 1 ♂ (lectotype), Peking (ZIN); 2 ♀ (paralectotypes), [Beijing vic.], Tatarinoff leg. (ZIN); 1 ♀, Shaanxi, Tai bai shan Mts., Haozhenzi, h=1600 m, 30. VII. 1998, S. Murzin leg. (coll. V. Murzin, Moscow); 1 ♂ 1 ♀, W-Guangxi, Doukongpo, 1700 m, Xiling county, VII 2002, Li et al. leg. (SZMN). 1 ♂ 1 ♀, Guangdong, Shaoguan, Nanling 1100m,

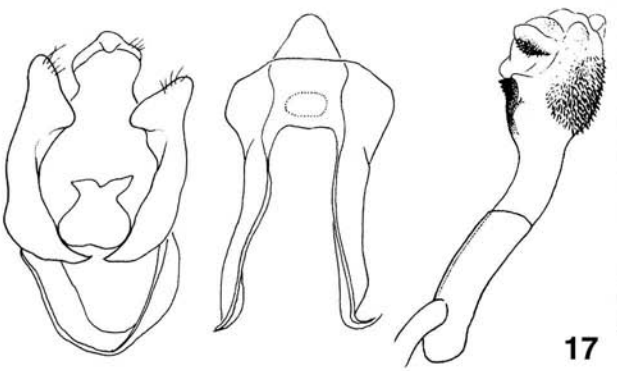
> **27.** CHELONIA *alba.* C. antennis nigris; capite albo; thorace albo, punctis nigris duobus; abdomine supra sanguineo, superne et a latere punctis nigris, albo-annulatis; subtus corpore albo, punctis lateralibus nigris, pedibus sanguineis; alis omnibus albis, puncto mediano nigro. Expans. alar. antic. unc. 2 1/3.

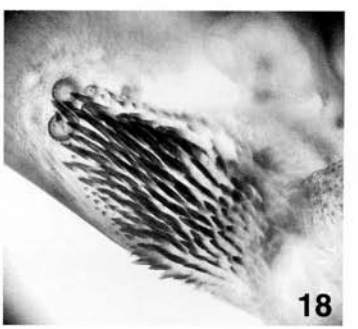
Fig. 1. Original description of *Chelonia alba*.



Figs 2–13. *Spilarctia* spp. 2. *S. alba*, lectotype, ♂. 3. *S. alba*, lectotype labels. 4. *S. alba*, paralectotype, ♀. 5. *S. alba*, ♂, China, West Guangxi, Doukongpo, Xiling county, 1700 m. 6. *S. alba*, ♀, China, West Guangxi, Doukongpo, Xiling county, 1700 m. 7. *S. alba*, ♂, China, East Yunnan, Mine, Jingding Mt., 2315 m. 8. *S. alba kikuchii*, ♂, Central Taiwan, Poli. 9. *S. rubida*, lectotype of *Dionychopus rubidus*, ♀. 10. *S. rubida*, lectotype labels of *Dionychopus rubidus*. 11. *S. rubida*, type specimen of *Spilosoma leucoptera*, ♀, Korea: "30 wersts from Gensan into wild mountains". 12. *S. rubida*, type labels of *Spilosoma leucoptera*. 13. *S. rubida*, ♂, Heilongjiang, Tili, Pingdin Mt., h=1400 m, VI 2001.







Figs 14–18. Male genitalia of *Spilarctia alba*. 14. Lectotype. (Note: the top of the right valva is slightly damaged). 15. China, East Yunnan, Mine, Jingding Mt., 2315 m. 16. After Daniel, 1943: Abb. 10, as *Spilarctia robusta*. 17. After Fang, 2000: fig. 312, as *Spilarctia robusta*. 18. Cornuti on vesica of aedeagus, China, East Yunnan, Mine, Jingding Mt., 2315 m.

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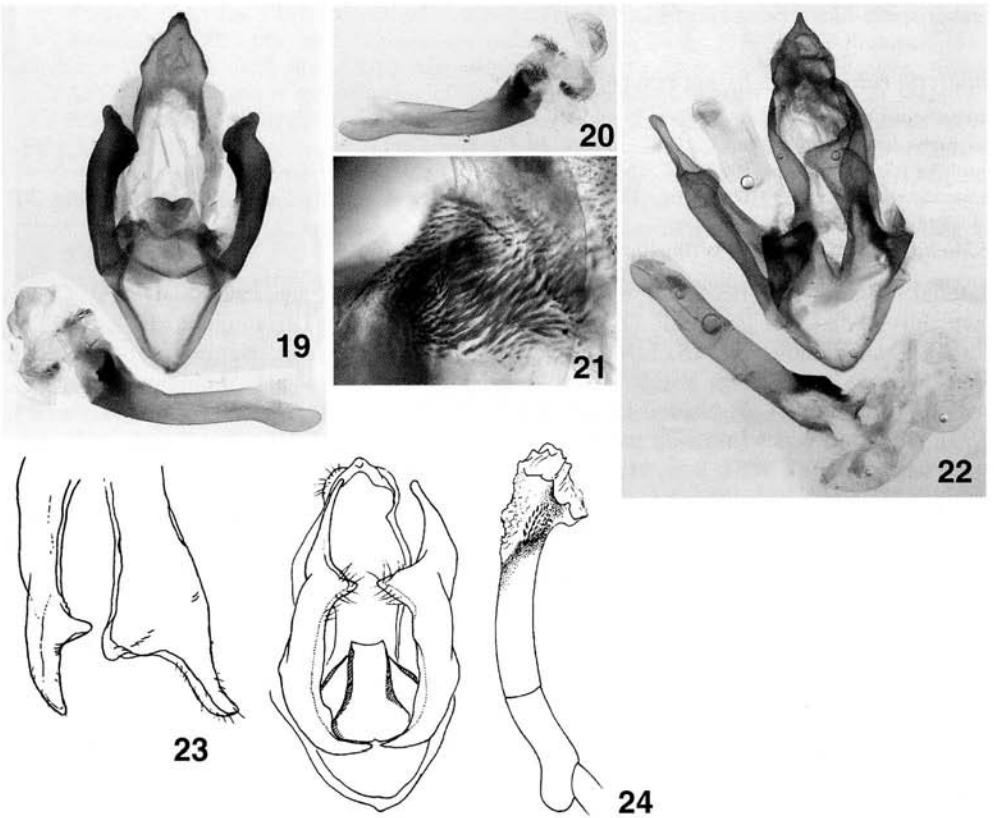
Distribution. China: Beijing (Bremer, Grey, [1852]), Sichuan (Leech, 1899), Hainan (Rothschild, 1910), Shaanxi, Shanghai, Hunan, Zhejiang, Fujian (Daniel, 1943), Shandong, Jiangsu, Jiangxi, Guangdong (Fang, 1982), Yunnan (Fang, 1985), Hubei (Fang, 1992), Hebei (Fang, 1993), Guangxi, Guangdong. South Korea: Jeju Is. (Okamoto, 1924; Nam, 1985).

Antennae black, with very short branches. Head and thorax yellowish-white, tegulae with a distinct black spot. Abdomen rose-red, with a dorsal row of black spots. Wings yellowish-white, fore one with a black spot on fore end of discal vein in the lectotype, while in the studied female paralectotype fore wings lacking any pattern. Sometimes there are traces of an oblique row of spots, which are larger at hind margin, one more black spot may appear at basal 1/3 of vein A, just before it. Usually, there are no costal spots; if pre-discal costal spot present, it is located slightly proximal to discal vein. Hind wings without any pattern in the male lectotype, while in the female paralectotype there is one black discal spot. Sometimes there are few submarginal spots, better visible in tornal (anal) angle.

Male genitalia (Figs 14–17). Valva with short and broad apical processes. Moreover, it is somewhat twisting. Subapical process is also short, broad and faintly isolated. Aedeagus



Figs 19–24. Male genitalia of *Spilarctia* spp. 19. *S. alba kikuchii*, with right side of aedeagus, Central Taiwan, Poli. 20. *S. alba kikuchii*, left side of aedeagus, Central Taiwan, Poli. 21. *S. alba kikuchii*, cornuti on vesica of aedeagus, Central Taiwan, Poli. 22. *S. rubida*, Heilongjiang, Tili, Pingdin Mt., h=1400 m, VI 2001. 23. *S. rubida*, after Daniel, 1943: Abb. 11-12, as *Spilarctia alba*. 24. *S. rubida*, after Fang, 2000: fig. 307, as *Spilarctia alba*.

with two sclerotized plates on apex; the ventral plate consists of strong spine-like cornuti (Fig. 18).

Spilarctia alba kikuchii (Matsumura), **stat. rev.** (Fig. 8)

Diacrisia kikuchii Matsumura, 1927: 54-55, pl. 4, fig. 26.

Material. China, Taiwan: 2 ♂, Nantou Hsien, Nan shan chi, 18-23. IV. 1976, M. Kuboki leg. (SZMN); 2 ♂, Nantou Hsien, Poli, anonymous leg. (SZMN); 2 ♂ 1 ♀, Nantou Hsien, Lushan-spa, 28. IV. 1984, H. Yoshimoto leg.; 1 ♂, Taipei Hsien, Wurai, 1. IV. 1977, Y. Kishida leg.

Distribution. Taiwan.

Wings with the pattern on average better developed than in the nominotypical subspecies, just as in its most coloured specimens. The main difference is the position of the pre-discal costal spot, which is located slightly distal to the discal vein.

Male genitalia (Figs 19–20). Valva shape does not differ from the nominotypical subspecies. There are also two sclerotized plates on the aedeagus top, but the ventral plate consists of

weaker spine-like cornuti (Fig. 21).

Spilarctia rubida (Leech), **sp. rev.** (Figs 9–13)

Dionychopus rubidus Leech, 1890: 111.
Spilosoma leucoptera Alpheraky, 1897: 170, pl. 10, fig. 8.
Diacrisia alba: Hampson, 1901: 257, 268; Strand, 1919: 168.
Spilarctia alba: Seitz, 1910: 88, fig. 15h; Fang, 1985: 38, pl. 2, fig. 30; Fang, 2000: 428-429, fig. 307 (genitalia), pl. 17, fig. 14.
Spilarctia album: Daniel, 1943: 700, figs 11-12 (genitalia), pl. 21, fig. 5.

Material. China: 1 ♀ (lectotype of *rubida* Leech, 1890, designated here), [Hubei], Chang Yang, July 1888, A.E. Pratt coll. (BMNH); 2 ♂, Heilongjiang, Tili, Pingdin Mt., h=1400 m, VI. 2001, anonymous leg. (SZMN). 1 ♂, Guangdong, Shaoguan, Nanling 1100m, 1. VI. 2000, Taiwan: 2 ♂, Chiayi Hsien, Shihzulu 1520m, 5-6. V. 1984, H. Yoshimoto leg. , 1 ♂, Nantou Hsien, Puli, 1 ♂, Nantou Hsien, Wushe, Korea: 1 ♀ (type of *leucoptera* Alpheraky, 1897), [about 40 versts into wild mountains from Gensan], 1894, [Yu. & A.] Jankowsky leg., 1 ♂, Pungso, 29. VI. 1984, 2 ♂, Mt. Solak, 4-8. VII. 1984, S. Saito leg.

Distribution. Korea (Alpheraky, 1897); China: Hubei, Sichuan (Leech, 1899), Zhejiang (Reich, 1937), Shaanxi (Daniel, 1943), Hebei, Jiangxi, Fujian, Hunan (Fang, 1982), Yunnan (Fang, 1985), Taiwan (Kôda, 1988), Guizhou (Fang, 1992), Jilin, Shanxi, Henan, Guangxi, Guizhou (Fang, 2000), Heilongjiang, Guangdong.

Antennae black with moderate branches. Head and thorax pure white, tegulae without black spots. Abdomen bright red, with a row of very small black dorsal spots. Wings pure white, fore one with few black spots behind hind edge of discal vein, and a small spot at middle part of vein A. Hind wings with a black stroke on fore end of the discal vein, and with few black spots along the external margin.

Male genitalia (Figs 22–24). Valva with long and narrower apical processes than in the former species, without a twisting; subapical process is better defined. Aedeagus with only one sclerotized plate on apex.

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