

Contributions to the study of butterflies from Xinjiang - 3 A supplement to the genus *Neolycaena* DE NICEVILLE, 1890

(Lepidoptera: Lycaenidae)

by

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received 9.XI.2023

Abstract: Two new localities are recorded for *Neolycaena* (*Rhymnaria*) *zaisana* ZHDANKO, 2013 in Xinjiang, China. *Neolycaena* (*Rhymnaria*) *saurica* ZHDANKO, 1998 is recorded as new to Chinese fauna.

Introduction: After the publication of the study of the genus *Neolycaena* DE NICEVILLE, 1890, the senior author received a material from the junior author, collected by the junior author and Miss YA-HUI HUANG from Xinjiang. A study of this material shows that the range of *Neolycaena zaisana* ZHDANKO, 2013 is far more extensive than previously known and *Neolycaena saurica* ZHDANKO, 1998 (**new record for China**) distributes into Xinjiang.

Abbreviations

CHH:	Collection of HAO HUANG, Qingdao
CXR:	Collection of RUI XING, Urumqi
TL:	Type locality
ZISP:	Zoological Institute, Russian Academy of Sciences (St.-Peterburg, Russia)

List of collecting localities (fig. 12)

To be convenient, the specimens figured in this work are labeled by some simple geographical names in collecting localities, of which the longitude and latitude data are listed herein (mapped in fig. 12): SW Awusiqi: 46.87 N, 85.07 E
N Alashankou: 45.20 N, 82.61 E
S Bole: 44.81 N, 82.06 E

Taxonomic accounts

Neolycaena (*Rhymnaria*) *zaisana* (ZHDANKO, 2013) (figs. 2-3, 5, 7-14)

New material. 4 ♂♂, 3 ♀♀ (CHH), N Alashankou, Xinjiang, 280-900 m, 24.V. & 6.VI., 2023, R. XING & Y.-H. HUANG leg.; 2 ♂♂, 4 ♀♀ (CHH), S Bole, Xinjiang, 350 m, 6.VI.2023, R. XING & Y.-H. HUANG leg.

Remarks. The ♂ and ♀ genitalia examined match those of the same sized specimens from Jimunai (around Black Irtysh River) and Hoboksar (figs. 5, 7, 10-11: r27, r26, r36, r35). The two newly recorded localities are much closer to the known localities of *Neolycaena neosinica* (LEE, 1963) than to the main range of *N. zaisana* (ZHDANKO), but the upper cornutus of the ♂ genitalia taken from these new populations (fig. 9: n1, n2, n5, n8, n9, n10) match that of *N. zaisana* (ZHDANKO) from the main range (fig. 9: r46), being markedly wider than that of *N. neosinica* (LEE) (fig. 9: r92, r74, r75). The border between these two species might be at the semi-deserts on north of the Borohoro Mts..

It is rather astonishing that *N. balchaschensis* ZHDANKO, 1998 does not distribute into Xinjiang through the Dzhungarian Gate.

Field observations (figs. 13-14). This species was observed to be associated with *Caragana* shrubs at the two new localities. The biotopes are semi-deserts by the roads.

Neolycaena (*Rhymnaria*) *saurica* ZHDANKO, 1998 (figs. 1, 4, 7-10, 12)

Neolycaena submontana saurica ZHDANKO, 1998: 650 (TL: Kishkenetau, foothills of the Saur Mountains, Tarbagatai; holotype in ZISP), fig. 15z for ♂ valva; WEIDENHOFFER et al., 2004: 81, figs. for ♂ & ♀; RUBIN & YAKOVLEV, 2013: 154, figs. 45, 46 & 65; TSHIKOLOVETS et al., 2016: 136, pl. XIX, fig. 30 for holotype ♂, fig. 31 for ♂

Neolycaena saurica: WEIDENHOFFER et al., 2016: 82, figs. for ♂, ♀ and their genitalia.

Material. 1 ♂ (CXR), SW Awusiqi, Xinjiang, 1830 m, 9.VII.2021, R. XING leg..

Remarks. The species identity of *N. saurica* ZHDANKO from its close relatives has not been clarified in ♂ and ♀ genitalia. However, this species is widely accepted as a good taxon (RUBIN & YAKOVLEV, 2013; TSHIKOLOVETS et al., 2016), characterized by the dark underside ground color, the wide white postdiscal markings and the large triangular black submarginal spots on hindwing underside. The species is restricted to a small area around the Saur Mts., widely separated from its relatives.

A comparison in ♂ genitalia between *N. saurica* ZHDANKO and *N. zaisana* (ZHDANKO) shows that these closely distributed species have no structural difference in ♂ genitalia. However, for the same-sized ♂ specimens, *N. saurica* ZHDANKO (fig. 4; figs. 7-10: n6) has a longer dorsal margin of the valva in lateral view, a straighter ventral margin of the valva in lateral view, a longer aedoeagus and a longer terminal ventral keel of the aedoeagus than *N. zaisana* (ZHDANKO) (fig. 5; figs. 7-10: r38, r37, r40, r24). The two species may have their ranges overlapping, but they do not fly together at same localities: *N. saurica* ZHDANKO is found at much higher elevations than *N. zaisana* (ZHDANKO).

This species is new to Chinese fauna.

Field observations. This species was observed to be associated with *Caragana* shrubs by the road.

Acknowledgement: Miss YA-HUI HUANG helped the junior author in collecting the butterflies studied in this work.

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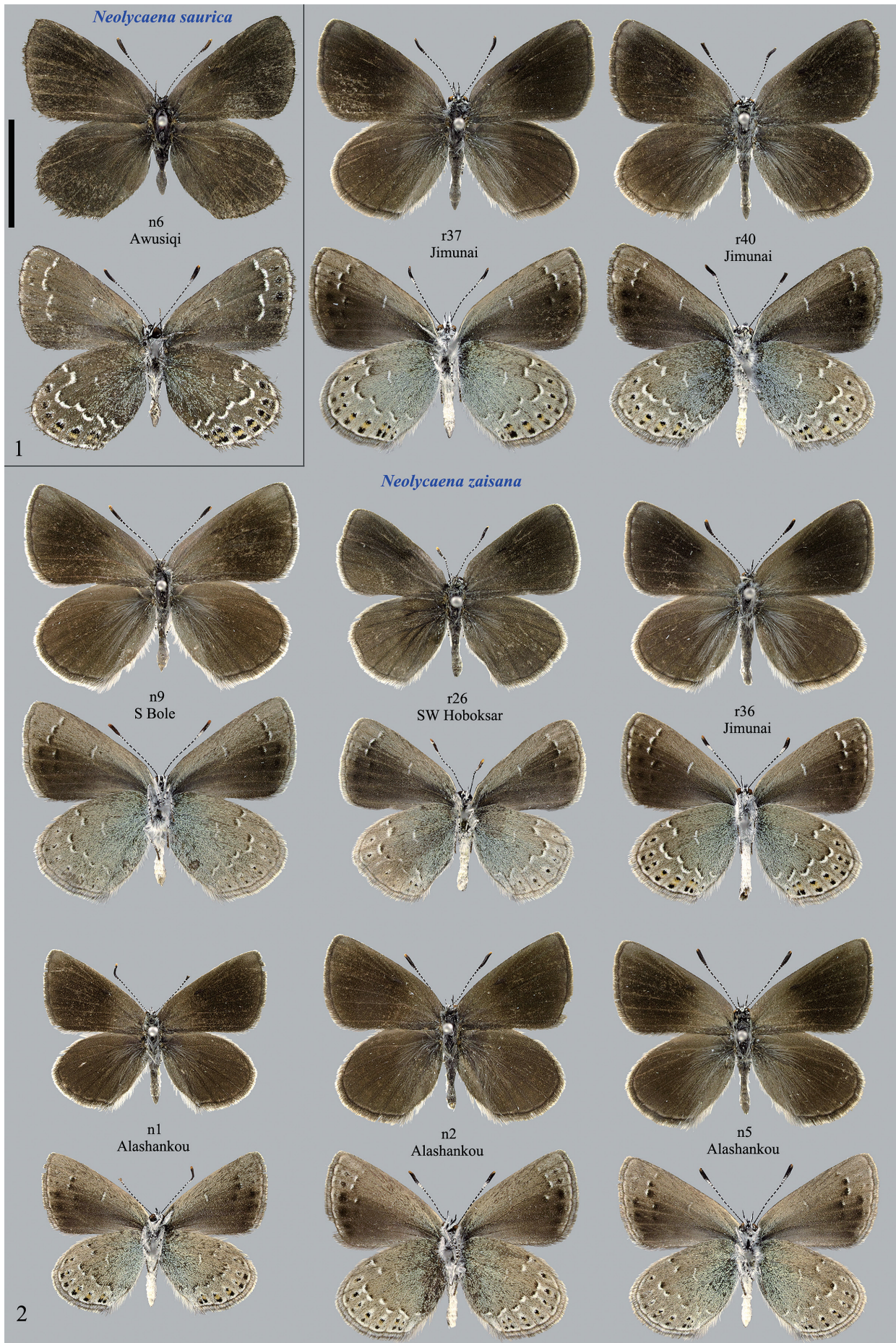
RUI XING
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Urumqi



13 Biotope of *Neolycaena zaisana* at Alashankou



14 *Neolycaena zaisana* in copulation at Alashankou



Figs. 1-2: Habitus of *Neolycaena saurica* ZHDANKO, 1998 and *N. zaisana* (ZHDANKO, 2013) ♂♂ under same scale (scale bar = 1 cm).

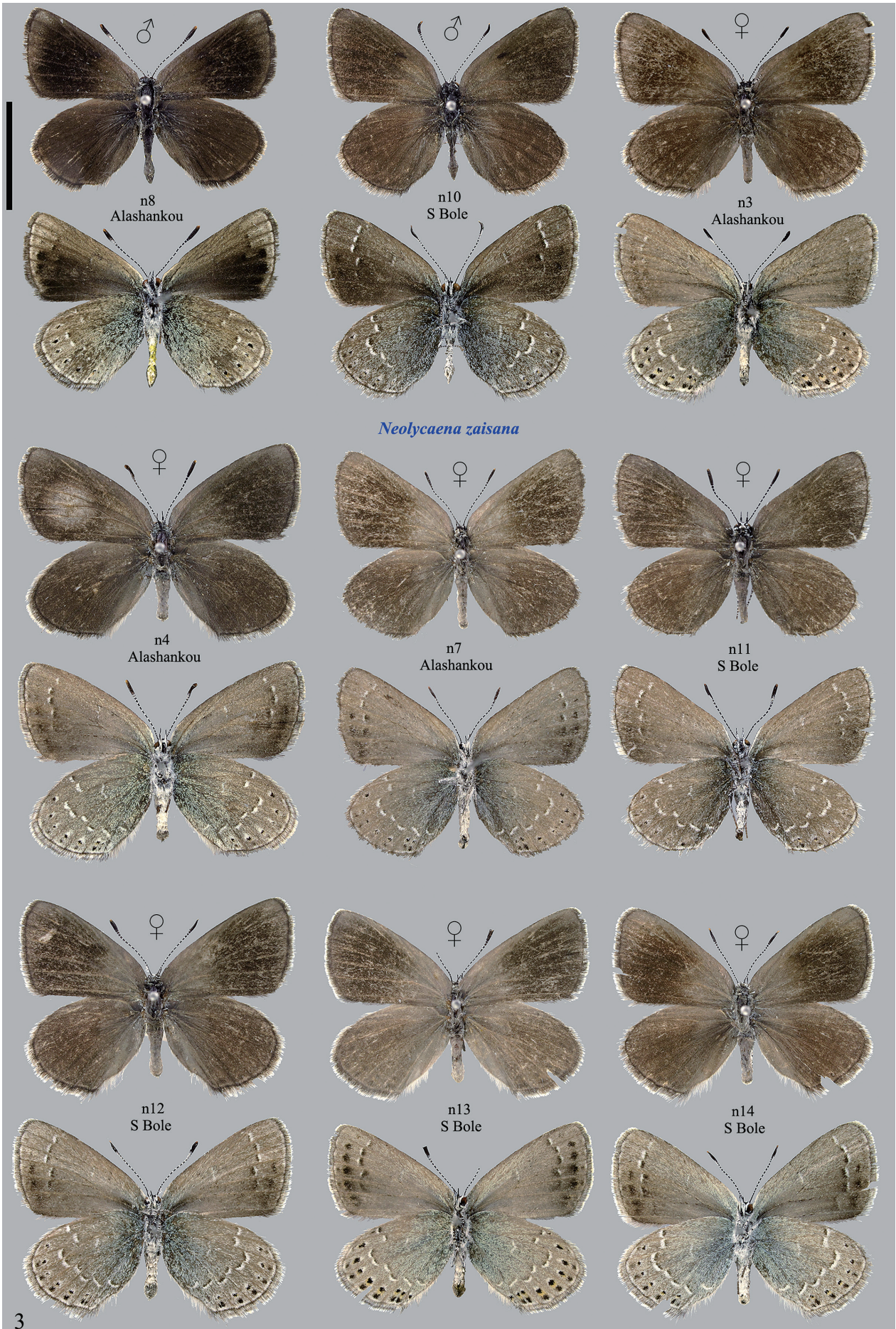
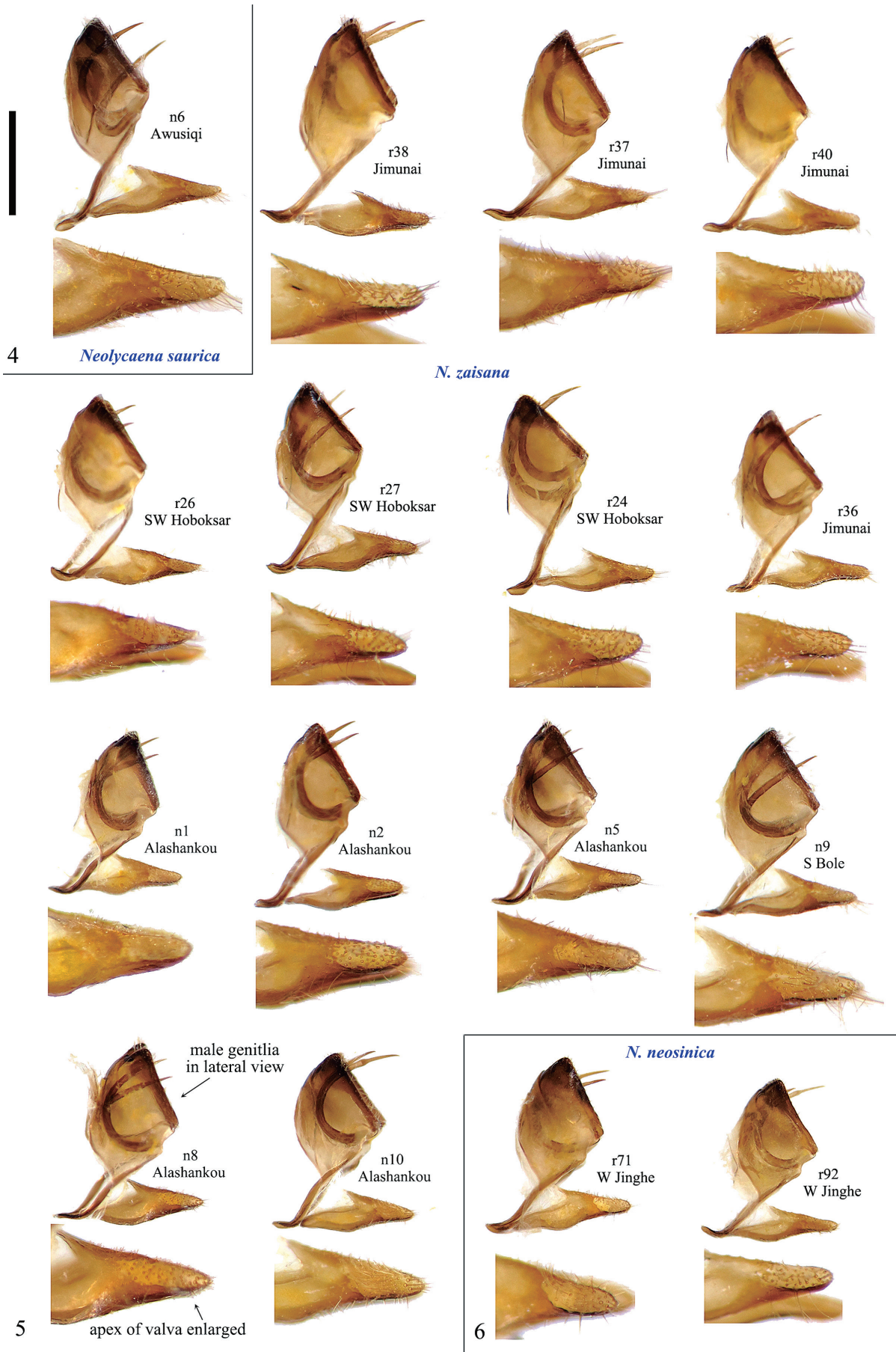
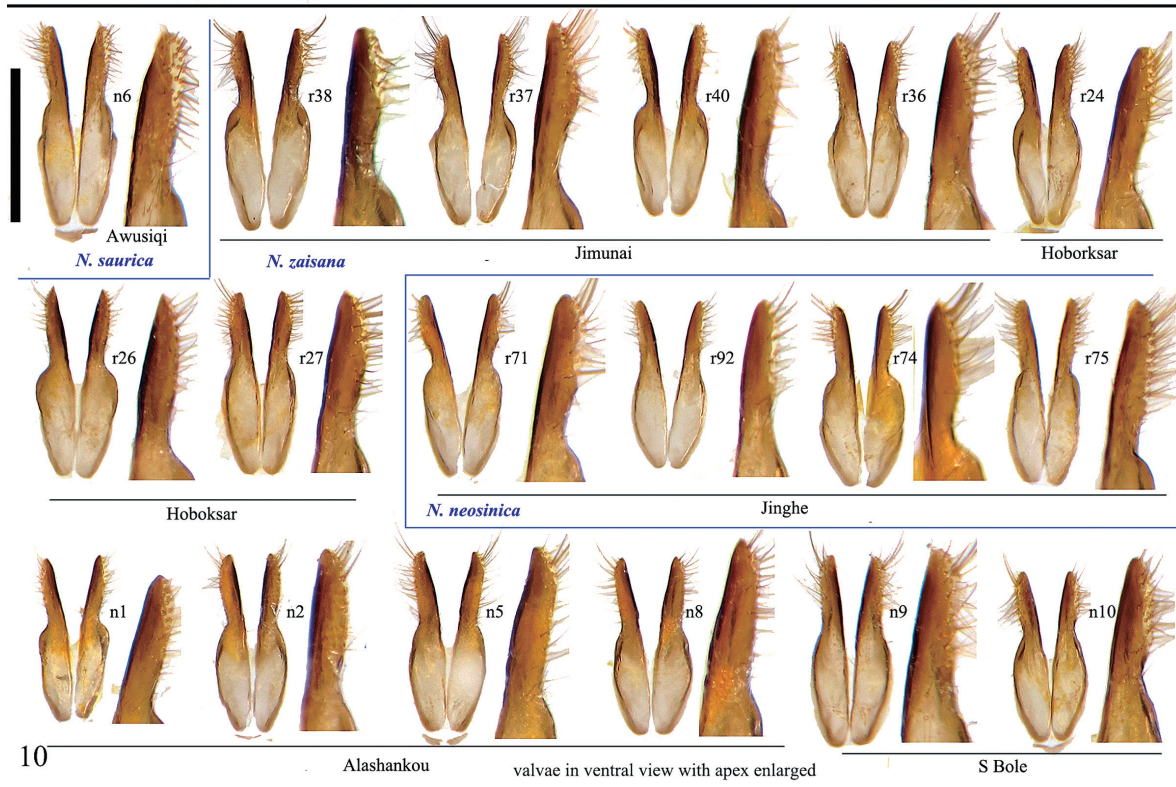
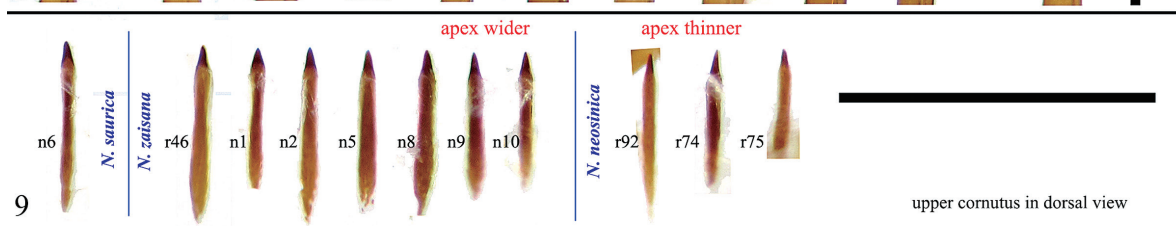
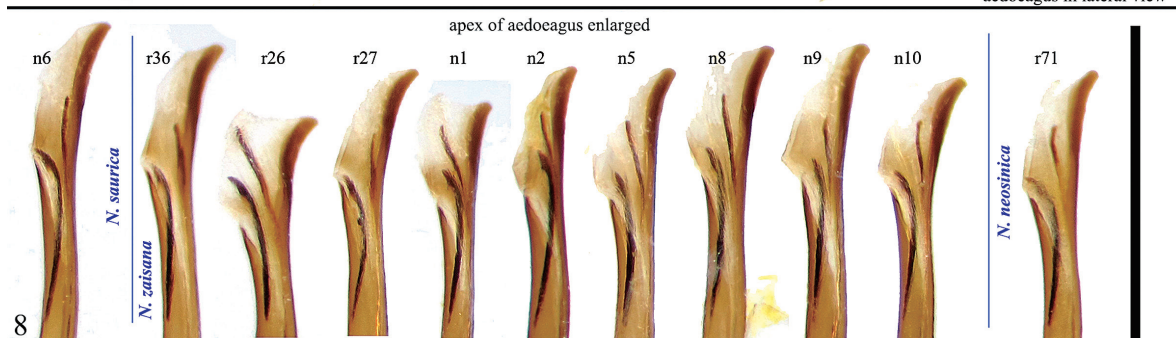
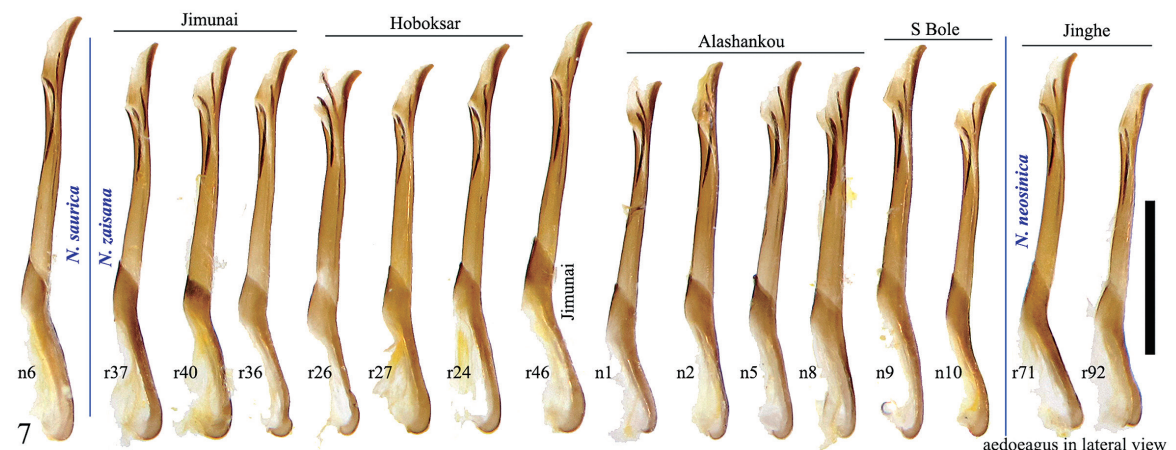


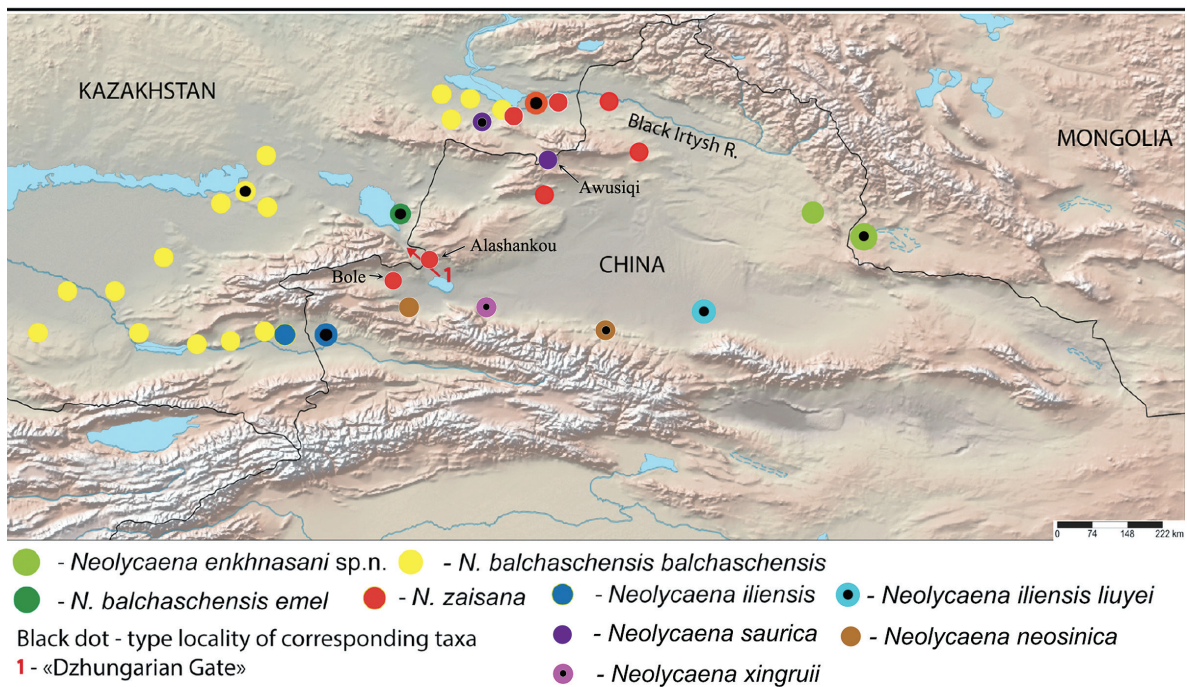
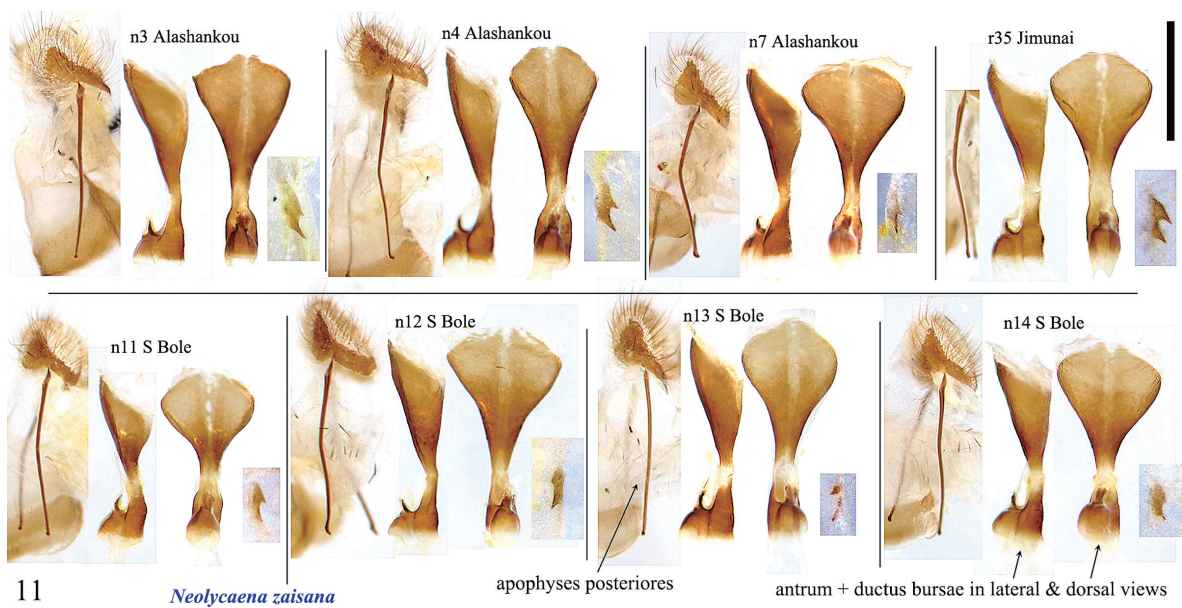
Fig. 3: Habitus of *Neolycaena zaisana* (ZHDANKO, 2013) ♂♂ and ♀♀ under same scale (scale bar = 1 cm).



Figs. 4-6: ♂ genitalia of *Neolycaena saurica* ZHDANKO, 1998, *N. zaisana* (ZHDANKO, 2013) and *N. neosinica* (LEE, 1963): genital capsule in lateral view with apex of valva enlarged to show membranous area (scale bar = 1 mm).



Figs. 7-10: ♂ genitalia of *Neolycaena saurica* ZHDANKO, 1998, *N. zaisana* (ZHDANKO, 2013) and *N. neosinica* (LEE, 1963): aedeagus in lateral view with apex enlarged; upper cornutus in dorsal view; valvae in ventral view with apex enlarged to show membranous area (scale bar = 1 mm)



12 Distribution of *Neolycaena zaisana* and its relatives in Xinjiang



Fig. 11: ♀ genitalia of *Neolycaena zaisana* (ZHDANKO, 2013) consisting of papillae anales & apophyses posteriores in lateral view, antrum & ductus bursae in lateral & dorsal views, and signum enlarged (scale bar = 1 mm).

Fig. 12: Distribution of *Neolycaena zaisana* (ZHDANKO, 2013) and its relatives in Xinjiang.

Figs. 13, 14: Field observations of *Neolycaena zaisana* (ZHDANKO, 2013) at Alashankou, Xinjiang (magnifications see page.348).

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