

One new species and two newly recorded species in the genus *Neopallodes* (Coleoptera: Nitidulidae) from Yunnan, China

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Abstract: One new species and two newly recorded species from China, *Neopallodes bipunctatus* sp. nov., *N. solaris* Kirejtshuk, 1987 rec. nov., and *N. subdentatus* Kirejtshuk, 1994 rec. nov., are described from Yunnan, China. A list of all species in this genus from China is provided.

Key words: Nitidulinae; Cyllodini; taxonomy

中国云南新草露尾甲属一新种和二新记录种记述 (鞘翅目: 露尾甲科)

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摘要: 记述来自中国云南的新草露尾甲属 1 新种和 2 中国新记录种: 双点新草露尾甲 *Neopallodes bipunctatus* sp. nov.、太阳新草露尾甲 *Neopallodes solaris* Kirejtshuk, 1987 rec. nov.和近齿新草露尾甲 *Neopallodes subdentatus* Kirejtshuk, 1994 rec. nov.。提供 3 个新分类单元的整体图和特征图, 并提供了该属的中国名录。

关键词: 露尾甲亚科; 弯露尾甲族; 分类

Introduction

The genus *Neopallodes* Reitter, 1884 is a medium-sized group in the tribe Cyllodini belonging to the subfamily Nitidulinae, and members are closely associated with macrofungi (Kirejtshuk 1994, 2008). This genus includes 41 species all over the world. They are mainly distributed in the Palaearctic and Oriental Regions, and have the highest diversity in the Himalayas and especially the Indochina Peninsula (Kirejtshuk 2008).

Prior to this paper, seven species of *Neopallodes* had been recorded from China (Kirejtshuk 1992, 1994; Chen & Huang 2019). Here, one new species and two newly recorded species from Yunnan, China are described. A list of Chinese species of *Neopallodes* is presented.

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Material and methods

Most materials were preserved in anhydrous ethanol. Specimens were photographed and dissected after softening in warm water for six hours. Genitalia were immersed in 10% NaOH solution for six hours to remove excess muscle, then placed on a depression slide with glycerine for examination. All specimens are deposited in the Entomological Museum of Northwest A&F University (NWAUFU), Yangling, China and the Institute of Zoology, Chinese Academy of Sciences (IZAS), Beijing, China.

Digital photographs were taken using a Leica M205A microscope with a Leica DFC camera. Image stacking was done using LAS (Leica Application Suite) V3.7. Images were retouched with Adobe Photoshop CS6.

Abbreviations. ANLE—distance from base of scape to apex of terminal antennal segment; CLLE—refers to length of antennae 9–11 segments; PRLE — distance between lateral margins of pronotum; PRWI — distance between anterior and posterior margins of pronotum; HWEA — distance between the outer sides of eyes; LELY — longitudinal distance from base to end when elytra are closed; WELY — transverse distance at the widest point of the elytra where the elytra are closed; PYLE — distance between lateral margins of pygidium; PYWI — distance between anterior and posterior margins of pygidium; LEA1 — distance from base to end of abdominal ventrite 1; LEHP — distance from base to end of hypopygium; LETE — distance from base to end of tegmen; WITE — width at the widest part of tegmen; LEAE — distance from base to end of median lobe; WIAE — width at the widest part of median lobe; LEGO — apex to base of gonocoxites; MWGO — maximum width of gonocoxites.

Taxonomy

Neopallodes bipunctatus Chen & Huang sp. nov. (Fig. 1)

Description (male). Length 3.7 mm, width 2.5 mm. Body oblong, strongly convex dorsally and slightly convex ventrally. Body surface smooth and shiny, reddish brown with darker antennal club (Figs 1A, 1B).

Head depressed at disc, with dense fine punctures, interspace smooth (Fig. 1C). Labrum clearly exposed with short excision. Mandible exposed from under lobes of labrum, with six small teeth on apical edge (Fig. 1D). Antennae slightly longer than head width (ANLE/HWEA = 1.05), scape tubbish, pedicel cylindrical, longer than antennomere 3, antennomere 3 and antennomere 4 equal in length, antennomere 5 longer than the antennomere 4, antennomere 6–8 gradually shortens and thickens, antennomere 8 disk-shaped, antennal club incompact and asymmetrical (CLLE/HWEA = 0.5) (Fig. 1E). Pronotum transverse (PRLE/PRWI = 2.03), widest at base, anterior margin emarginated, posterior margin bisinuate and elongated to covering base of scutellum, lateral margins arcuate, anterior angles blunt, posterior angles acute; surface scattered with fine punctures, interspace smooth. Scutellum triangular and surface with dense fine punctures. Elytra longer than combined width (LELY/WELY = 1.04); surface with regular longitudinal double rows of large punctures separated by 1.0–1.8 diameters in rows; rows separated from each other by 3.5–4.8 puncture diameters; interspaces smooth, between rows of large punctures with irregular longitudinal rows of fine punctures.

Pygidium markedly wider than long (PYLE/PYWI = 1.8), truncated apex obviously exposed, and surface spread with large round punctures (Fig. 1F).

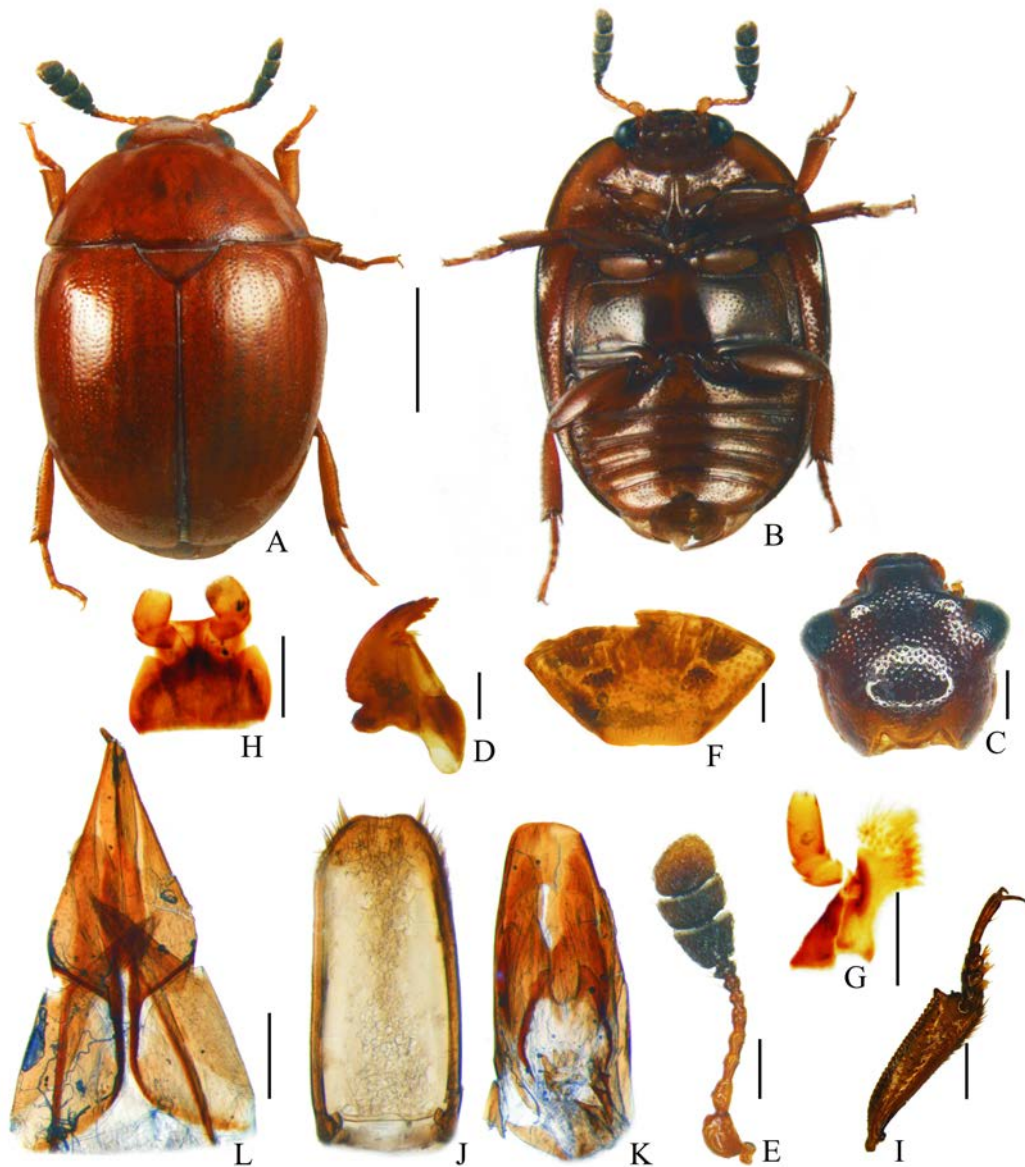


Figure 1. *Neopallodes bipunctatus* sp. nov. A. Body, dorsal view; B. Body, ventral view; C. Head, dorsal view; D. Left mandible, dorsal view; E. Antenna, dorsal view; F. Pygidium, dorsal view; G. Maxillary palpomere; H. Labial palpomere; I. Protibiae and protarsomeres, dorsal view; J. Tegmen, dorsal view; K. Penis trunk, dorsal view; L. Ovipositor, ventral view. Scale bars = 1 mm (A, B); 0.2 mm (C, E, F, I, J–L); 0.1 mm (D, G, H).

Last segment of maxillary palpomere cylindrical with contracted apex (Fig. 1G). Last segment of labial palpomere short and sturdy, cylindrical with truncate apex (Fig. 1H). Mentum pentagonal, anterior margin wavy, and with a pointed tip and two pointed anterior angles. Antennal grooves deep and short, posterior margins convergent. Prosternum strongly

carinate, prosternal process straight and round apically, elongated beyond the base of procoxa; surface with sparse fine punctures medially, and gradually larger toward the lateral margins, interspace smooth. Mesoventrite strongly carinate. Metaventrite slightly prominent medially; surface with sparse and fine punctures at disc, and gradually more coarse and dense towards lateral margin, interspace smooth. Metepisternum obviously narrower than width of antennal club, and surface with dense coarse punctures. Width of epipleura close to half the length of antennal club. Abdominal ventrite 1 longest (LEA1/LEHP = 2.6), abdominal ventrite 2–5 equal in length. Submesocoxal line almost rectilinearly deviating from posterior edge of mesocoxal cavity, reaching to one-fifth of metepisternum, forming a long triangular axillary region. Submetacoxal line not deviating from the posterior margin of metacoxal cavity. Distance between metacoxae longest, about 1.6 times longer than that between procoxae, distances between procoxa and mesocoxa equal in length. Protibia straight at inner margin, curved at outer margin, and with distinct teeth at outer apical angle (Fig. 1I).

Male genitalia strongly sclerotized, tegmen and median lobe equal in length. Tegmen rectangular (LETE/WITE = 2.2), constricted apically and slightly concave at the top, lateral margin with medium-length setae apically (Fig. 1J). Median lobe rectangular (LEAE/WIAE = 2.4), lateral margin parallel at basal half, and gradually narrowing toward the truncate apex, inner with an internal X-shaped sclerite, and scattering sclerite basally (Fig. 1K).

Female. Ovipositor strongly sclerotized. Paraprocts long, triangular (LEGO/MWGO = 1.9) (Fig. 1L).

Holotype. ♂, **China**, Yunnan, Chuxiong City, Zixi Mountain, 08-VIII-2018, Xiaoxiao CHEN (NWAUFU). **Paratypes.** 1♂1♀, same data as holotype; 3♂1♀, Yunnan, Lijiang City, Baima Snow Mountain (NWAUFU).

Etymology. The specific epithet is derived from the Latin word “*bi*” (= two) and “*punctures*”, referring to the two rows of punctures on elytra.

Diagnosis. This species can be distinguished from other species of the genus by: pedicel longer than the third segment, the third and fourth segments equal in length, and shorter than the fifth segment, antennal club is half of the total length of the antenna; elytra with scattered fine and sparse punctures in the regular longitudinal double row of large punctures; tegmen rectangular with a concave apically, median lobe with a deep V-shaped sclerite, and a chrysanthemum-like projection basally.

***Neopallodes solaris* Kirejtshuk, 1987** (Figs 2A–D), new record to China

Neopallodes solaris Kirejtshuk, 1987: 153.

Specimen examined. 1♂, **China**, Yunnan, Xishuangbanna, Xiaomengyang, 850 m, 03-V-1957, д. Ланфилов, IOZ(E)1967985.

Diagnosis. Pronotum with a black transverse stripe, elytra with five black markings; elytra with unobvious single or double longitudinal rows of fine punctures between rows of larger punctures; prosternum strongly carinate; media lobe round apically, with a large “V-shaped” sclerite medially.

Distribution. China (Yunnan); Vietnam.

***Neopallodes subdentatus* Kirejtshuk, 1994** (Figs 2E–H), new record to China

Neopallodes subdentatus Kirejtshuk, 1994: 246.

Specimen examined. 1♂, **China**, Yunnan, Qujing City, Junzi Mountain, 14-VII-2017,

Xiaoxiao CHEN (NWFU).

Diagnosis. This species is similar to *N. dentatus*, but differs in: dorsal and ventral surface blackish; elytra with regular longitudinal rows of large punctures, between rows of large punctures with irregular longitudinal rows of fine punctures; prosternum strongly carinate; tegmen nearly rectangular, medial lobe nearly square and with a pair of wide sclerites.

Distribution. China (Yunnan); Myanmar.

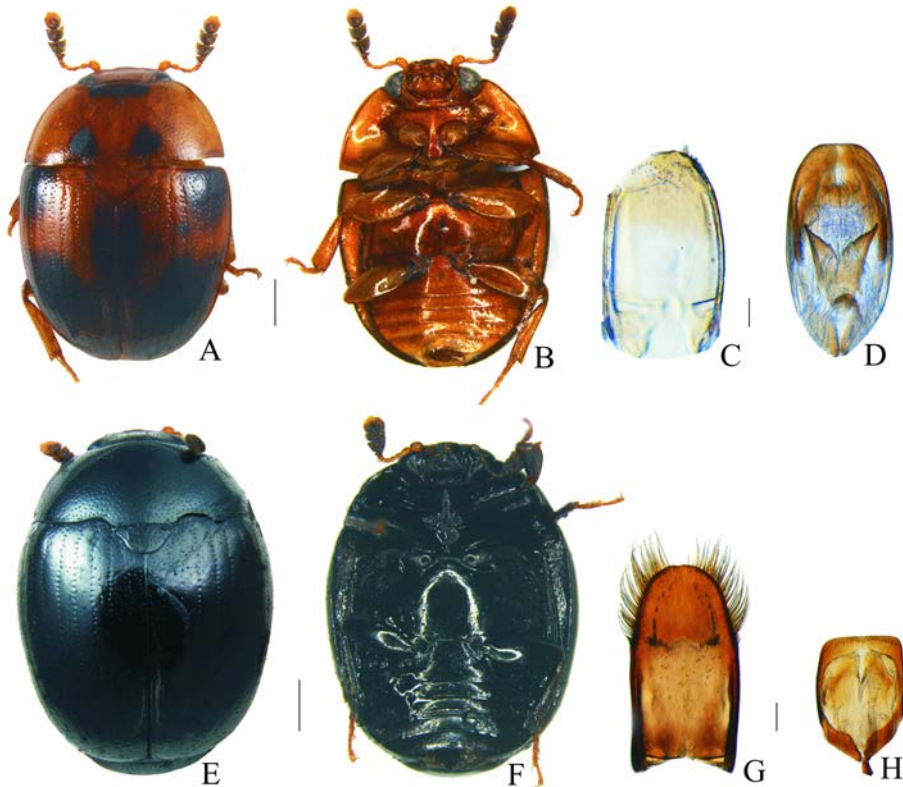


Figure 2. A–D *Neopallodes solaris* Kirejtshuk, 1987. A. Body, dorsal view; B. Body, ventral view; C. Tegmen, dorsal view; D. Penis trunk, dorsal view; E–H. *Neopallodes subdentatus* Kirejtshuk 1994. E. Body, dorsal view; F. Body, ventral view; G. Tegmen, dorsal view; H. Penis trunk, dorsal view. Scale bars = 0.5 mm (A, B, E, F); 0.1 mm (C, D, G, H).

List of species from China

1. ***Neopallodes bipunctatus* Chen & Huang sp. nov.**
Distribution. China (Yunnan).
2. ***Neopallodes dentatus* Grouvelle, 1892**
Neopallodes dentatus Grouvelle, 1892: 849.
Distribution. China (Yunnan, Shaanxi); Myanmar.
3. ***Neopallodes falsus* Grouvelle, 1913**
Pallodes harmandi Grouvelle, 1903:117.
Neopallodes falsus Grouvelle, 1913: 398.
Neopallodes lindskogi Kirejtshuk, 1987: 158.

- Neopallodes falsus* Kirejtshuk, 1994: 237.
Distribution: China (Yunnan, Hubei); India; Japan; Myanmar; Nepal.
4. ***Neopallodes hilleri* Reitter, 1877**
Neopallodes hilleri Reitter, 1877: 374.
Pallodes circumflexus Reitter, 1879: 210.
Pallodes bouvieri Grouvelle, 1902: 17.
Distribution: China (Yunnan, Taiwan); Russia: Far East; Japan.
5. ***Neopallodes inermis* Reitter, 1884**
Neopallodes inermis Reitter, 1884: 269.
Neopallodes harmandi Grouvelle, 1902: 17.
Distribution. China (Yunnan, Hubei); Russia: Far East; Japan.
6. ***Neopallodes nigrescens* Chen & Huang, 2019**
Neopallodes nigrescens Chen & Huang, 2019: 78.
Distribution. China (Yunnan, Guizhou).
7. ***Neopallodes solaris* Kirejtshuk, 1987 n. rec.**
Neopallodes solaris Kirejtshuk, 1987: 153.
Distribution. China (Yunnan).
8. ***Neopallodes subdentatus* Kirejtshuk, 1994 n. rec.**
Neopallodes subdentatus Kirejtshuk, 1994: 246.
Distribution. China (Yunnan).
9. ***Neopallodes vicinus* Grouvelle, 1892**
Neopallodes vicinus Grouvelle, 1892: 850.
Distribution. China (Taiwan); Myanmar; Korea; Japan; Russia.
10. ***Neopallodes vietnamicus* Kirejtshuk, 1987**
Neopallodes vietnamicus Kirejtshuk, 1987: 152.
Distribution. China (Yunnan, Hubei); India; Myanmar; Vietnam.

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