

**A description of *Synchroa ruzzieri* sp. nov. from China  
(Coleoptera: Tenebrionoidea: Synchroidae)  
with a key to the world fauna of Synchroidae**

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**Taxonomy, new species, Coleoptera, Synchroidae, *Synchroa ruzzieri*, China, Gansu Province, Palaeartic Region**

**Abstract.** A new species *Synchroa ruzzieri* sp. nov., is described and illustrated based on a single female found in the locality Changpingcun in the Gansu Province of China. A key to Synchroidae of the world is given.

## INTRODUCTION

Synchroidae is a small family distributed in the Eastern Palaeartic, Oriental and Nearctic Regions (Ślipiński & Lawrence 2010; Hsiao 2015; Hsiao et al. 2016, 2018). Previously, it was classified within Melandryidae (e.g. Csiki 1924). At present, Synchroidae contains four genera: *Malldrya* Horn, 1888 with one species in North America; *Synchroina* Fairmaire, 1898 comprising two species from Indonesia (Kalimantan, Sumatra) and Malaysia (the Malaysian Peninsula); *Thescelosynchroa* Hsiao, Konvička & Ko, 2018 with one species from the China mainland (Sichuan) and *Synchroa* Newman, 1838 comprising five species (one in North America, three in Eastern Palaeartic Region and one in Laos and Vietnam) (Nikitsky 1999, Löbl 2008, Hsiao 2015, Hsiao et al. 2016, 2018). So far only three species were known from China: *Synchroa melanotoides* Lewis, 1895, *Synchroa chinensis* Nikitsky, 1999 and *Thescelosynchroa pangu* (Hsiao, Li, Liu & Pang 2016). Larvae of Synchroidae are living under the bark of decaying deciduous trees and they feed on rotten cambium. Adults have been collected at lights or running on surface of bark at night (Young 1991, Ślipiński & Lawrence 2010, Hsiao 2015). A description of a new species from the Gansu Province of China is presented below.

## MATERIAL AND METHODS

Body length was measured from the anterior margin of the clypeus to apices of the elytra; length of the elytra is distance from base to the apex; width of the head is the maximum width of head across eyes. Length of the head was measured from the anterior margin of the clypeus to the basal eye margin. Length of pronotum was measured from the middle part of the anterior margin to middle part of basal margin, width of pronotum is distance between hind angles. Abdomen, tergites and sternites VII and VIII are mounted in Dimethyl-hydantoin Formaldehyde resin (water soluble medium) on a separate cardboard label pinned under the specimen. Exact label data are cited for the type material. Authors' remarks and addenda are placed in square brackets, separate label lines are indicated by slash (/). The holotype is glued on cardboard label.

## TAXONOMY

### Genus *Synchroa* Newman, 1838

*Synchroa* Newman, 1838: 378. Type species: *Synchroa punctata* Newman, 1838, by monotypy.  
*Phaiona* Haldeman, 1848: 99. Type species: *Phaiona murina* Haldeman, 1848.

### *Synchroa ruzzieri* sp. nov.

(Figs. 1-6)

**Type locality.** China, Gansu Province, Min Shan Mts., 50 km west of Longnan city, Chanpingcun village env., 2350-2700 m a.s.l., 33°30'N, 104°35'E.

**Type material.** Holotype (♀): 'CHINA, GANSU / MIN SHAN Mts. 2350-2700m / 50km to W from WUDU / 33°30'N, 104°35'E, 2000 [year of collecting] / leg. A. [Andrej] Plutenko 27.7. -14.08. [white label, printed] // *Synchroa* / *ruzzieri* sp. nov. / HOLOTYPE / des. Ondřej Konvička & Yun Hsiao 2018 [red label, printed]' (deposited in the private collection of O. Konvička, Zlín, Czech Republic).

**Description of holotype.** Female (Fig. 1). Body length 11.7 mm, width 3.4 mm. Body brown, elongate, moderately tapering posteriorly.

Head as long as wide (1.8 × 1.8 mm), dark brown, shiny, irregularly and finely punctate, and with sparse and long yellowish-white pubescence. Interspaces among punctures smooth, wider than puncture diameter. Punctuation of head slightly denser than that of pronotum, punctures smaller than those on pronotum. Clypeus dark yellow; labrum dark brown with dark yellow lower margin, punctate, and with distinct yellowish-white pubescence. Mandibles dark brown; maxillary palpi three-segmented and dark brown, apical margin of last palpomere pale coloured; whole palpi with short and moderately erect pale pubescence. Eyes prominent, protruding from margin of head, with sparse and short pale pubescence, genae bent and with sparse pubescence but longer than that on eyes. Frons with small transverse wrinkles, which continue posteriorly to centre of vertex. Vertex with rugose area near each eye.

Antennae 11-segmented, brown, 2.1 × as long as pronotum. Antennomeres I-III and

basal 1/3 of IV distinctly smoother and shinier than remaining antennomeres, these matt. Antennae with long and pale pubescence. Antennomeres I-III with sparser pubescence than remaining ones. All antennomeres longer than wide. Antennomere II distinctly shorter than I and III. The length of individual antennomeres gradually shorter from antennomere III on, or subequal. Antennomere X slightly longer than IX; XI significantly longer than remaining ones. Length ratios of antennomeres I-XI: 1.0 : 0.6 : 1.3 : 1.3 : 1.2 : 1.1 : 1.1 : 1.1 : 1.0 : 1.1 : 1.9.

Pronotum  $1.8 \times$  as wide as long, widest at base, brown, shiny, with sparse but long yellowish-white pubescence. Basal angles distinct, slightly projecting and blunt. Lateral sides rounded and narrowing anteriorly; only slightly emarginate before basal angles at 1/3 basal length. Punctures larger than those on head; interspaces smooth and wider than puncture diameter. Punctuation gradually denser towards lateral sides. Base with three impressions, lateral ones circular and deep, middle one broad and shallow. Basal margin of pronotum with five emarginations (Fig. 6).

Elytra elongate,  $2.6 \times$  as long as wide, widest at about midlength, brown, somewhat darker than pronotum, shiny, and with sparse and long yellowish-white pubescence. Each humerus with shallow impression at base. Each elytron with nine (including sutural one) distinctly convex ribs, which arise in about 1/9 length of elytra from base. Ribs uniting on apical slope and not reaching apex of elytra. Elytra coarsely and densely punctate, punctures densest at base and along lateral margins. Punctures at base connected and forming transverse wrinkles reaching to basal 1/6 length of elytra. Wrinkles particularly conspicuous at base and then gradually vanishing towards apex. Apex of each elytron rounded.

Ventral side of body brown, with very sparse and long yellowish-white pubescence. Tergite V on Fig. 2, ventrite V on Fig. 3, sternite VIII on Fig. 4. Prosternal process on Fig. 5. Legs brown, femora somewhat paler. All tibiae with two long and thin spines on apex. Legs with yellowish-white pubescence, pubescence on femora distinctly sparser than that on remaining parts of legs.

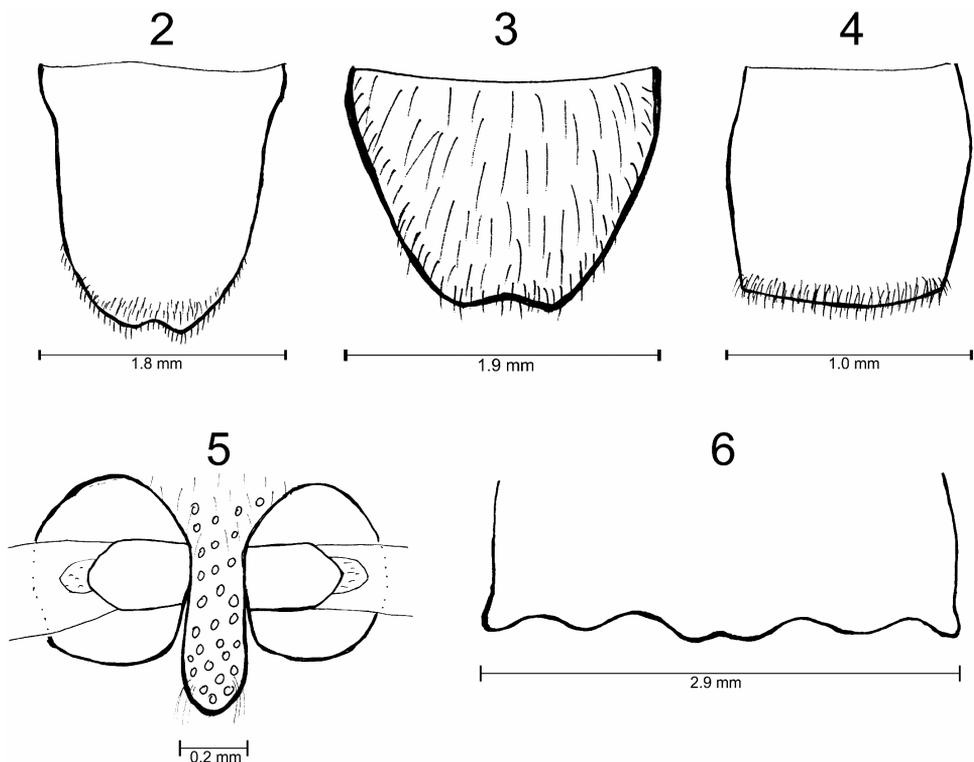
**Male.** Unknown.

**Differential diagnosis.** *Synchroa ruzzieri* sp. nov. can be easily distinguished from remaining species of *Synchroa* by presence of nine distinctly elevated ribs on elytra and basal margin of pronotum with five emarginations (Fig. 6).

**Collection circumstances.** Unknown.



Fig. 1. *Synchroa ruzzieri* sp. nov.: 1- habitus of holotype in dorsal view. (photo by Vlastimil Mihal).



**Etymology.** The species is dedicated to excellent specialist in the world fauna of Mordellidae and Scraptiidae, our friend Enrico Ruzzier (Natural History Museum, London and Venice, Italy), who kindly provided the specimen for description.

**Distribution.** China (south part of Gansu Province).

Figs. 2-6. *Synchroa ruzzieri* sp. nov.: 2- tergite V; 3- ventrite V; 4- sternite VIII; 5- prosternal process; 6- basal margin of pronotum.

#### KEY TO THE WORLD FAUNA OF SYNCHROIDAE

(after Nikitsky 1999, Hsiao 2015, Hsiao et al. 2016, 2018)

- 1. Procoxae almost contiguous. (North America) .....*Mallodrya subaenea* Horn, 1888
- Procoxae distinctly separated. ....2
- 2. Pretarsal claws serrate. ....3 (*Synchroina*)
- Pretarsal claws simple. ....4

3. Elytra finely and sparsely punctate in apical two-thirds; sutural striae on elytra strongly marked in apical part. Indonesia (South Kalimantan). ..... *Synchroina cuneata* (Champion, 1916)
- Elytra densely and coarsely punctate; sutural striae on elytra shallower. Malaysia (Kelantan, Perak, Pahang); Indonesia (West Sumatra, South Kalimantan). ..... *Synchroina tenuipennis* Fairmaire, 1898
4. Elytra with elevated ribs. (China: Gansu)..... *Synchroa ruzzieri* sp. nov.
- Elytra without elevated ribs. .... 5
5. Pronotum slightly narrowed anteriorly, distinctly narrower than elytra at humeri ( $\leq 0.8$  times elytral width at humeri); median lobe of the aedeagus clavate, slender, long, projecting from the tegmen in natural condition. (China: Sichuan). ..... *Thescelosynchroa pangu* (Hsiao, Li, Liu & Pang, 2016)
- Pronotum strongly narrowed anteriorly, nearly as long as elytra at humeri; median lobe of the aedeagus tapered, not extending over the tegmen in natural condition. .... 6
6. Sides of pronotum almost entirely margined; median part of posterior half of pronotum smooth and impunctate. (Eastern North America: Canada, U.S.A.) ..... *Synchroa punctata* Newman, 1838
- Sides of pronotum not margined or only partially margined; median part of posterior half of pronotum not smooth. (Asia) ..... 7
7. Lateral margins of pronotum not margined. .... 8
- Lateral margins of pronotum distinctly margined in posterior 1/3 or 1/4 length. .... 9
8. Body and legs blackish-brown; parameres slender, basal part of median lobe gradually narrowed apically. (China: Sichuan, Shaanxi, Gansu). ..... *Synchroa chinensis* Nikitsky, 1999
- Body and legs reddish to dark brown; paramerae stout, basal 1/4 of median lobe subparallel. (Taiwan). ..... *Synchroa formosana* Hsiao, 2015
9. Antennae, maxillary palpi blackish-brown; body elongate, slender; prosternal process narrowed apically; aedeagus: paramerae stout, wide, with lateral sides subparallel or sinuate. (Vietnam, Laos). ..... *Synchroa elongatula* Nikitsky, 1999
- Antennae, legs and maxillary palpi reddish-brown; body stout; prosternal process with long oval apex; aedeagus: parameres slender, with lateral sides gradually narrowed apically (Russia: Far East, Japan, Korea, China: Jilin). ..... *Synchroa melanotooides* Lewis, 1895

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