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## New species of *Chrysolina* Motschulsky, 1860 from Southwest China (Coleoptera, Chrysomelidae, Chrysomelinae)

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**Abstract.**— Twelve new species of genus *Chrysolina* Motschulsky are described: *Chrysolina boccaccioi* Daccordi et Yang (Sichuan), *Chrysolina jinxiaoae* Ge (Sichuan), *Chrysolina lii* Daccordi et Ge (Yunnan), *Chrysolina libaii* Daccordi et Ge (Sichuan), *Chrysolina lijieae* Daccordi et Yang (Sichuan), *Chrysolina liqingzhaoae* Daccordi et Ge (Yunnan), *Chrysolina lishangyini* Ge et Daccordi (Xizang), *Chrysolina luobinwangi* Ge et Daccordi (Yunnan), *Chrysolina luyoui* Daccordi et Ge (Sichuan), *Chrysolina mikhailovi* Ge et Daccordi (Xizang), *Chrysolina sicienti* Ge et Yang (Sichuan), *Chrysolina wangboi* Daccordi et Yang (Sichuan). Illustrations of the habitus, aedeagus, spermatheca, antennae of male and female, protarsi of male and distributing map are presented here.

**Résumé.**— Douze nouvelles espèces du genre *Chrysolina* Motschulsky sont décrites : *Chrysolina boccaccioi* Daccordi et Yang (Sichuan), *Chrysolina jinxiaoae* Ge (Sichuan), *Chrysolina lii* Daccordi et Ge (Yunnan), *Chrysolina libaii* Daccordi et Ge (Sichuan), *Chrysolina lijieae* Daccordi et Yang (Sichuan), *Chrysolina liqingzhaoae* Daccordi et Ge (Yunnan), *Chrysolina lishangyini* Ge et Daccordi (Xizang), *Chrysolina luobinwangi* Ge et Daccordi (Yunnan), *Chrysolina luyoui* Daccordi et Ge (Sichuan), *Chrysolina mikhailovi* Ge et Daccordi (Xizang), *Chrysolina sicienti* Ge et Yang (Sichuan), *Chrysolina wangboi* Daccordi et Yang (Sichuan). Les habitus, édéages, spermathèques, antennes des mâles et femelles, protarses des mâles et la carte de distribution sont illustrés.

**Key words.**— Chrysomelidae, Chrysomelinae, *Chrysolina*, new species, China.

### Introduction

As part of our project to document the diversity of the subfamily Chrysomelinae in China, we are currently engage in a revisionary study of the Chinese *Chrysolina* species and a cladistic analysis of the Chinese subgenera; but pending completion of that study, we are describing the new species without subgenus rank in this paper. *Chrysolina* Motschulsky is one of the largest genera of Chrysomelinae with 475 valid species, although new species are still being described. *Chrysolina* species occur from Asia,

Europe, Africa, North America, and introduced by man into S. America and Australia (BIENKOWSKI, 2007). *Chrysolina* species can be recognized by labial palpi wide; antennae separated by entire width of head, extended to base of elytra; pronotum broader than long; elytra punctures confused or with striae; epipleuron with or without bristles; anterior coxal cavities open behind; intercoxal process of metaventrite bordered and rounded; tarsomere III not bilobed; claws simple. Distinguishing the genus *Chrysolina* from genus *Ambrostoma* Motschulsky, 1860 can be by intercoxal process of metaventrite bordered and rounded.

In present paper, twelve new species of genus *Chrysolina* Motschulsky from Xizang, Yunnan, and Sichuan provinces are described here, with holotype specimens deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZAS) and paratypes deposited there and in the Natural History Museum, London, United Kingdom (BMNH); California Academy of Sciences, San Francisco, USA (CAS); Horst Kippenberg's collection, Herzogenaurach, Germany (HKc); Mauro Daccordi's collection, Verona, Italy (MDc).

### Material and methods

Internal and external morphological characters form the basis of this work. Specimens from museum collections were examined using a Leica microscope with a camera lucida (8 to 100x). Measurements were made using an ocular micrometer. Internal sclerotized genitalia were dissected in hot water. Heavily sclerotized parts were soaked in a dilute solution of potassium hydroxide (about 25%), then put in ethyl acetate; and finally stored in ethanol. In most cases, the dissected male genitalia were glued to a triangular label pinned under the specimen. Digital photographs of dorsal habitus were taken with Automontage imaging systems by Syncroscopy with a Leica M420 dissecting microscope. Line figures were drawn with the aid of a camera lucida mounted on a Leica MZ 12.5 stereomicroscope. All illustrations were evaluated and assembled with Adobe Photoshop® and Illustrator® CS software.

### Descriptions of the new species

#### *Chrysolina jinxiaoe* Ge n. sp. (Figs. 1, 11–16, 77)

**HOLOTYPE** ♂, China: N. Sichuan env. Nanping, h=3500 m, 10–19. VI.1997. leg. S. Murzin (IZAS). **Paratypes**: 2♂♂, 2♀♀ (IZAS); 1♂, 1♀ (BMNH); 1♂ (HKc); 5♂♂, 5♀♀ (MDc), ditto; 1♂, 1♀, ditto (CAS).

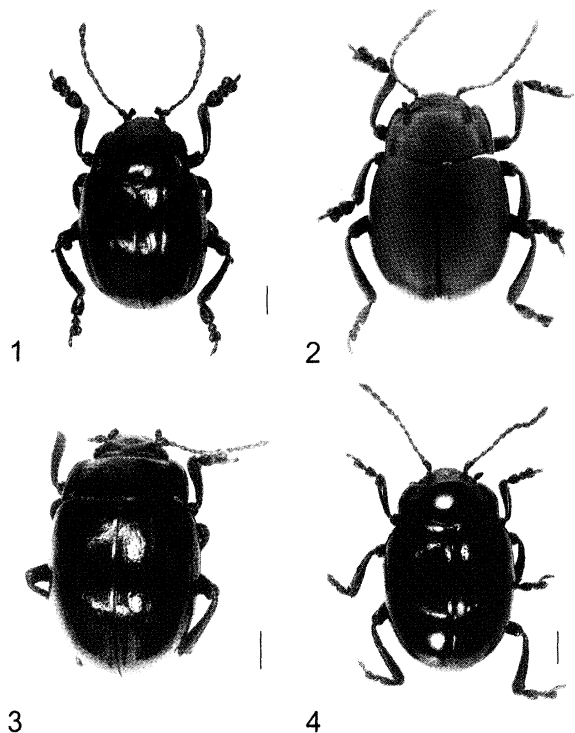
#### Description (based on holotype)

**Colour**: Metallic bronze with bright shining; first and second segments of antennae and claws reddish brown.

Body length: 7.6 mm; width: 4.5 mm.

Body elongate-ovoid (Fig. 1), moderate large; hind wing absent.

*Head*: Frons smooth, with very sparse, small punctures; coronal suture and frontal suture present; vertex with very sparse, small punctures; compound eyes elliptic, dorso-ventral eye length 0.25 mm, interocular distance 1.50 mm; distance from antennal insertion to eye 0.13 mm; distance from antennal insertion to clypeus 0.06 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; antennae with narrow segments, widen from segments 6–11; antennae segment (1–11) length (in millimeter): 0.50 : 0.25 : 0.35 : 0.25 : 0.35 : 0.35 : 0.30 : 0.35 : 0.35 : 0.35 : 0.65 (Fig. 11).



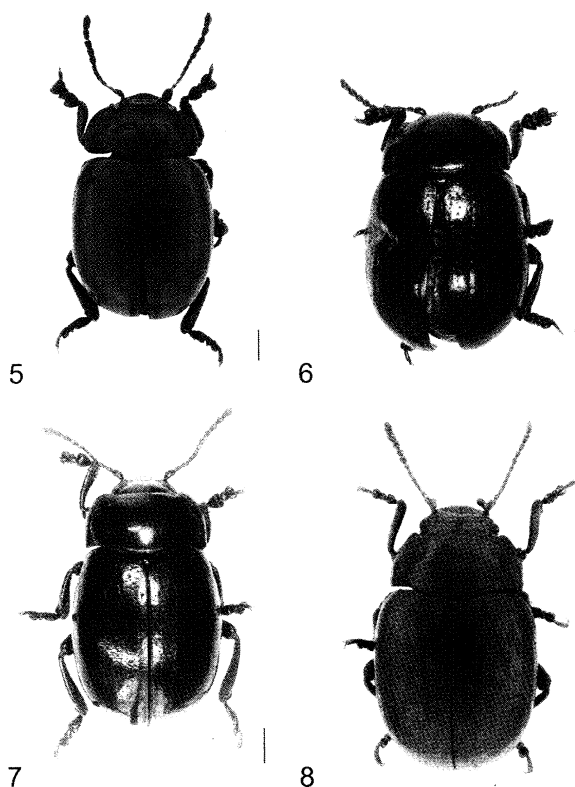
Figs. 1–4.— Digital images of holotype: 1.— *Chrysolina jinxiaoe* Daccordi et Ge; 2.— *Chrysolina libaii* Daccordi et Ge; 3.— *Chrysolina lijieae* Daccordi et Yang; 4.— *Chrysolina liqingzhaoae* Daccordi et Ge. Scale bar: 1.0 mm.

*Prothorax*: Length: 2.8 mm; width: 3.6 mm; lacking setigerous punctures on sides of anterior and posterior angles; disc with small, very sparse punctures, as same as those of head; lateral callus present, separate by longitudinal depression, punctures lateral to disc small and sparse.

*Scutellum*: Subtriangular, smooth and with very sparse and few punctures.

*Elytra*: Suture length: 5.9 mm; width of elytra: 5.2 mm; elytral with four regular single striae, interspaces strongly convex, rib-shaped (Fig. 1); inner edge of epipleura with very sparse and short bristles.

*Legs*: Femora and tibiae with sparse, small punctures, sparse pubescence; protarsomere I of male very large, metatarsi entirely pubescent beneath, relative lengths of metatarsomeres: 5>1>3>2, fifth not ventrally toothed (Fig. 13).

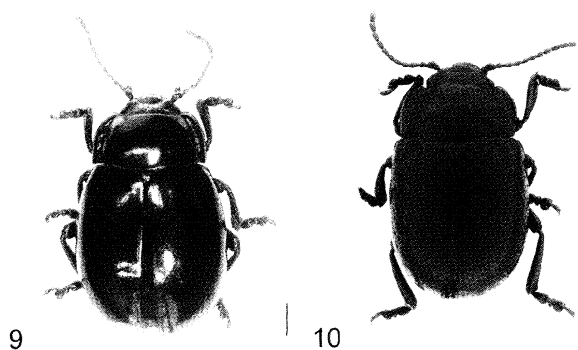


Figs. 5–8.— Digital images of holotype: 5.— *Chrysolina lishangyinae* Ge et Daccordi; 6.— *Chrysolina luobinwangi* Ge et Daccordi; 7.— *Chrysolina luyoui* Daccordi et Ge; 8.— *Chrysolina mikhailovi* Ge et Daccordi. Scale bar: 1.0 mm.

*Venter*: Hypomera smooth, without punctures; prosternum with dense, moderate punctures; metaventre with sparse and small punctures, sparse pubescence; mesepisternum, mesepimeron and metepisternum with small and sparse punctures; abdomen with sparse and moderate punctures; fifth abdominal sternite of male without emargination; pygidium with arcuate apex, without longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 14–15): Basal part of median lobe much narrower than apex, with a small angle on each side apically; curved from lateral view; flagellum slender.

**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I strongly enlarged in male; the female is slightly larger and broader, protarsomere I not distinctly enlarged, metatarsi of female wholly pubescent, spermatheca shown as Fig. 16. Measurements of the paratypes are as follows: body length: 6.8–8.1 mm; body width: 4.1–4.8 mm; dorso-ventral eye length: 0.30–0.35 mm; interocular distance: 1.40–1.65 mm; length of pronotum: 1.5–3.0 mm; width of pronotum: 3.5–3.8 mm; suture length: 5.5–6.3 mm; width of elytra: 4.8–5.5 mm; antennae segment (1–11) length (in millimeter): 0.50 : 0.25 : 0.35 : 0.20–0.35 : 0.30 : 0.30 : 0.30 : 0.30 : 0.30 : 0.30 : 0.55–0.65 (Fig. 12).



Figs. 9–10.— Digital images of holotype: 9.— *Chrysolina sicienti* Ge et Daccordi; 10.— *Chrysolina wangboi* Daccordi et Yang. Scale bar: 1.0 mm.

**Etymology.** The new species is named from the endless love for the second author's mother.

**Distribution.** Sichuan (Fig. 77).

**Remarks.** This new species is quite different for the strong convex of elytra, with rib-shaped convex and morphology of aedeagus which are different from any other species of *Chrysolina*.

***Chrysolina libaii* Daccordi et Ge n. sp. (Figs. 2, 17–22, 77)**

**HOLOTYPE** ♂, China: N. Sichuan env. Nanping, S. Murzin, 10–19.VI.1997 (IZAS).  
**Paratypes:** 1 ♀ (IZAS), 1 ♂, 1 ♀ female (BMNH); 2 ♂♂, 2 ♀♀ females (MDc); 1 ♀ (HKc); 1 ♀ (CAS), ditto.

**Description (based on holotype)**

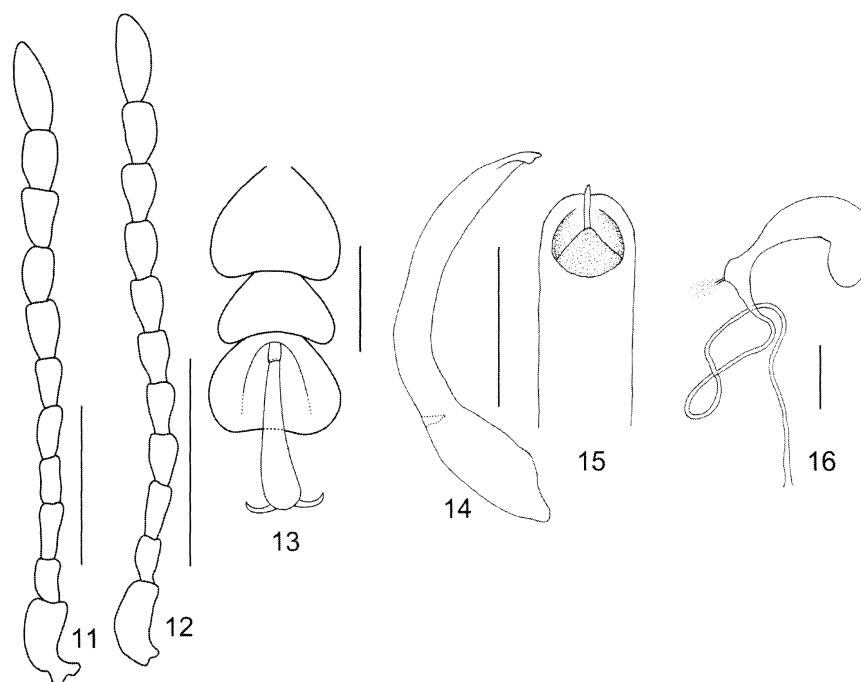
**Colour:** Black, head and pronotum with metallic shining, elytra dull shining; base of first segment of antennae, claws reddish brown.

Body length: 7.00 mm; width: 3.90 mm.

Body elongate-ovoid (Fig. 2), small, convex in lateral view; hind wing absent.

**Head:** Clypeus with sparse pubescence, with small and sparse punctures, base of clypeus not raised; frons smooth, with sparse, small punctures; coronal suture present, frontal suture absent; vertex smooth, with sparse and small punctures; compound eyes oblong, dorso-ventral eye length 0.30 mm, interocular distance 1.55 mm; distance from antennal insertion to eye 0.16 mm; distance from antennal insertion to clypeus 0.09 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; Antennae with narrow segments basally, widening from segments 6 to 11; antennae segment (1–11) length (in millimeter): 0.50 : 0.20 : 0.45 : 0.30 : 0.40 : 0.40 : 0.40 : 0.40 : 0.40 : 0.40 : 0.65 (Fig. 17).

**Prothorax:** Length: 2.9 mm; width: 3.6 mm; lacking setigerous punctures on sides of anterior and posterior corners; central disc with small, sparse punctures, as same as those of head; with lateral callus separated by longitudinal depression; punctures lateral to disc as same as central disc.



Figs. 11–16.— *Chrysolina jinxiaoae* Daccordi *et* Ge: 11.— Antenna ♂, scale bar: 1.0 mm; 12.— Antenna ♀, scale bar: 1.0 mm; 13.— Tarsi ♂, scale bar: 0.5 mm; 14.— Aedeagus, lateral view, scale bar: 1.0 mm; 15.— Aedeagus, dorsal view, scale bar: 1.0 mm; 16.— Spermatheca, scale bar: 0.2 mm.

*Scutellum*: Subtriangular, without punctures.

*Elytra*: Suture length: 5.3 mm; width of elytra: 4.6 mm; elytra smooth, with regular striae, punctures very fine; inner edge of epipleura without bristles.

*Legs*: Femora and tibia with sparse and small punctures, sparse pubescence; protarsomere I of male strongly enlarged, metatarsi entirely pubescent beneath, relative lengths of metatarsomeres: 5>1>3>2, fifth not ventrally toothed (Fig. 19).

*Venter*: Hypomera smooth, without punctures; prosternum without punctures; metaventrite with sparse and small punctures only close to posterior side; mesepisternum, mesepimeron and metepisternum with small and sparse punctures; abdomen with moderate and sparse punctures; pygidium with arcuate apex, with shallow longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 20–21): Basal part slightly narrower than apex; curved from lateral view. Flagellum strong.

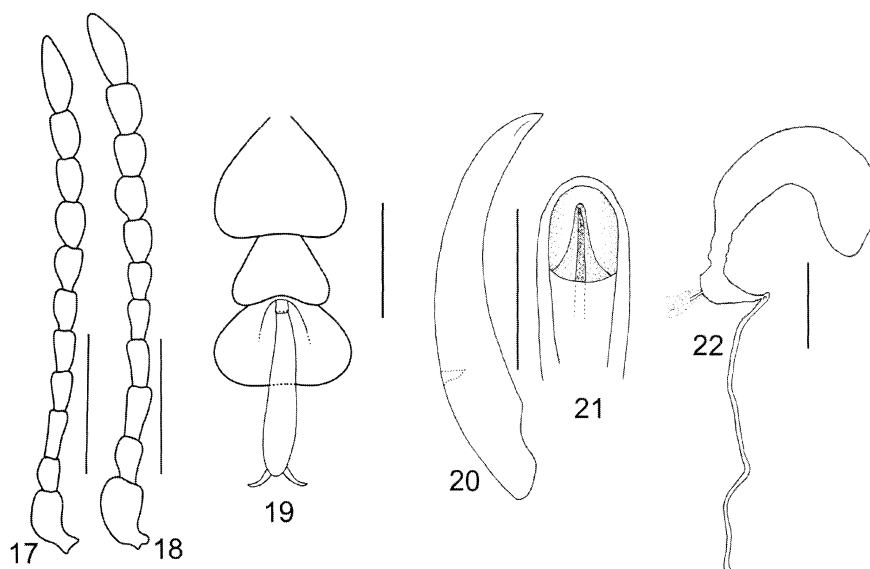
**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I strongly enlarged in male. Sometimes the first and second segments of antennae reddish brown. The female is slightly larger and broader, protarsomere I not distinctly enlarged, metatarsomere III of female wholly pubescent, spermatheca shown as Fig. 22. Measurement of the paratype is as follows: body length: 8.3 mm; body width: 4.5 mm; length of pronotum: 2.3 mm; width of

pronotum: 4.0 mm; suture length: 6.1 mm; width of elytra: 5.8 mm; dorso-ventral eye length: 0.3 mm; interocular distance: 1.75 mm; antennae segment (1–11) length (in millimeter): 0.40 : 0.25 : 0.40 : 0.30 : 0.25 : 0.25 : 0.35 : 0.35 : 0.35 : 0.35 : 0.55 (Fig. 18).

**Etymology.** The new species is named for the memory of the great Chinese poet in Tang Dynasty.

**Distribution.** Sichuan (Fig. 77).

**Remarks.** This new species is quite different from any other species of *Chrysolina* by dull shining on elytra and the shape of aedeagus.



Figs. 17–22.— *Chrysolina libaii* Daccordi et Ge: 17.— Antenna ♂, scale bar: 1.0 mm; 18.— Antenna ♀, scale bar: 1.0 mm; 19.— Tarsi ♂, scale bar: 0.5 mm; 20.— Aedeagus, lateral view, scale bar: 1.0 mm; 21.— Aedeagus, dorsal view, scale bar: 1.0 mm; 22.— Spermatheca, scale bar: 0.2 mm.

***Chrysolina lii* Daccordi et Ge n. sp. (Figs. 23–28, 77)**

**HOLOTYPE** ♂, China: Yunnan, 22.VI.1980, leg. Unknown; paratype: ♀, ditto.

**Description (based on holotype)**

**Colour:** Metallic bronze with bright shining; first and second segments of antennae and claws reddish brown.

Body length: 8.3 mm; width: 4.7 mm.

Body elongate-ovoid, moderate large; hind wing absent.

**Head:** Frons depressed, smooth, only with two or three punctures; coronal suture present, frontal suture absent; vertex smooth, only with three or four small punctures; compound eyes elliptic, dorso-ventral eye length 0.30 mm, interocular distance 1.8 mm; distance from antennal

insertion to eye 0.14mm; distance from antennal insertion to clypeus 0.07 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; antennae with narrow segments, slightly widen from segments 6–11; antennae segment (1–11) length (in millimeter): 0.56 : 0.25 : 0.31 : 0.16 : 0.16 : 0.31 : 0.37 : 0.37 : 0.44 : 0.44 : 0.62 (Fig. 23).

*Prothorax*: Length: 2.24 mm; width: 4.42 mm; lacking setigerous punctures on sides of anterior and posterior angles; disc with impunctate, with small, very sparse punctures, as same as those of head; with lateral callus, separate by longitudinal depression, punctures lateral to disc coarse and dense.

*Scutellum*: Subtriangular, smooth and impunctate.

*Elytra*: Suture length: 6.27mm; width of elytra: 5.44 mm; elytral with irregular single striae, interspaces convex, forming two impunctate rib-shape longitudinal area; inner edge of epipleura with sparse bristles.

*Legs*: Femora and tibiae with sparse, small punctures, sparse pubescence; protarsomere I of male large, metatarsi entirely pubescent beneath, relative lengths of metatarsomeres: 5>1>3>2, fifth not ventrally toothed (Fig. 25).

*Venter*: Hypomera smooth, without punctures; prosternum with sparse, moderate punctures; metaventre with sparse and moderate punctures, sparse pubescence; mesepisternum, mesepimeron and metepisternum with small and sparse punctures; abdomen with sparse and moderate punctures; fifth abdominal sternite of male without emargination; pygidium with arcuate apex, without longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 26–27): Very special shape, basal part of median lobe narrower than apex, apex complicated; curved from lateral view; flagellum slender.

**Variability.** Female is slightly larger and broader, protarsomere I not distinctly enlarged, metatarsi of female wholly pubescent, spermatheca shown as Fig. 28. Measurements of the paratype is: body length: 9.75 mm; body width: 4.86 mm; dorso-ventral eye length: 0.35 mm; interocular distance: 1.86 mm; length of pronotum: 2.56 mm; width of pronotum: 4.54 mm; suture length: 7.49 mm; width of elytra: 5.82 mm; antennae segment (1–11) length (in millimeter): 0.56 : 0.25 : 0.31 : 0.16 : 0.16 : 0.16 : 0.40 : 0.40 : 0.47 : 0.47 : 0.62 (Fig. 24).

**Etymology.** The new species is named from the thanks for the illustrating works of Mr. Wen-Zhu Li, Institute of Zoology, Chinese Academy of Sciences.

**Distribution.** Yunnan (Fig. 77).

**Remarks.** This new species is similar to *Chrysolina dalia* Wang *et* Chen, but it can be distinguished by the punctures of elytra and shape of aedeagus.

***Chrysolina lijieae* Daccordi *et* Yang n. sp.** (Figs. 3, 29–33, 77)

**HOLOTYPE** ♂, China: W. Sichuan, 13 km NNE Qinglang 32.20°N, 103.13°E, 4200 m, leg. Kaláb, 24.VII.2005, alpine meadows, screes (IZAS). Paratypes: 1 ♀ (IZAS), 1 ♂ (MDc), ditto.

**Description (based on holotype)**

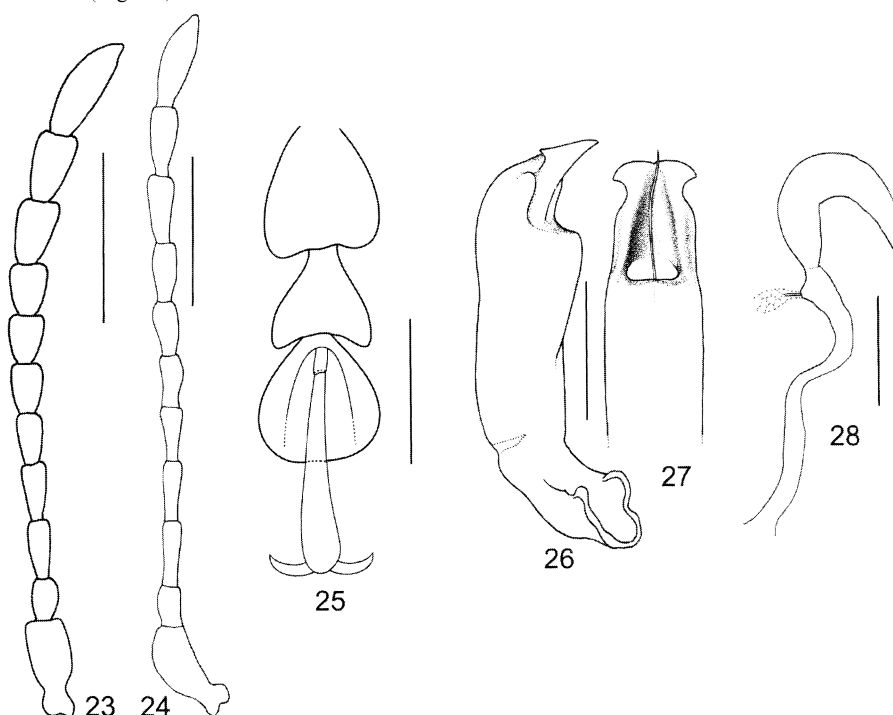
*Colour*: Metallic reddish purple, with green shining; mouthpart, antennae, and legs reddish brown.

Body length: 6.9 mm, body width: 4.1 mm.



Body elongate-ovoid (Fig. 3), moderate large, convex in lateral view; hind wing absent.

*Head*: Clypeus with sparse pubescence, sparse and small punctures; frons with sparse and small punctures; coronal suture present, frontal suture absent; vertex with sparse and small punctures; compound eyes oblong, dorso-ventral eye length 0.40 mm, interocular distance 1.50 mm; distance from antennal insertion to eye: 0.17 mm; distance from antennal insertion to clypeus: 0.05 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; antennae with narrow segments basally, widening from segments 6 to 11, antennae segment (1–11) length (in millimeter): 0.45 : 0.20 : 0.25 : 0.25 : 0.25 : 0.25 : 0.30 : 0.30 : 0.30 : 0.30 : 0.45 (Fig. 29).



Figs. 23–28.— *Chrysolina lii* Ge et Daccordi: 23.— Antenna ♂, scale bar: 1.0 mm; 24.— Antenna ♀, scale bar: 1.0 mm; 25.— Tarsi ♂, scale bar: 0.5 mm; 26.— Aedeagus, lateral view, scale bar: 1.0 mm; 27.— Aedeagus, dorsal view, scale bar: 1.0 mm; 28.— Spermatheca, scale bar: 0.2 mm.

*Prothorax*: Length: 1.50 mm; width: 3.30 mm. Sides of anterior and posterior corners without setigerous puncture; central disc with moderate and sparse punctures, central portion as same as those of head; with lateral callus separated by longitudinal depression; punctures lateral to disc small and sparse.

*Scutellum*: Subtriangular, impunctate.

*Elytra*: Suture length: 4.60 mm; width of elytra: 4.40 mm; elytron punctures with irregular single striae, sutural striae present, punctures larger than those of side of pronotum; interspaces of elytral striae with very fine and sparse punctures; inner edge of epipleura with very few and short bristles apically.

*Legs:* Femora and tibiae with sparse, small punctures, sparse pubescence, apices of tibiae with sparse pubescence; protarsomere I enlarged; metatarsi entirely pubescent beneath; relative lengths of metatarsomeres:  $5>1>3>2$ , fifth not ventrally toothed (Fig. 31).

*Venter:* Hypomera shagreened, without punctures and longitudinal suture; prosternal process with small and sparse punctures; metaventre with small and sparse punctures, with sparse pubescence; metaventre longer than prosternum; mesepisternum, mesepimeron and metepisternum with small and sparse punctures; abdomen with sparse and moderate punctures, sparse pubescence; last abdominal sternite of male without emargination; pygidium with arcuate apex, without longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 32–33): Basal part as wide as apex; with a small angle on each side apically, curved from lateral view. Flagellum slender.

**Variability.** The two males of the type series are very similar in size, shape and lustre, protarsomere I strongly enlarged in male. The female is slightly larger and broader, protarsomere I not distinctly enlarged, metatarsomere III of female wholly pubescent, spermatheca absent. Measurement of the paratype is as follows: body length: 7.4 mm; body width: 3.8 mm; length of pronotum: 1.8 mm; width of pronotum: 3.3 mm; suture length: 5.2 mm; width of elytra: 4.4 mm; dorso-ventral eye length: 0.3 mm; interocular distance: 1.80 mm; antennae segment (1–11) length (in millimeter): 0.40 : 0.35 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.50 (Fig. 30).

**Etymology.** The new species is named for the colleague of Dr. Lijie Zhang of IZAS, Beijing for her works on Galerucinae.

**Distribution.** Sichuan (Fig. 77).

**Remarks.** The new species is distinguished by any other species of *Chrysolina* by its special aedeagus and colour of elytra.

***Chrysolina liqingzhaoae* Daccordi et Ge n. sp.** (Figs. 4, 34–39, 77)

**HOLOTYPE** ♂, China: Yunnan, 3300–3500 m, 27.07°N, 100.03°E, Yulongshan Mts., Vít Kubáň, leg. 20–21/6.1993 (IZAS). **Paratypes:** 1♀, China: Yunnan, 3300 m, 27.07°N, 100.14°E, Yulongshan mts. 28/5, Vít Kubáň, leg. 1993 (IZAS); 1♂, China: Yunnan, Daju (50 Km N of Lijiang) 27.VI.1992, leg. Jendek (MDc); 1♂, 1♀, China: Yunnan, Heishu, 127°13'N, 100°19'S, 35 Km N of Lijiang, leg. S. Becvar (MDc); 1♀, China: Yunnan, Yulong Mts., 27°01'N, 100°13'E, 3900 m, leg. Bolm (MDc); 1♀, ditto, (BMNH); 1♀, China: N Yunnan, Yulong shan mts., 2900–3500 m, Baishui vill. 27°08'N, 100°14'E, 7–12.VII.1990. leg. D. Kral (MDc).

**Description (based on holotype)**

*Colour:* Metallic bronze, very shining; antennae, mouthpart and legs reddish brown.

Body length: 6.4 mm; body width: 3.4 mm.

Body elongate-ovoid (Fig. 4), moderate large, convex in lateral view; hind wing absent.

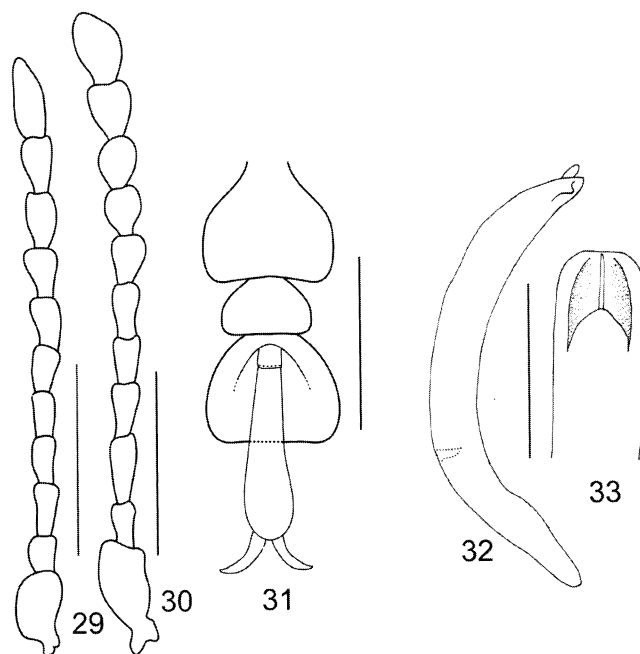
*Head:* Clypeus with sparse pubescence, with small and dense punctures; frons with dense and small punctures; coronal suture present, frontal suture absent; vertex with dense and small punctures; compound eyes elliptic; dorso-ventral eye length: 0.3 mm; interocular distance: 1.4 mm; distance from antennal insertion to eye 0.13 mm; distance from antennal insertion to clypeus 0.05 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment truncate.

Antennae with narrow segments; antennae segment 1–11 length in millimeter: 0.45 : 0.25 : 0.35 : 0.25 : 0.25 : 0.25 : 0.35 : 0.35 : 0.35 : 0.50 (Fig. 34).

*Prothorax*: Length: 1.80 mm; width: 3.00 mm; lacking setigerous punctures on sides of anterior and posterior corners; central disc with small and dense punctures, as same as those of head; with lateral callus separated by longitudinal depression; punctures lateral to disc with small and sparse punctures.

*Scutellum*: Subtriangular, impunctate.

*Elytra*: Suture length: 4.60 mm; width of elytra: 4.20 mm; with irregular single striae; sutural striae present, larger than those of side of pronotum; interspaces of elytra striae convex, with small and dense punctures; inner edge of epipleura with very sparse bristles apically.



Figs. 29–33.— *Chrysolina lijiae* Daccordi *et* Yang. 29: Antenna ♂, scale bar: 1.0 mm; 30.— Antenna ♀, scale bar: 1.0 mm; 31.— Tarsi ♂, scale bar: 0.5 mm; 32.— Aedeagus, lateral view, scale bar: 1.0 mm; 33.— Aedeagus, dorsal view, scale bar: 1.0 mm.

*Legs*: Femora and tibiae with sparse, moderate punctures, sparse pubescence; protarsomere I of male enlarged; metatarsi entirely pubescent beneath, metatarsomere III complete, distal part with shallow emargination, relative lengths of metatarsomeres: 5>1> 3> 2, fifth not ventrally toothed (Fig. 36).

*Venter*: Hypomera without punctures, without longitudinal suture; prosternum without punctures; with sparse and small punctures, with sparse pubescence; mesepisternum, mesepimeron and metepisternum without punctures; abdomen with small and sparse punctures and sparse pubescence; pygidium with arcuate apex, without longitudinal depression medially.

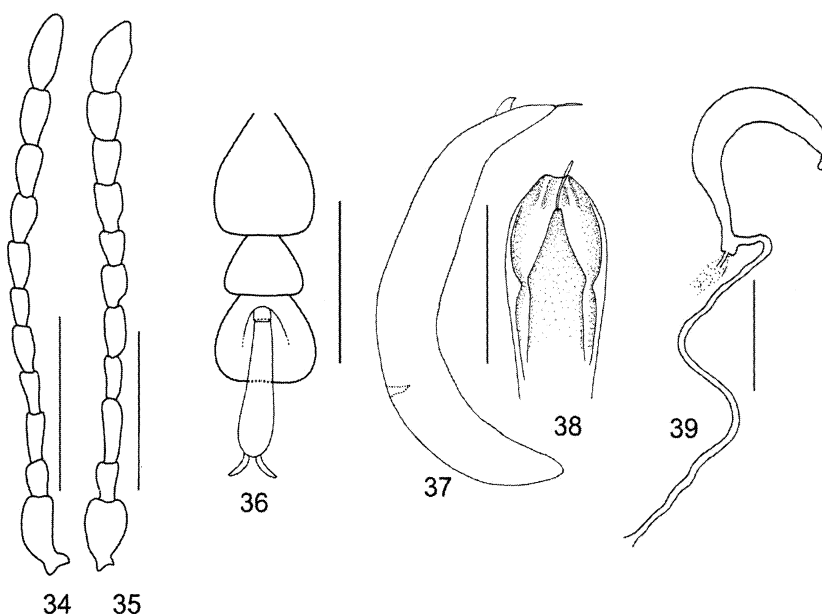
*Median lobe of aedeagus* (Figs. 37–38): Basal part slightly narrower than apex, curved from lateral view, flagellum long.

**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I enlarged in male; female is slight larger than male, metatarsomere III of female pubescence beneath, spermatheca shown as Fig. 39. Measurements of the paratypes are as follows: body length: 6.70 mm; body width: 3.90 mm; length of pronotum: 1.70 mm; width of pronotum: 3.40 mm; suture length: 5.20 mm; width of elytra: 4.80 mm; dorso-ventral eye length: 0.25 mm; interocular distance: 2.50 mm; antennae segment (1–11) length (in millimeter): 0.45 : 0.25 : 0.35 : 0.30 : 0.25 : 0.25 : 0.30 : 0.30 : 0.30 : 0.30 : 0.50 (Fig. 35). As for some specimens, prothorax with dense punctures on lateral side, also central part with much more dense punctures, scutellum impunctate.

**Etymology.** The new species is named from the famous poetess of Song Dynasty, Li Qingzhao.

**Distribution.** Yunnan (Fig. 77).

**Remarks.** The new species is similar to *Chrysolina claripes* Lopatin, 2001 but it can be distinguished from the colour on dorsum, punctures on lateral side of pronotum, shape of aedeagus.



Figs. 34–39.— *Chrysolina liqingzhaoae* Daccordi et Ge: 34.— Antenna ♂, scale bar: 1.0 mm; 35.— Antenna ♀, scale bar: 1.0 mm; 36.— Tarsi ♂, scale bar: 0.5 mm; 37.— Aedeagus, lateral view, scale bar: 1.0 mm; 38.— Aedeagus, dorsal view, scale bar: 1.0 mm; 39.— Spermatheca, scale bar: 0.2 mm.

***Chrysolina lishangyini* Ge et Daccordi n. sp. (Figs. 5, 40–45, 77)**

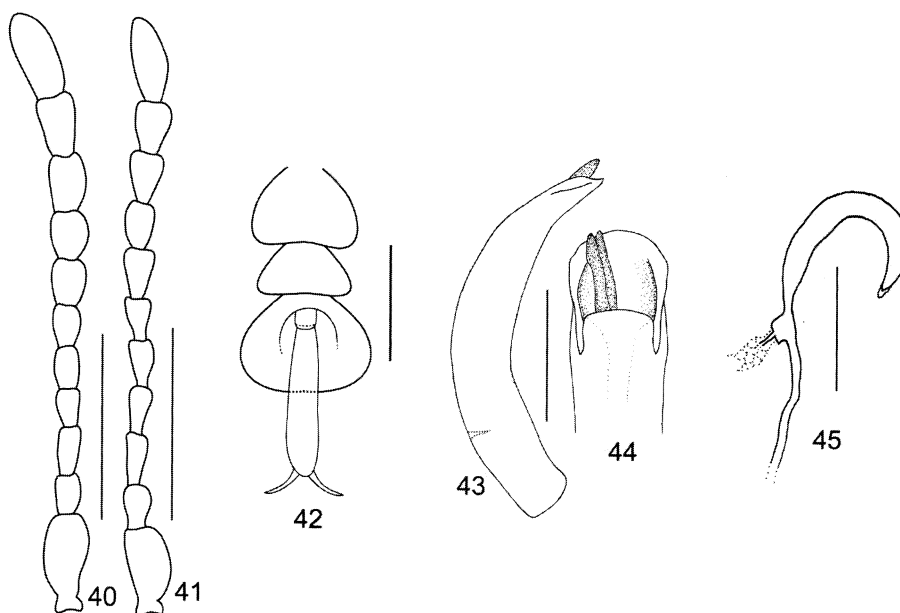
**HOLOTYPE** ♂, SE Tibet, “Chola Shan” pass road Yanjing-Markam, 50km S. Markam, 4400 m, 29°16'N, 98°38'E, alpine meadow, 24–27.VI., Jaroslav Turma, leg. 1997 (IZAS); paratypes: 1♀, same data with holotype; 2♀♀, same data as holotype, but collected by M. Trýzna. & O. Satránek; 3♀♀, S E Tibet, Zhong La Shan pass, 5 Km E of Markam, ca. 4100 m, 3–6.VIII.1998, alpine meadow, leg. M. Trýzna. & O. Satránek.

**Description (based on holotype)**

*Colour*: Metallic bronze, antennae, mouth part and legs reddish brown.

Body length: 7.6 mm; body width: 4.3 mm.

Body elongate-ovoid (Fig. 5), large; convex in lateral view; hind wing absent.



Figs. 40–45.— *Chrysolina lishangyini* Ge et Daccordi: 40.— Antenna, ♂, scale bar: 1.0 mm; 41.— Antenna ♀, scale bar: 1.0 mm; 42.— Tarsi ♂, scale bar: 0.5 mm; 43.— Aedeagus, lateral view, scale bar: 1.0 mm; 44.— Aedeagus, dorsal view, scale bar: 1.0 mm; 45.— Spermatheca, scale bar: 0.2 mm.

*Head*: Clypeus with sparse and very small punctures, sparse pubescence; frons smooth, with sparse and very small puncture; coronal suture present, frontal suture absent; vertex with very sparse and small punctures; compound eyes elliptic, dorso-ventral eye length: 0.35 mm, interocular distance: 1.50 mm; distance from antennal insertion to eye 0.17 mm; distance from antennal insertion to clypeus 0.11 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment truncate; antennae with narrow segments basally, widening from segments 6 to 11

segments, antennae segment 1–11 length in millimeter: 0.45 : 0.25 : 0.30 : 0.20 : 0.20 : 0.20 : 0.30 : 0.30 : 0.30 : 0.30 : 0.55 (Fig. 40).

*Prothorax*: Length: 1.8 mm; width: 4.0 mm; lacking setigerous punctures on sides of anterior and posterior corners; central disc with dense and very small punctures, as same as those of head; with lateral callus separately by punctured depression, only present on basal part, with dense punctures in depression near lateral side, punctures lateral to disc with small and dense punctures.

*Scutellum*: Subtriangular, with very few and sparse punctures.

*Elytra*: Suture length: 5.7 mm; width of elytra: 5.0 mm; elytra punctures with regular single striae, sutural striae present, sutural stria present, punctures larger than those of side of pronotum; interspaces of elytra striae convex, with sparse and small punctures; inner edge of epipleura with 1/3 length bristles.

*Legs*: Femora and tibiae with sparse and small punctures, sparse pubescence; protarsomere I of male strongly enlarged; metatarsi entirely pubescent beneath, relative lengths of metatarsomeres: 5>3>1>2, fifth not ventrally toothed (Fig. 42).

*Venter*: Hypomera without punctures; prosternum with sparse and small punctures, truncate behind, not emarginate behind; metaventre with sparse and small punctures, with sparse pubescence; mesepisternum and mesepimeron without punctures; metepisternum with small and sparse punctures; pygidium with arcuate apex, without longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 43–44): Basal part slightly narrower than apex; curved from lateral view, flagellum strong, bifid.

**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I strongly enlarged in male; female is slight larger than male, metatarsomere III of female pubescence beneath, spermatheca shown as Fig. 45. Measurements of the paratypes are as follows: body length: 8.00 mm; body width: 4.20 mm; length of pronotum: 2.0 mm; width of pronotum: 4.5 mm; suture length: 6.5 mm; width of elytra: 5.5 mm; dorso-ventral eye length: 0.25 mm; interocular distance: 1.70 mm; antennae segment (1–11) length (in millimeter): 0.45 : 0.25 : 0.35 : 0.25 : 0.25 : 0.25 : 0.30 : 0.30 : 0.30 : 0.30 : 0.50 (Fig. 41).

**Etymology.** The new species is named for the famous Chinese poet, Li Shangyin, in Tang Dynasty on the endless fondness for his masterpiece.

**Distribution.** Xizang (Fig. 77).

**Remarks.** The new species is different from any other known species of *Chrysolina* for the morphology of aedeagus.

***Chrysolina luobinwangi* Ge et Daccordi n. sp.** (Figs. 6, 46–50, 77)

**HOLOTYPE** ♂, China: Sichuan pr., Kangding distr., Tagu, 3500 m, 27. 30. 7., R. Dunda lgt., 1992 (IZAS); paratypes: 1 ♀ (IZAS), 2 ♀♀ (MDc), ditto; 1 ♀, China, Sichuan env. Kandian, 3900 m, Mogeaio N.P., 15.VIII.1996, leg. S. Murzin (MDc); 1 ♀, China, Sichuan prov. Env. Kanding-Mogecuo N.P. 300–3200 m, 12–15.VIII.1996. leg. unknown (MDc).

**Description (based on holotype)**

*Colour*: Metallic bronze, antennae, mouth part and legs reddish brown.

Body length: 4.2 mm; body width: 5.4 mm; body elongate-ovoid, small (Fig. 6); hind wing absent.

**Head:** Clypeus with sparse pubescence, with sparse and small punctures; frons smooth, with sparse and small punctures; coronal suture present, frontal suture absent; vertex with sparse and dense punctures; compound eyes oblong, dorso-ventral eye length: 0.25 mm, interocular distance: 1.60 mm; distance from antennal insertion to eye 0.16 mm; distance from antennal insertion to clypeus 0.09 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment truncate; antennae with narrow segments basally, widening from segments 6 to 11, antennae segment (1–11) length (in millimeter): 0.40 : 0.25 : 0.30 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.45 (Fig. 46).

**Prothorax:** Length: 2.0 mm; width: 3.7 mm; lacking setigerous punctures on sides of anterior and posterior corners; central disc with small and dense punctures, as same as those of head; with lateral callus separated by punctures depression, with much more dense punctures in depression near base margin; punctures lateral to disc and basal part with small and dense punctures.

**Scutellum:** Subtriangular, impunctate.

**Elytra:** Suture length: 6.8 mm; width of elytra: 4.8 mm. With irregular single striae, sutural striae present, punctures larger than those of side of pronotum; interspaces of elytral striae with small and sparse punctures; inner edge of epipleura with few bristles.

**Legs:** Femora and tibiae with sparse and small punctures, sparse pubescence; protarsomere I of male strongly enlarged; metatarsi with pubescent entirely pubescent beneath, relative lengths of metatarsomeres: 5>1>3>2, fifth not ventrally toothed (Fig. 48).

**Venter:** Hypomera without punctures; prosternum with sparse and small punctures, truncate behind, not emarginate behind; metaventrite shorter than prosternum, with dense and moderate punctures; mesepisternum, mesepimeron, metepisternum with sparse and small punctures; abdomen with sparse and small punctures; pygidium with arcuate apex, without longitudinal depression medially.

**Median lobe of aedeagus** (Figs. 49–50): Basal part wider than apex, curved from lateral view, flagellum slender.

**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I strongly enlarged in male, some specimens with much denser punctures on pronotum; female is slight larger than male, metatarsomere III of female pubescent beneath, spermatheca absent. Measurements of the paratype is as follows: body length: 7.80 mm; body width: 4.20 mm; length of pronotum: 2.0 mm; width of pronotum: 3.8 mm; suture length: 6.0 mm; width of elytra: 5.2 mm; dorso-ventral eye length: 0.25 mm; interocular distance: 1.70 mm; antennae segment (1–11) length (in millimeter): 0.50 : 0.25 : 0.30 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.25 : 0.40 (Fig. 47). Spermatheca: absent, with larvae in abdomen.

**Etymology.** The new species is named in honor of admirable Chinese poet of Tang Dynasty, Luo Binwang.

**Distribution.** Sichuan (Fig. 77).

**Remarks.** The new species is quite different from any other species of *Chrysolina* by the shape of aedeagus.

***Chrysolina luyoui* Daccordi et Ge n. sp.** (Figs. 7, 51–54, 77)

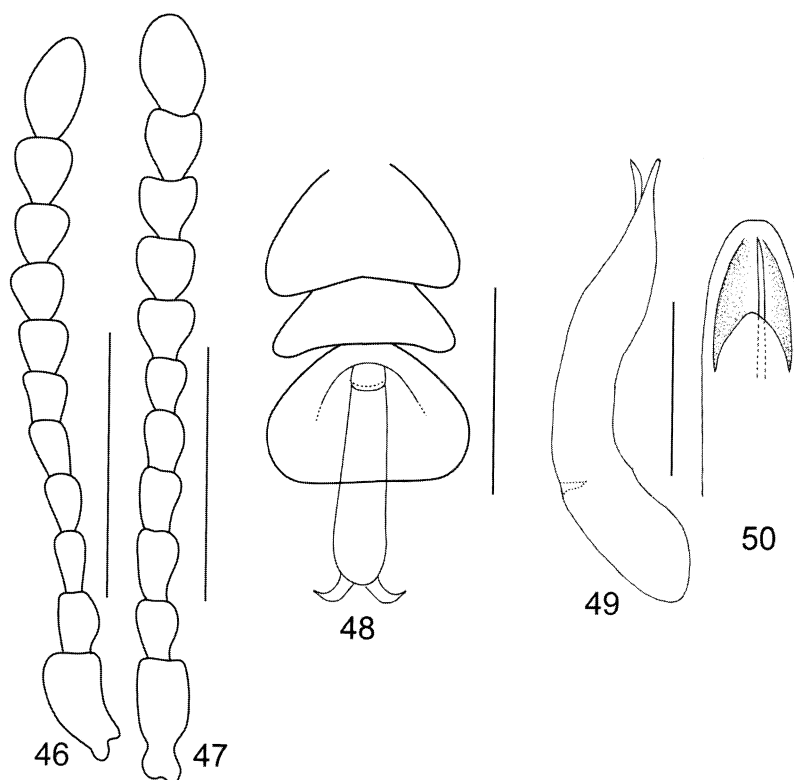
Holotype ♂, China: Ch. C.-Sichuan (Rilong), Qionglai Shan (Siguniang Shan), 31°02'58N, 102°16'85E, 3800–4200 m, 13.7.2000, lgt. M. Janta (IZAS).

**Description (based on holotype)**

*Colour:* Head and pronotum metallic green, mixed with reddish–purple, elytra metallic green with five longitudinal purple stripes; antennae, mandible, maxillary palpi, and tarsi reddish brown.

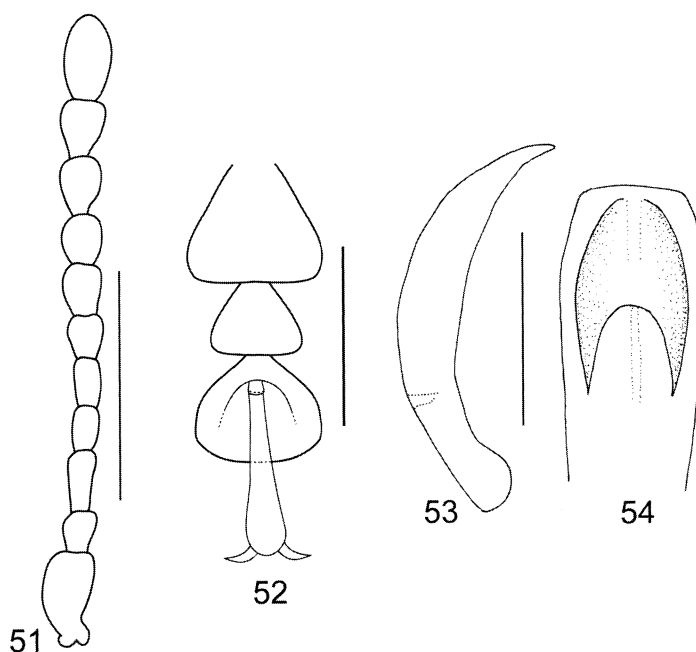
Body length: 5.80 mm; body width: 4.0 mm. Body elongate, moderate large (Fig. 7); hind wing absent.

*Head:* Clypeus with sparse pubescence, with small and sparse punctures; frons smooth, with sparse and small punctures; coronal suture and frontal suture present; vertex with sparse and small punctures; compound eyes elliptic, dorso-ventral eye length: 0.40 mm, interocular distance: 1.45 mm; distance from antennal insertion to eye 0.17 mm; distance from antennal insertion to clypeus 0.08 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; Antennae with narrow segments basally, widening from segments 6 to 11, antennae segment (1–11) length (in millimeter): 0.40 : 0.15 : 0.25 : 0.25 : 0.20 : 0.20 : 0.20 : 0.30 : 0.30 : 0.30 : 0.50 (Fig. 51).



Figs. 46–50.— *Chrysolina luobinwangi* Ge et Daccordi: 46.— Antennae ♂, scale bar: 1.0 mm; 47.— Antennae ♀, scale bar: 1.0 mm; 48.— Tarsi ♂, scale bar: 0.5 mm; 49.— Aedeagus, lateral view, scale bar: 1.0 mm; 50.— Aedeagus, dorsal view, scale bar: 1.0 mm.





Figs. 51–54.— *Chrysolina luyoui* Daccordi et Ge: 51.— Antenna ♂, scale bar: 1.0 mm; 52.— Tarsi ♂, scale bar: 0.5 mm; 53.— Aedeagus, lateral view, scale bar: 1.0 mm; 54.— Aedeagus, dorsal view, scale bar: 1.0 mm.

*Prothorax*: length: 2.0 mm; width: 4.0 mm; lacking setigerous punctures on sides of anterior and posterior; central disc of pronotum with small and sparse punctures, as same as those of head; with lateral callus separated by shallow, whole length punctured depression; punctures lateral to disc small and sparse.

*Scutellum*: Subtriangular, with few and sparse punctures.

*Elytra*: Suture length: 5.8 mm; width of elytra: 4.7 mm. With irregular single striae, sutural striae present; elytra punctures larger than those side of pronotum; interspaces of elytra striae with small and sparse punctures, with horizontal wrinkles; inner edge of epipleura with very sparse bristles.

*Legs*: Femora with sparse and small punctures, sparse pubescence; tibiae with sparse and small punctures, with dense pubescence apically; protarsomere I of male enlarged; metatarsi with entirely pubescent beneath; relative lengths of metatarsomeres:  $5 > 1 > 3 \geq 2$ , fifth not ventrally toothed (Fig. 52).

*Venter*: Hypomera without punctures, shagreened, without longitudinal suture; prosternum with sparse and small punctures; metaventrite with sparse and small punctures, with sparse pubescence; intercoxal process of metaventrite bordered anteriorly, truncate anteriorly; mesepisternum, mesepimeron and metepisternum with small and sparse punctures; abdomen with small, sparse punctures, and sparse pubescence; pygidium with arcuate apex, with shallow longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 53–54): Basal part of median lobe slightly narrower than apex, apex truncated; curved from lateral view. Flagellum invisible.

**Female.** Unknown.

**Etymology.** The new species is named for the famous Chinese poet in Song Dynasty, Luyou.

**Distribution.** Sichuan (Fig. 77).

**Remarks.** The new species is distinguished from the other species of *Chrysolina* by the special morphology of aedeagus.

***Chrysolina mikhailevi* Ge et Daccordi n. sp.** (Figs. 8, 55–59, 77)

**HOLOTYPE** ♂, China: SE Tibet, “Lao Shan” pass road Markam-Zogang, 10 km W of Markam, ca 4300 m, 29°42'N, 98°32'E, 1998 alpine meadow, 1–2.VIII. O. Šafránek et M. Trýzna lgt. (IZAS). **Paratypes:** 2♂♂ (CAS), 1♂, 2♀♀ (IZAS), 2♂♂, 2♀♀ (BMNH), 1♂, 1♀ (HKC), 23♂♂, 14♀♀ (MDC), ditto; 1♂, 1♀, SE Tibet, “Laoshan” pass road Markam-Zogang 10 km of Markam, ca 4300 m, 29°42'N, 98°32'E, 1998, alpine meadow, 1–2.VIII., O. Šafránek et M. Trýzna lgt. (IZAS).

**Description (based on holotype)**

*Colour:* Metallic bronze, antennae, mouth part and legs reddish brown.

Body length: 6.1 mm, body width: 3.2 mm.

Body elongate-ovoid (Fig. 8), moderate large, convex in lateral view; hind wing absent.

*Head:* Clypeus with sparse pubescence, dense and small punctures; frons with dense and small punctures; coronal suture present, frontal suture absent; vertex with sparse and small punctures; compound eyes oblong, dorso-ventral eye length 0.35 mm, interocular distance 2.5 mm; distance from antennal insertion to eye: 0.17 mm; distance from antennal insertion to clypeus: 0.08 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; Antennae with narrow segments basally, widening from segments 6 to 11, antennae segment (1–11) length (in millimeter): 0.35 : 0.15 : 0.20 : 0.20 : 0.20 : 0.20 : 0.20 : 0.25 : 0.25 : 0.25 : 0.40 (Fig. 55).

*Prothorax:* Length: 1.4 mm; width: 2.9 mm. Sides of anterior and posterior corners without setigerous puncture; central disc with small and dense punctures, central portion as same as those of head; with lateral callus separated by shallow punctured depression only at basal part; with dense punctures near basal lateral side; punctures lateral to disc small and sparse.

*Scutellum:* Subtriangular, with sparse punctures.

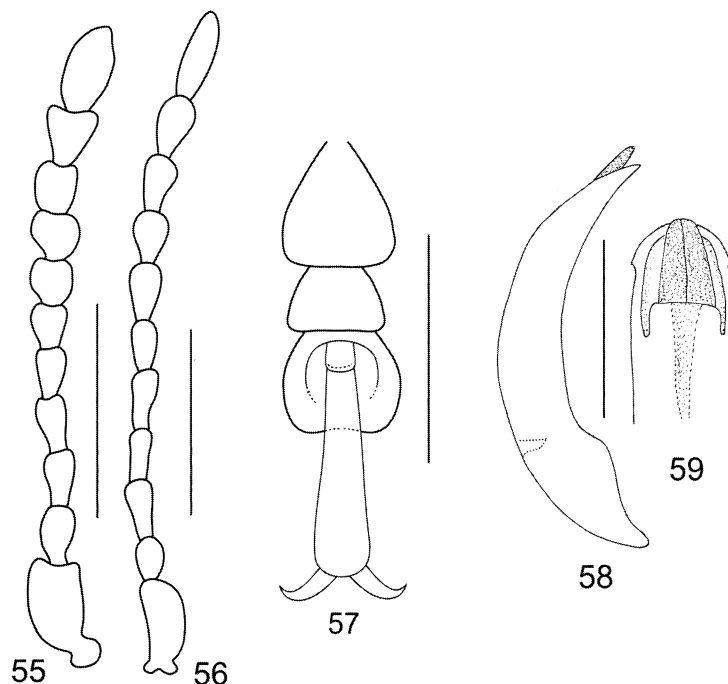
*Elytra:* Suture length: 4.8 mm; width of elytra: 4.0 mm; elytron punctures with 9 regular single striae, sutural striae present, punctures larger than those of side of pronotum; interspaces of elytral striae convex, and with small and sparse punctures; inner edge of epipleura with 1/3 sparse bristles apically.

*Legs:* Femora and tibiae with sparse, moderate punctures, sparse pubescence, apices of tibiae with dense pubescence; protarsomere I of male enlarged; metatarsi entirely pubescent beneath; relative lengths of metatarsomeres: 5>1>3>2, fifth not ventrally toothed (Fig. 57).

*Venter:* Hypomera smooth, without punctures; prosternal process with dense and moderate punctures, truncate and not emarginate behind; metaventricle with dense, moderate punctures, sparse pubescence; metaventricle shorter than prosternum; mesepisternum, mesepimeron and

metepisternum with small and sparse punctures; abdomen with small and sparse punctures, sparse pubescence; last abdominal sternite of male without emargination; pygidium with arcuate apex, without longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 58–59): Basal part as wide as apex; curved from lateral view. Flagellum bifid, very wide.



Figs. 55–59.— *Chrysolina mikhailovi* Ge et Daccordi: 55.— Antenna ♂, scale bar: 1.0 mm; 56.— Antennae ♀, scale bar: 1.0 mm; 57.— Tarsi ♂, scale bar: 0.5 mm; 58.— Aedeagus, lateral view, scale bar: 1.0 mm; 59.— Aedeagus, dorsal view, scale bar: 1.0 mm.

**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I strongly enlarged in male. The female is slightly larger and broader, protarsomere I not distinctly enlarged, metatarsomere III of female pubescent dorsal laterally, spermatheca absent. Measurement of the paratypes are as follows: body length: 6.9–8.0 mm; body width: 3.4–4.3 mm; length of pronotum: 2.9–2.2 mm; width of pronotum: 3.3–4.0 mm; suture length: 5.4–5.5 mm; width of elytra: 3.9–4.9 mm; dorso-ventral eye length: 0.35–0.40 mm; interocular distance: 1.45–1.75 mm; antennae segment (1–11) length (in millimeter): 0.40–0.50 : 0.15–0.25 : 0.20–0.35 : 0.20–0.25 : 0.20 : 0.20 : 0.20–0.25 : 0.25 : 0.25–0.35 : 0.25–0.35 : 0.45 (Fig. 56).

**Etymology.** The species is named for the our colleague, Dr. Yuri Mikhailov from Urals State Forestry-Engineering Academy, Yekaterinburg, Russia.

**Distribution.** Xizang (Fig. 77).

**Remarks.** The new species is similar to *Chrysolina lishangyini* Daccordi *et* Ge, but they are distinguished by the morphology of aedeagus and punctures of elytra.

***Chrysolina sicienti* Ge *et* Yang n. sp.** (Figs. 9, 60–64, 77)

**HOLOTYPE** ♂, China: N. Sichuan, pass 10km SSE Rilong, 33.55°N, 102.53°E, 4300 m, J. Kaláb leg. 19.VIII.2005, alpine meadows, screes (IZAS). Paratypes: 1♀ (IZAS), 4♂♂, 1♀ (MDc), ditto; 1♂, China: Sichuan, Qinglai mts, 20km W. QiaoQi, 55km, N. Baoxing, 3600–4000 m, 23.VI. 2003, S. Murzin (IZAS); 1♂, 1♀, China, Sichuan, Qinglai Mts. 3300 m, 20Km W Qiao Qi, 55 Km N Baoxing, 22.VI.2003, leg. S. Murzin (MDc).

**Description (based on holotype)**

*Colour:* Metallic reddish purple, with green shining; elytra metallic green, margin reddish purple.

Body length: 8.8 mm, body width: 4.5 mm.

Body elongate-ovoid (Fig. 9), moderate large, convex in lateral view; hind wing absent.

*Head:* Clypeus with sparse pubescence, sparse and small punctures; frons with sparse and small puncture; coronal suture and frontal suture present; vertex with sparse and small punctures; compound eyes oblong, dorso-ventral eye length 0.35 mm, interocular distance 3.1 mm; distance from antennal insertion to eye: 0.17 mm; distance from antennal insertion to clypeus: 0.09 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; Antennae with narrow segments, segment (1–11) length (in millimeter): 0.45 : 0.25 : 0.40 : 0.20 : 0.25 : 0.25 : 0.25 : 0.25 : 0.35 : 0.35 : 0.50 (Fig. 60).

*Prothorax:* Length: 2.2 mm; width: 4.2 mm. Sides of anterior and posterior corners without setigerous puncture; central disc with small and sparse punctures, central portion as same as those of head; with lateral callus separated by deep punctured depression; punctures lateral to disc small and very sparse.

*Scutellum:* Subtriangular, impunctate.

*Elytra:* Suture length: 6.0 mm; width of elytra: 5.5 mm; elytron punctures with irregular single striae, which very shallow; sutural striae present, punctures larger than those of side of pronotum; interspaces of elytral striae rugous, with small and sparse punctures, with horizontal wrinkles; inner edge of epipleura with very sparse bristles apically.

*Legs:* Femora and tibiae with sparse, small punctures, sparse pubescence, protarsomere I of male protarsus enlarged; metatarsi entirely pubescent beneath; relative lengths of metatarsomeres: 5>1>3>2, fifth not ventrally toothed (Fig. 62).

*Venter:* Hypomera shagreened, without punctures; prosternal process with dense and moderate punctures; mesoventrite shorter than prosternum between coxae; metaventrite with dense, moderate punctures, with sparse pubescence; metaventrite shorter than prosternum; mesepisternum, mesepimeron and metepisternum without punctures; abdomen with dense, moderate punctures, sparse pubescence; last abdominal sternite of male without emargination; pygidium with arcuate apex, without longitudinal depression medially.

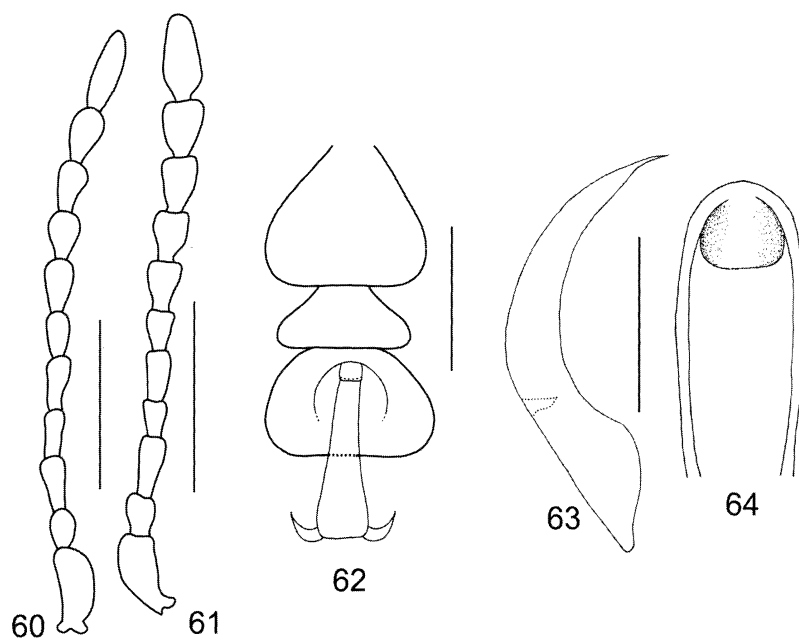
*Median lobe of aedeagus* (Figs. 63–64): Basal part as wide as apex; curved from lateral view. Flagellum strong, wide.

**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I strongly enlarged in male. The female is slightly larger and broader, protarsomere I not distinctly enlarged, metatarsomere III of female entirely pubescent, spermatheca absent. Measurement of the paratypes are as follows: body length: 7.0–9.0 mm; body width: 4.4–4.5 mm; length of pronotum: 2.0–2.2 mm; width of pronotum: 4.0–4.2 mm; suture length: 5.5–6.5 mm; width of elytra: 5.2–5.5 mm; dorso-ventral eye length: 0.45–0.50 mm; interocular distance: 1.35–1.75 mm; antennae segment (1–11) length (in millimeter): 0.50: 0.2 : 0.35–0.40 : 0.20–0.25 : 0.25 : 0.25 : 0.25 : 0.30 : 0.30 : 0.30 : 0.45 (Fig. 61).

**Etymology.** The species is named for the memory of passed famous entomologist, Prof. Sicien Chen who had done the important role for the development of Chinese Entomology.

**Distribution.** Sichuan (Fig. 77).

**Remarks.** The new species is similar to *Chrysolina luyoui* Daccordi *et* Ge, but the morphology of aedeagus are different: the new species with apex truncate, *Chrysolina luyoui* with apex rounded.



Figs. 60–64.— *Chrysolina sicienti* Ge *et* Daccordi: 60.— Antenna ♂, scale bar: 1.0 mm; 61.— Antenna ♀, scale bar: 1.0 mm; 62.— Tarsi ♂, scale bar: 0.5 mm; 63.— Aedeagus, lateral view, scale bar: 1.0 mm; 64.— Aedeagus, dorsal view, scale bar: 1.0 mm.

***Chrysolina wangboi* Daccordi *et* Yang n. sp.** (Figs. 10, 65–69, 72, 73, 77)

**HOLOTYPE** ♂, China: W. Sichuan, 4300–4500 m, W Kangding, Zheduo Shan, alpine region with Rhododendron, 12–22.VII.2004, leg. R. Fabbri. Paratypes: 1 ♀, ditto (MDc);

2♂♂, 2♀♀, China, Sichuan, Zheduo Shan, 35 Km N Kanding, 10.VII.2002, leg. Benes (MDc); 1♀, China, Sichuan, prov. Env. Kanding, 4200–4500 m, Mogecuo Nat. Res., 25–27.VII.2004, leg. S. Murzin (MDc); 1♀, China, Sichuan, prov. Env. Kanding-Mogecuo N.P., 3000–3200m, 12–15.VII.1996, leg. Unknown (MDc); 2♀♀, China: Yunnan, Lijiang, N 26°50', E100°24', 4–IV–2006, 2524m, leg. Kremitovsky.

### Description (based on holotype)

*Colour*: Black, base of first and second segments of antennae, claws reddish brown.

Body length: 7.9 mm, body width: 4.2 mm.

Body elongate-ovoid (Fig. 10), moderate large, convex in lateral view; hind wing absent.

*Head*: Clypeus with sparse pubescence, moderate and dense punctures; frons with dense and moderate punctures; coronal suture present, frontal suture absent; vertex with moderate and dense punctures; compound eyes oblong, dorso-ventral eye length 0.25 mm, interocular distance 1.60 mm; distance from antennal insertion to eye: 0.14 mm; distance from antennal insertion to clypeus: 0.08 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; Antennae with narrow segments basally, widening from segments 6 to 11, antennae segment (1–11) length (in millimeter): 0.50 : 0.25 : 0.35 : 0.25 : 0.25 : 0.25 : 0.30 : 0.30 : 0.30 : 0.30 : 0.55 (Fig. 65).

*Prothorax*: Length: 2.0 mm; width: 1.85 mm. Sides of anterior and posterior corners without setigerous puncture; central disc with moderate and very dense punctures, central portion as same as those of head; with lateral callus separated by very shallow longitudinal depression; with dense punctures near basal lateral side; punctures lateral to disc moderate and dense.

*Scutellum*: Subtriangular, with sparse punctures.

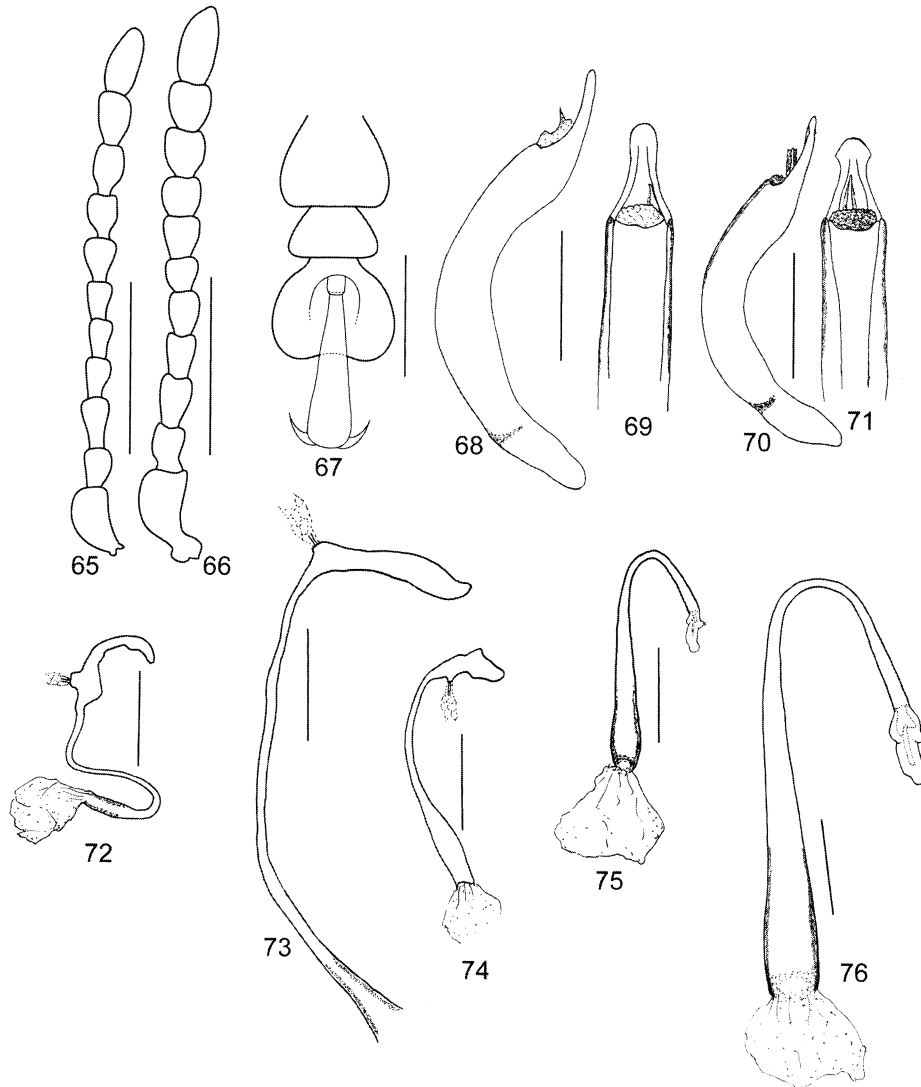
*Elytra*: Suture length: 5.5 mm; width of elytra: 4.6 mm; elytron punctures with confused punctures, punctures very strong and dense, rugous, larger than those of side of pronotum; inner edge of epipleura with very sparse bristles apically.

*Legs*: Femora and tibiae with sparse, moderate punctures, sparse pubescence, apices of tibiae with dense pubescence; protarsomere I of male enlarged; metatarsi entirely pubescent beneath; relative lengths of metatarsomeres: 5>1>3>2, fifth not ventrally toothed (Fig. 67).

*Venter*: Hypomera smooth, without punctures; prosternal process with dense and moderate punctures, truncate and not emarginate behind; metaventricle with dense, moderate punctures, with sparse pubescence; mesepisternum, mesepimeron and metepisternum without punctures; abdomen with small and sparse punctures, sparse pubescence; last abdominal sternite of male without emargination; pygidium with arcuate apex, without longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 68–69): Basal part wider than apex; curved from lateral view. Flagellum slender.

**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I strongly enlarged in male. The female is slightly larger and broader, protarsomere I not distinctly enlarged, metatarsomere III of female entirely pubescent, Spermatheca rudimentary, apical part very small (Figs. 72–73). Measurement of the paratypes are as follows: body length: 7.6–8.0 mm; body width: 4.2–4.5 mm; length of pronotum: 1.9–2.0 mm; width of pronotum: 3.8–4.0 mm; suture length: 5.8–6.0 mm; width of elytra: 4.8–5.3 mm; dorso-ventral eye length: 0.45–0.50 mm; interocular distance: 1.65–1.75 mm; antennae segment (1–11) length (in millimeter): 0.50 : 0.25 : 0.35 : 0.25 : 0.25 : 0.25–0.30 : 0.25–0.30 : 0.30 : 0.30 : 0.30 : 0.45–0.55 (Fig. 66).



Figs. 65–76.— *Chrysolina* spp. Figs. 65–69, 72–73.— *Chrysolina wangboi* Daccordi *et* Yang: 65.— Antenna ♂, scale bar: 1.0 mm; 66.— Antenna ♀, scale bar: 1.0 mm; 67.— Tarsi ♂, scale bar: 0.5 mm; 68.— Aedeagus, lateral view, scale bar: 1.0 mm; 69.— Aedeagus, dorsal view, scale bar: 1.0 mm; 72.— Spermatheca (locality: Yunnan, Lijiang), scale bar: 0.2 mm; 73.— Spermatheca (locality: Sichuan, Kangding), scale bar: 0.2 mm. Figs. 70–71, 74–76.— *Chrysolina buccacoi* Daccordi *et* Yang: 70.— Aedeagus, lateral view, scale bar: 1.0 mm; 71.— Aedeagus, dorsal view, scale bar: 1.0 mm; 74.— Spermatheca (locality: Sichuan), scale bar: 0.2 mm; 75.— Spermatheca (locality: Sichuan), scale bar: 0.2 mm; 76.— Spermatheca with high magnification, scale bar: 0.1 mm.

**Etymology.** The species is named for the fondness of the famous Chinese poet in Tang Dynasty, Wangbo.

**Distribution.** Sichuan (Fig. 77).

**Remarks.** The new species is different from any other species by punctures of elytra and morphology of aedeagus.

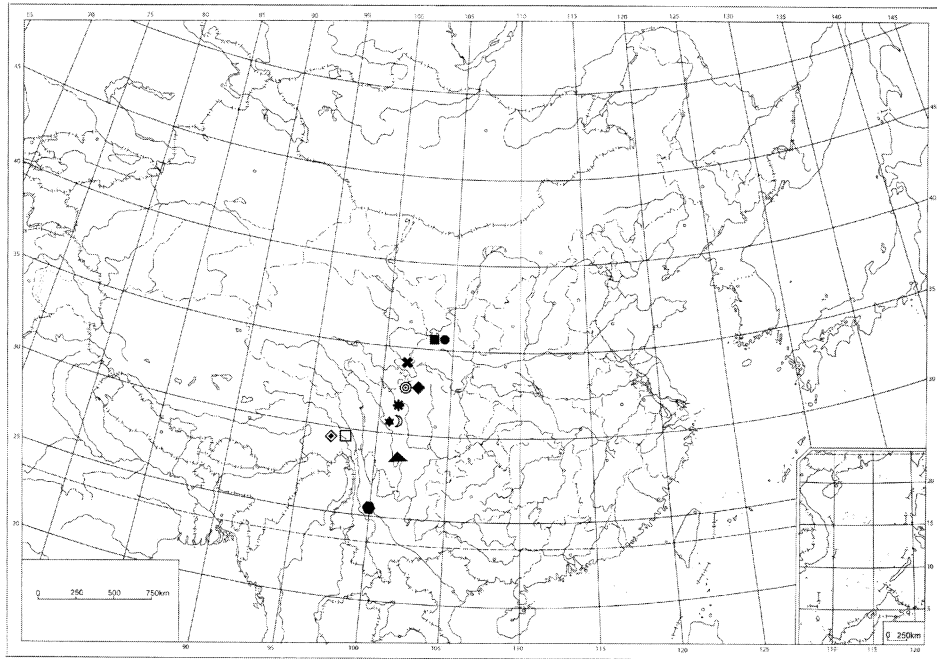


Fig. 77.— Map showing of twelve new species: ▲, *Chrysolina buccaccioi* Daccordi et Yang; ●, *Chrysolina jinxiaoe* Daccordi et Ge; ■, *Chrysolina libaii* Daccordi et Ge; ●, *Chrysolina lii* Ge et Daccordi; ◆, *Chrysolina lijieae* Daccordi et Yang; ◎, *Chrysolina liqingzhaoae* Daccordi et Ge; □, *Chrysolina lishangyini* Ge et Daccordi; ★, *Chrysolina luobinwangi* Ge et Daccordi; ✱, *Chrysolina luyoui* Daccordi et Ge; ◇, *Chrysolina mikhailovi* Ge et Daccordi; ✖, *Chrysolina sicienti* Ge et Daccordi; ⌘, *Chrysolina wangboi* Daccordi et Yang.

***Chrysolina buccaccioi* Daccordi et Yang n. sp. (Figs. 70–71, 74–76, 77)**

**HOLOTYPE** ♂, China: W. Sichuan, 3500 m, road Sabdè-Jiulong pass 40 km N Jiulong /22/06/94, leg. J. Kalab, Alpine Region (IZAS); **Paratypes:** 1♂ (MDc), China, W Sichuan, 3500 m, road Sabdè-Jiulong pass, 40 Km N Jiulong, 22-23.VI.1994, alpine region, leg. J. Kalab; 2♂♂, 9♀♀ (1♂, 2♀♀ in IZAS, 1♂, 7♀♀ in MDc), China, W Sichuan, 3500 m, road Sabdè-Jiulong pass, 40 Km N Jiulong, 22.VI.1994, alpine region, leg. J. Kalab



**Description (based on holotype)**

*Colour:* Black, base of first and second segments of antennae, claws reddish brown.

Body length: 6.98 mm, body width: 4.74 mm.

Body elongate-ovoid, moderate large, convex in lateral view; hind wing absent.

*Head:* Clypeus with sparse pubescence, moderate and dense punctures; frons depressed, with dense and moderate punctures; coronal suture and frontal suture present; vertex with moderate and dense punctures; compound eyes oblong, dorso-ventral eye length 0.31 mm, interocular distance 1.39 mm; distance from antennal insertion to eye: 0.19 mm; distance from antennal insertion to clypeus: 0.16 mm; third segment of maxillary palpi shorter than fourth, apex of fourth segment of maxillary palpi truncate; Antennae with narrow segments basally, widening from segments 6 to 11, antennae segment (1–11) length (in millimeter): 0.50 : 0.15 : 0.30 : 0.20 : 0.22 : 0.22 : 0.22 : 0.22 : 0.28 : 0.44.

*Prothorax:* Length: 1.79 mm; width: 3.46 mm. Sides of anterior and posterior corners without setigerous puncture; central disc with moderate and very dense punctures, central portion as same as those of head; lateral callus absent, with dense punctures near basal lateral side; punctures lateral to disc moderate and dense.

*Scutellum:* Subtriangular, with sparse punctures.

*Elytra:* Suture length: 5.12 mm; width of elytra: 4.74 mm; elytron punctures with irregular single striae, sutural striae present, punctures very strong and dense, rugous, larger than those of side of pronotum; interspaces of elytral striae with very fine and sparse punctures; inner edge of epipleura with 1/3 sparse bristles apically.

*Legs:* Femora and tibiae with sparse, moderate punctures, sparse pubescence, apices of tibiae with dense pubescence; protarsomere I of male enlarged; metatarsi entirely pubescent beneath; relative lengths of metatarsomeres: 5>1>3>2, fifth not ventrally toothed.

*Venter:* Hypomera smooth, without punctures; prosternal process with dense and moderate punctures, truncate and not emarginate behind; metaventre with dense, moderate punctures, with sparse pubescence; mesepisternum, mesepimeron and metepisternum without punctures; abdomen with small and sparse punctures, sparse pubescence; last abdominal sternite of male without emargination; pygidium with arcuate apex, without longitudinal depression medially.

*Median lobe of aedeagus* (Figs. 70–71): Basal part wider than apex, apex rounded, then forming two denticles near apical part; curved from lateral view, with two little denticles near apex. Flagellum slender.

**Variability.** All males of the type series are very similar in size, shape and lustre, protarsomere I enlarged in male. The female is slightly larger and broader, protarsomere I not distinctly enlarged, metatarsomere III of female entirely pubescent, spermatheca rudimentary, apical part very basal (Figs. 74–76). Measurement of the paratypes are as follows: body length: 7.7 mm; body width: 3.71 mm; length of pronotum: 2.0 mm; width of pronotum: 3.84 mm; suture length: 5.63 mm; width of elytra: 4.99 mm; dorso-ventral eye length: 0.25 mm; interocular distance: 1.71 mm; antennae segment (1–11) length (in millimeter): 0.50: 0.15 : 0.28 : 0.20 : 0.20 : 0.20 : 0.20 : 0.20 : 0.22 : 0.22 : 0.47.

**Etymology.** The species is named for the famous Italian poet Giovanni Boccaccio.

**Distribution.** Sichuan (Fig. 77).

**Remarks.** The new species is similar to *Chrysolina wangboi* Daccordi *et* Yang, but it can be distinguished by the lateral calli of pronotum, elytra striae and shape of aedeagus.

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