

DESCRIPTION OF MALE GENITALIA OF *Shirozuella mirabilis* Sasaji
WITH TWO ADDITIONAL NEW SPECIES FROM TAIWAN
(COLEOPTERA; COCCINELLIDAE)

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Abstract This paper gives the descriptions of two new species of the peculiar genus *Shirozuella* Sasaji; *Sh. appendiculata* sp. n., *Sh. alishanensis* sp. n. and the description of male genitalia of *Sh. mirabilis* Sasaji, 1967 for the first time as well.

Key—Words Coleoptera; Coccinellidae; *Shirozuella*; New species; Taiwan

shirozuella is a peculiar and taxonomically important genus. Sasaji^[2] proposed the tribe Shirozuellini for the reception of this genus, which was erected based on a single female specimen collected from Taiwan. The main characters of the genus are: clyrpeus long and distinctly expanded laterally in front of eyes; eyes relatively small, moderately separated, finely faceted; antennae relatively long, 9—segmented with a 3—segmented distinct club; prosternum with broad basisterum and narrow lateral processes; anterior margin of prosternum convex; postcoxal line of first abdominal segment complete, arched strongly, but not angulated; tarsi trimerous.

Three species have been known up to the present and two of which were new to science. The key to the known species, the descriptios of the male genitalia of *Sh. mirabilis* and of two new species of this genus, are as follows. All type specimens are deposited at zoologische Sammlungen des Bayerischen Staates Munchen, Germany.

Key to the known species of *shirozuella*

- 1(2). Postcoxal line extending to a little more than 1/2 length of 1st abdominal segment; lateral lobe of tegmen long, without tenticle—like appendix; elytra yellowish brown with 7 black spots, length 1.82 mm *alishanensis* sp. n.
- 2(1). Postcoxal line extending to much more than 1/2 length of 1st abdominal segment; lateral lobe of tegmen with a long tenticle—like appendix,
- 3(4). Pronotum brown with two obscure spots, darkish brown; elytra brown with 9 black spots; length 2.12~2.59 mm *appendiculata* sp. n.
- 4(3). Pronotum yellowish brown without marks; elytra yellowish brown with 6 black or dark marks, a pair of lateral marks longitudinal; length 2.~2.26 mm *mirabilis* Sasaji

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1 *Shirozuella mirabilis* Sasaij, 1967 (Fig. 1)

Specimens examined: 2 males, Alishan (2400 m.) Taiwan, 10. VI. 1977, J. Klapperich leg.

Body length 2.00~2.26 mm, width 1.23~1.47 mm.

Male genitalia: Siphon slightly curved in whole length, with undeveloped siphonal capsule, outer process larger than inner one. Apex of siphon tapering to tip with a rounded ending. Tegmen stout, with slender trabes. Median piece nearly parallel in basal 2/3, then narrowing distinctly to a nearly rounded tip in ventral aspect. Anterior part of median piece curved to the lateral lobes in lateral view. Lateral lobes with a few setae and a long appendix, like the tentacles of octopus, about 3/5 length of lateral lobe.

2 *Sh. appendiculata* sp. nov. (Fig. 2)

Body length 2.12~2.59 mm, width 1.35~1.59 mm.

Body elongate oval, dorsal surface rather weakly convex with sparse pale yellowish brown pubescence. Head and labrum brown with black eyes; antennae and maxillary palpi darkish brown. pronotum brown with one pair of obscure marks, darkish brown, situated near to the longitudinal line. Scutellum brown.

Elytra brown with nine black spots: One pair at base of elytra, close to calli, not extending to the suture, big, quadrate; one pair behind calli, not reaching lateral margins, small, oval; one pair at middle of elytron, medium in size, oval; one at suture behind the middle of the elytral length, big, longitudinal; one pair at apex of elytron, nearly quadrate, medium-sized. Underside including legs brown except pterothorax darkish brown.

Head moderate in size, frontal surface of head capsule strongly flattened, slightly convex; eyes relatively large, about two times the interocular distance at middle; interocular margin nearly straight and distinctly divergent anteriorly; clypeus subtrapezoidal, the distance between the eye and the anterior margin of clypeus slightly shorter than the anterior interocular distance. antennae moderate in length, about width of head, nine-segmented, structure as figured. Scutellum triangular, much wider than long. pronotal punctures fine, and elytral punctures much coarser than those of pronotum. prosternal process broad without carinae, and lateral processes narrow. Metasternum

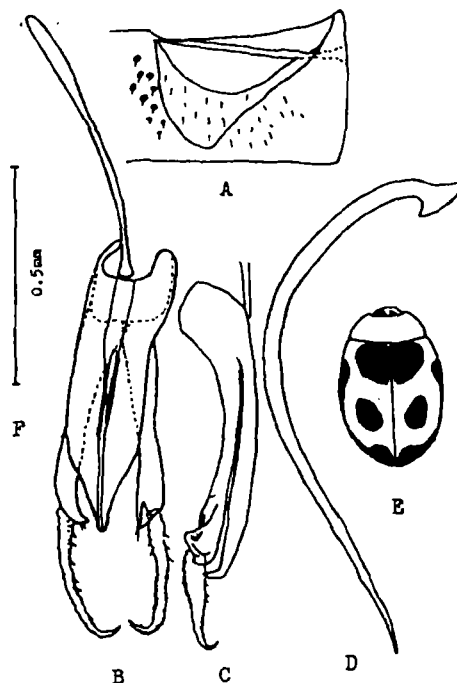


Fig. 1 *Shirozuella mirabilis* Sasaij

A: first abdominal segment; B: tegmen, ventral aspect; C: ditto, lateral aspect; D: siphon; E: dorsal outline of the body; F: scale for A—D.

convex distinctly at the parts near to the middle line. postcoxal line of first abdominal segment complete, rather strongly curved, extending to almost the hard margin of the segment. Area surrounded by the line with about a dozen of fine punctures; middle of the segment with distinct large punctures, but smaller posteriorly.

Male genitalia: Siphon stout with distinct inner process of siphonal capsule, without outer one. Siphon curved slightly at basal half, and straight at apical half with numerous microdenticles.

Tegmen stout. Median piece with lateral margins sinuated, widest at basal 3/4, and lateral lobes curved at terminal half in ventral aspect. In lateral view, anterior part of median piece curved to the lateral lobes distinctly, longer than lateral lobes; lateral lobes expanded at terminal 2/3, tip with a long appendix, like the tentacles of octopus, about 2/3 length of lateral lobe.

Holotype: ♂, No. 910701—1, Alishan (2400 m.) Taiwan, 28. IV. 1977, J. Klapperich leg.

Paratype: 1 ♂, Alishan (2400 m), Taiwan, 10. VI. 1977, J. Klapperich leg.

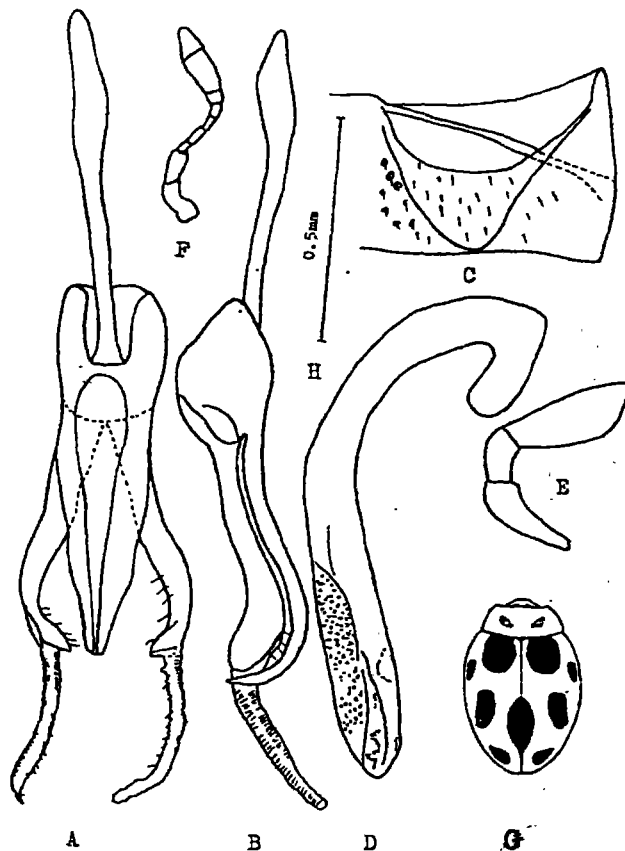


Fig. 2 *Shirozuella appendiculata* sp. n

A: tegmen, ventral aspect; B: ditto, lateral aspect; C: first abdominal segment;
D: siphon; E: maxillary palpus; F: antenna; G: dorsal outline of the body;
H: scale for A—E.

3 *Sh. alishanensis* sp. nov. (Fig. 3)

Body length 1.82 mm, width 1.18 mm.

Body elongate oval, dorsal surface rather weakly convex with pale yellowish brown pubescence.

Head reddish brown with black

eyes; antennae and maxillary palpi darkish brown. Scutellum reddish brown. Elytra yellowish brown with sutural area and external margins darkish brown, and with seven black markings: one pair at base of elytra, close to calli, not reaching to the suture, big, subquadrate; the discal spot longitudinal, situated before the middle of elytra; one pair slightly behind the middle of elytral length, medium-sized, oval; one pair at latero-posterior of the former, small. prosternum, epipleura and abdomen segments darkish brown. pterothorax dark brown. Legs dark brown, but hind legs slightly paler.

Interocular margins straight, and strongly divergent anteriorly; interocular distance less than width of eye; clypeus subtrapezoidal, length nearly equal to the anterior interocular distance. Scutellum triangular, slightly wider

than long. pronotal punctures fine, and elytral punctures much coarser than those of pronotum. postcoxal line of first abdominal segment complete, extending to a little more than $1/2$ length of the segment. Area surrounded by the line with a few fine punctures.

Male genitalia: Siphon stout, curved at basal part, with stout inner process of siphonal capsule and indistinct outer one. Apex of siphon simple with membranous appendix at outside. Tegmen moderately stout. Median piece widest at base, gradually narrowing, expanded slightly before the straight tip in ventral aspect. In lateral view sides of median piece sinuated, with a small rounded tip. Lateral lobes, which slightly dislike the normal form of the majority of coccinellids, slender with many short setae, longer than median piece distinctly.

Holotype: ♂, No. 910701-2, Alishan (2400 m.), Tawan, 10=VI. 1977, J. Klapperich leg.

Remarks *Ghanus* Ahmad, 1973 and *Medanotento* Sasaji, 1989 (type - species *Shirozuella ocularis* Sasaji, 1988) are closely related to *Shirozuella*^(1,3,4), because they share many important characters, namely, 9-segmented antennae, laterally expanded clypeus, very elongate terminal segment of maxillary palpi two-segmented labial palpi, etc. But they are easily separated from each other by postcoxal line of first abdominal segment, prosternum, eyes, etc. There is no doubt that *Shirozuellini* (including above three genera) is an unusual member of the subfamily sticholoditinae.

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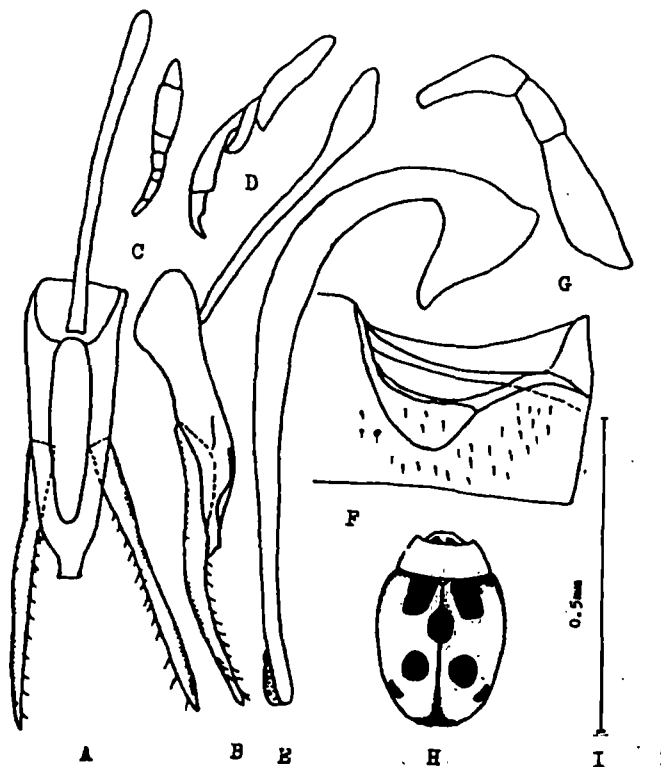


Fig. 3 *Shirozuella atishanensis* sp. n.

A, tegmen, ventral aspect; B, ditto, lateral aspect; C, flagellum of antenna;
D, tarsus; E, siphon; F, first abdominal segment; G, maxillary palpus;
H, dorsal outline of the body; I, scale for A-G.

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台湾产奇特长唇瓢虫

Shirozuella mirabilis Sasaji

雄性外生殖器与两新种描述

(鞘翅目: 瓢虫科)

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摘要 本文描述了奇特长唇瓢虫 *Shirozuella mirabilis* Sasaji 的雄性外生殖器与本属两新种: 附肢长唇瓢虫 *Sh. appendiculata* sp. n., 阿里山长唇瓢虫 *Sh. alishanensis* sp. n., 均产于台湾。种类检索如下:

- 1 (2). 后基线伸达第一腹板1/2略强; 阳基侧叶长, 无触须状附肢; 鞘翅淡黄棕色, 具七个黑色斑纹; 体长1.82 mm 阿里山长唇瓢虫 *Sh. alishanensis* sp. n.
- 2 (1). 后基线后缘远超第一腹板长度的1/2; 阳基侧叶短, 具触须状附肢;
- 3 (4). 前胸背板棕色, 具两个暗棕色模糊斑点; 鞘翅棕色, 具九个黑斑; 体长2.12~2.59 mm 附肢长唇瓢虫 *Sh. appendiculata* sp. n.
- 4 (3). 前胸背板淡黄棕色, 无斑点; 鞘翅淡黄棕色, 具六个黑斑, 侧面的一对长形; 体长2.00~2.26 mm 奇特长唇瓢虫 *Sh. mirabilis* Sasaji

关键词 鞘翅目; 瓢虫科; 长唇瓢虫属; 新种; 台湾