

**New species of *Glycosia* Schoch, 1896 from Greater Sunda Islands  
(Coleoptera: Scarabaeidae: Cetoniinae)**

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**Taxonomy, new species, Coleoptera, Cetoniidae, Oriental region, Indonesia, the Greater Sundas**

**Abstract.** *Glycosia sakaii* sp. n. and *Glycosia sumatrana* sp. n. from the island of Sumatra and *Glycosia tricolor baliensis* from the island of Bali in the Greater Sunda Islands are described, illustrated and compared.

### INTRODUCTION

This paper deals with rarely collected species of the genus *Glycosia* Schoch, 1896, distributed from India and Sri Lanka across southeast Asia, including southern part of China and Taiwan. Most species occur across the Philippines and Indonesia. In Indonesia their distribution encompasses the Greater Sunda Islands and Sulawesi. Two species extend to Buru (at the west part of the Moluccas) and Flores (Lesser Sunda Islands), which are situated east of the Wallace line. New species can still be expected on the intervening islands. Such is the case of Bali, where no *Glycosia* has been previously collected. During an examination of cetoniids recently collected in Bali, several specimens of *Glycosia* Schoch, 1896 have been identified. They belong to an undescribed subspecies of *Glycosia tricolor* Olivier, 1789. In addition, two species of hitherto undescribed *Glycosia* Schoch, 1896 have been discovered in material from Sumatra, one from rainforests of the West Sumatra province and one from montane forests of Mt. Dempo in the southwest corner of the South Sumatra province.

### HISTORY

The genus was established by Schoch in 1896, at that time with only three valid species. Especially Moser and Arrow added species early in the 20th century. Upon publication of Sakai's manuscript in 1995 eleven species and several subspecies were known. Since then two species, *Glycosia krajciki* Alexis et Delpont, 2000 and *Glycosia bhaskarai* Jákl et Krajčík, 2005, were described.

### MATERIAL AND METHODS

All specimen sizes are from the anterior margin of the pronotum to the apex of the elytra. Types are provided with red printed labels that give the name of the taxon, HOLOTYPUS

or PARATYPUS, sex symbol and “St. Jákl det. 2008“. Genitalia of all available males were dissected. All specimens are deposited in the author’s collection.

## DESCRIPTIONS

### *Glycosia sakaii* sp. n.

(Figs 1-5)

**Type material.** Holotype (♂) labelled: Indonesia, S. Sumatra, MT. DEMPO, vi.2005, local collectors lgt. Paratype: (No.1 ♀) labelled: Indonesia, S. Sumatra, MT. DEMPO, v.2005, local collectors lgt.; (No.2 ♀) labelled: INDONESIA, W. Sumatra, Annai valley, 800 m, 4.1995, native collectors; (No.3 ♀) labelled: INDONESIA, W. Sumatra, Solok, iv.1995, native collectors.

**Description.** Holotype length 18 mm, Maximum humeral width 10.5 mm. Black, shiny, medium sized species with a pair of beige-yellow spots on elytra.

Head. Black, slightly shining, widest in apical third. Except for clypeus covered with large, circular punctures. Clypeus sharply incised, finely and densely punctate. Antenna with black club and brownish stalk.

Pronotum. Black, narrow, near base brownish. In holotype shining due to loss of tomentum. Anterior and discal parts with deep, circular punctures. At base punctation fine and less dense. Pronotal lobe nearly impunctate. Lateral margins bordered throughout length.

Scutellum. Triangular, rather pointed, brownish, impunctate.

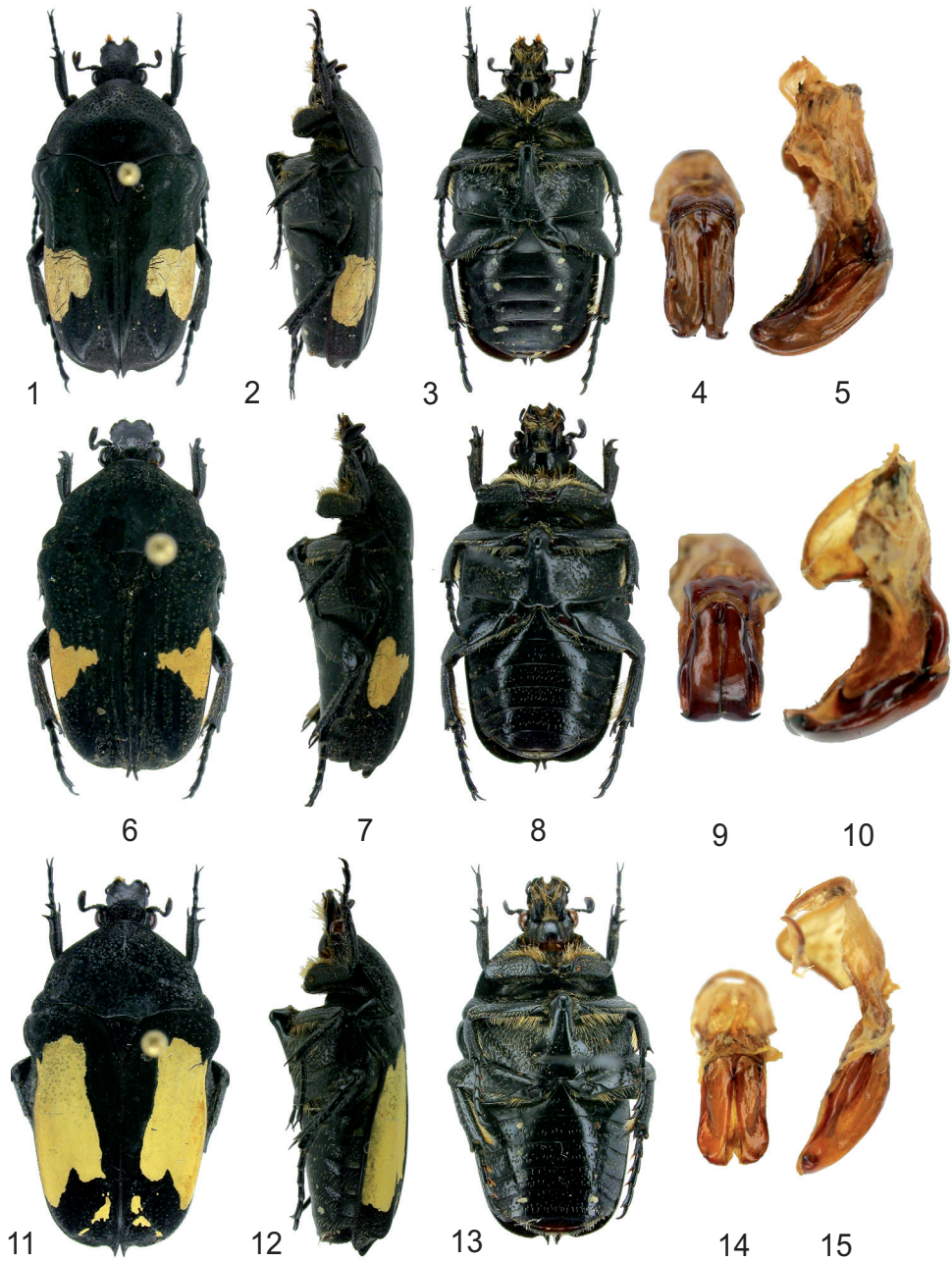
Elytra. Black, apex and lateral borders brownish. In holotype shining due to loss of tomentum, otherwise should be opaque. Decorated with a pair of beige-yellow spots situated at two-thirds of length, each spot widest near lateral margin and narrowing toward suture. Punctation present only in anterolateral and apical parts, anterolateral punctures deep and circular, apical punctures fine and semicircular. Discal part impunctate. Humeral calli indistinct, apical calli well developed. Each elytron bears three costae distinct in posterior half of length, two lateral adjoining apical calli and third median joining suture at level of apical calli. Elytral apex deeply excised (similar to but deeper than in *Glycosia tricolor* Olivier, 1789).

Pygidium. Black, opaque, impunctate, entirely covered by elytra. Maculation not developed.

Abdomen. Black, opaque, each segment with one transverse line of punctures and anterior strip of short yellowish setae. Second through fifth segments bear small lateral maculae of white omentum.

Metasternum. Black, opaque, densely striated, bearing yellowish pilosity. Mesometasternal process robust, forming a forward-protruding keel.

Legs. Black, more gracile than in other *Glycosia* species. Protibia bidentate, metatibia with one transverse carina situated at two-thirds of length. Metatibial spurs long and straight.



Figs 1-15. 1-5. *Glycosia sakaii* sp. n.: 1- habitus dorsal aspect; 2- habitus lateral aspect; 3- habitus ventral aspect; 4- aedeagus; 5- aedeagus lateral aspect. 6-10. *Glycosia sumatrana* sp. n.: 6- habitus dorsal aspect; 7- habitus lateral aspect; 8- habitus ventral aspect; 9- aedeagus; 10- aedeagus lateral aspect. 11-15. *Glycosia tricolor baliensis* ssp. n. 11- habitus dorsal aspect; 12- habitus lateral aspect; 13- habitus ventral aspect; 14- aedeagus; 15- aedeagus lateral aspect.

Genitalia. Different from all other *Glycosia* species (Figs 4-5).

**Sexual dimorphism.** Females differ in following characteristics (1) pronotum and elytra completely covered with black tomentum, both matte, (2) pronotum and elytra covered with rather long whitish hairs, (3) absence of elytral costae at apical third, (4) protibia tridentate, (5) yellow colour of elytral maculation (beige-yellow in male). Size 11.2-13.4mm.

**Differential diagnosis.** The most closely allied species is *Glycosia krajciki* Alexis et Delpont, 2000, described also from Sumatra. *Glycosia sakaii* sp. n. differs from *G. krajciki* mainly in the following respects: (1) smaller size; (2) elytral maculae not triangular but oval-shaped and larger; (3) pygidial maculation absent; (4) abdominal lateral maculae much smaller; (5) male protibia bidentate; (6) elytral costae shorter, developed only in terminal one-third of length; (7) presence of excision at posterior end of each elytron ; (8) differently shaped aedeagus.

**Distribution.** Indonesia, the Greater Sundas, Sumatra, Mt. Dempo.

**Etymology.** Dedicated to Kaoru Sakai (Tokyo, Japan), who has advanced our knowledge of the genus.

*Glycosia sumatrana* sp. n.

(Figs 6-10)

**Type material.** Holotype (♂) labelled: Indonesia, West Sumatra, HARAU valley, 400-600 m, 25 km N of Payakumbuh, vi.2007, St. Jakl lgt.

**Description.** Holotype length 15 mm, maximum humeral width 9.2 mm. Smaller black species covered with black tomentum and elytra decorated with a pair of yellow maculae.

Head. Black, shining, punctate, with a short, glabrous median base. Clypeus gently concave, punctures finer and denser than on frons. Antenna short, black.

Pronotum. Black, opaque, completely covered with tomentum. Posterior and discal parts impunctate, anterior and anterolateral margins finely punctate, punctures semicircular. Lateral margins bordered, but border not reaching base.

Scutellum. Impunctate, completely covered with black tomentum.

Elytra. Same as pronotum and scutellum, completely covered by black tomentum. Each elytron decorated with one golden-yellow spot of about triangular shape, widest at lateral margin of elytra and narrowing toward suture. Each elytron throughout length with 4-5 lines of semicircular punctures. Posterolateral area and apex finely striate. Humeral calli not distinct, apical calli weakly developed. Sutural ridge elevated at posterior half of length, protruding beyond elytral apex. Termination sharply pointed.

Pygidium. Black, opaque, impunctate, covered with black tomentum but without pilosity, entirely covered by elytra.

Abdomen. Black, shining. Segments 1 and 2 finely punctate, segments 3-6 coarsely punctate. Some punctures with whitish setae. Maculation absent.

Metasternum. Black, densely striate, with whitish pilosity. Mesometasternal process keel-shaped, with a tubercle approximately at level of mesocoxae.

Legs. Black, short. Protibia tridentate. Meso- and metatibia with yellow pilosity at inner side. All femora with yellow setation at posterior margin. Metatibial spurs relatively short, outer spur longer and straight, termination of inner spur curved.

Genitalia. Similar to *Glycosia borneensis* Sakai, but parameres widest at two-thirds of length (in *G. borneensis* parameres widest just before apex).

**Differential diagnosis.** This new species is close to *Glycosia borneensis* Sakai, 1995, from which it differs mainly in the following characters: (1) lateral margins of pronotum impunctate (in *G. borneensis* circular punctures); (2) preapical part of elytra near lateral margins wrinkled (in *G. borneensis* not wrinkled, but with circular punctures); (3) mesometasternal process keel-shaped, robust, with basal bulge (in *G. borneensis* normally developed and without basal bulge); (4) third protibial tooth large, gap between it and second tooth twice as large as that between terminal and second teeth (in *G. borneensis* third tooth small and gaps between teeth equal); (5) parameres widest at two-thirds of length (in *G. borneensis* parameres widest just before apex).

**Distribution.** Indonesia, Sumatra, West Sumatra Province, Harau Valley.

**Etymology.** Named after the island.

*Glycosia tricolor baliensis* ssp. n.

(Figs 11-15)

**Type material.** Holotype (♂) labelled: Indonesia, BALI ISL., Negara env., 600 m, local coll., ii.2005. Paratypes (No.1 ♀) labelled: Indonesia, BALI ISL., 600 m, cca 10 km N of NEGARA, x.2002, local collectors lgt., (Nos. 2-3 ♀♀) labelled: Indonesia, BALI ISL., 600 m, cca 10 km N of NEGARA, i.2006, local collectors lgt., (Nos. 4-5 ♂♂): Indonesia, BALI ISL., 600 m, cca 10 km N of NEGARA, x.2007, local collectors lgt.

**Description.** Holotype length 17.5 mm, maximum humeral width 11.1 mm. Black, opaque, broad, covered with black tomentum, decorated with yellow-beige maculation.

Head. Without black tomentum, shining. Rugosely punctate except for discal ridge, near clypeus punctation finer. Glabrous part of discal ridge reaching base of head. Clypeus gently concave. Antennal club black, stalk brownish.

Pronotum. Black, uniformly covered with velvety black tomentum. Maculation absent. Anterior and anterolateral margins and discal ridge moderately punctate, punctures semicircular. Posterior part impunctate. Lateral borders complete nearly throughout length.

Elytra. Black, opaque, covered with black tomentum. Each elytron decorated with large longitudinal yellow-beige macula and three small maculae near apex. Punctures fine, semicircular, limited to base and apex. Humeral calli indistinct, apical calli small and obtuse. Sutural ridge elevated at last fifth 4/5 of length, its terminativ obtuse.

Pygidium. Black, impunctate, without maculae.

Abdomen. Black, shining. Lateral punctation rather dense, punctures semicircular and bearing yellowish setae. Discal punctation much finer, punctures simple. Ventrites 2-5 each with four whitish maculae, two lateral and two medial.

Metasternum. Finely striated, bearing whitish hairs. Mesometasternal process robust, protruding downwards, its anterior margin with a small medial bulge. Prosternum and mentum with mixture of striation and rugose punctation covered with yellowish setae and longer hairs.

Legs. Moderately long. All tibiae bear whitish pilosity, especially at inner sides. Protibia bidentate. Metatibial spurs short and straight.

Genitalia. Similar to other subspecies (Figs 14-15).

**Differential diagnosis.** Differs from all hitherto described subspecies in having a completely black pronotum. From the geographically closest subspecies, *G. tricolor palliata* Mohnike, 1871, differs by: (1) completely black pronotum (red in *G. t. palliata*); (2) completely black scutellum (red in *G. t. palliata*); and (3) differently shaped dorsal maculae.

**Distribution.** Indonesia, Bali.

**Etymology.** Named after the island.

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