

## Two New Species and One Subspecies of the Genus *Holosoma* from China (Coleoptera, Carabidae, Oodini)

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**Abstract** Two new species and one subspecies of the genus *Holosoma* from China are described as follows *Holosoma namikoeae* and *H. misaoae* from Gansu and *H. nigratum yae* from Sichuan. A key to species of the genus *Holosoma* is given.

Nine species of the genus *Holosoma* SEMENOW 1889, *H. hedni* (ANDREWES) (= *gansuenseis* KIRSCHENHOFER) from Gansu, *H. heros* KIRSCHENHOFER from Gansu, *H. imurai* N. ITO from Sichuan, *H. nigratum* N. ITO from Sichuan, *H. opacum* SEMENOW from Gansu, *H. romboseki* JEDLIČKA from Sichuan, *H. sciacky* KIRSCHENHOFER from Shaanxi, *H. speciosum* N. ITO from Sichuan, and *H. weigoldi* (HELLER) from Sichuan, are known. They are peculiar in shape and endemic to China distributed as only in the central high latitude areas of Sichuan, Gansu and Shaanxi. The species are apterous and therefore distributional regions are extremely restricted. Recently I obtained some specimens and found to be new species.

In this paper, I am going to describe them under the names as *Holosoma namikoeae*, *H. misaoae*, and *H. nigratum yae* and give key to all species of *Holosoma*. The new species and new subspecies are dedicated to Ms. Namiko USHIYAMA who is my niece and Ms. Misao MARUBAYASHI who is mother of my wife, Ms. Yae MARUBAYASHI who is my niece, respectively. I would like to thank heartily them for their kind cooperation in field work of Nagano Prefecture. Also, I heartily thank Dr. Yûki IMURA, Yokohama for his kindly offering invaluable material for this study.

Concerning measurement of body parts, refer my former paper (see N. ITO, 2000).

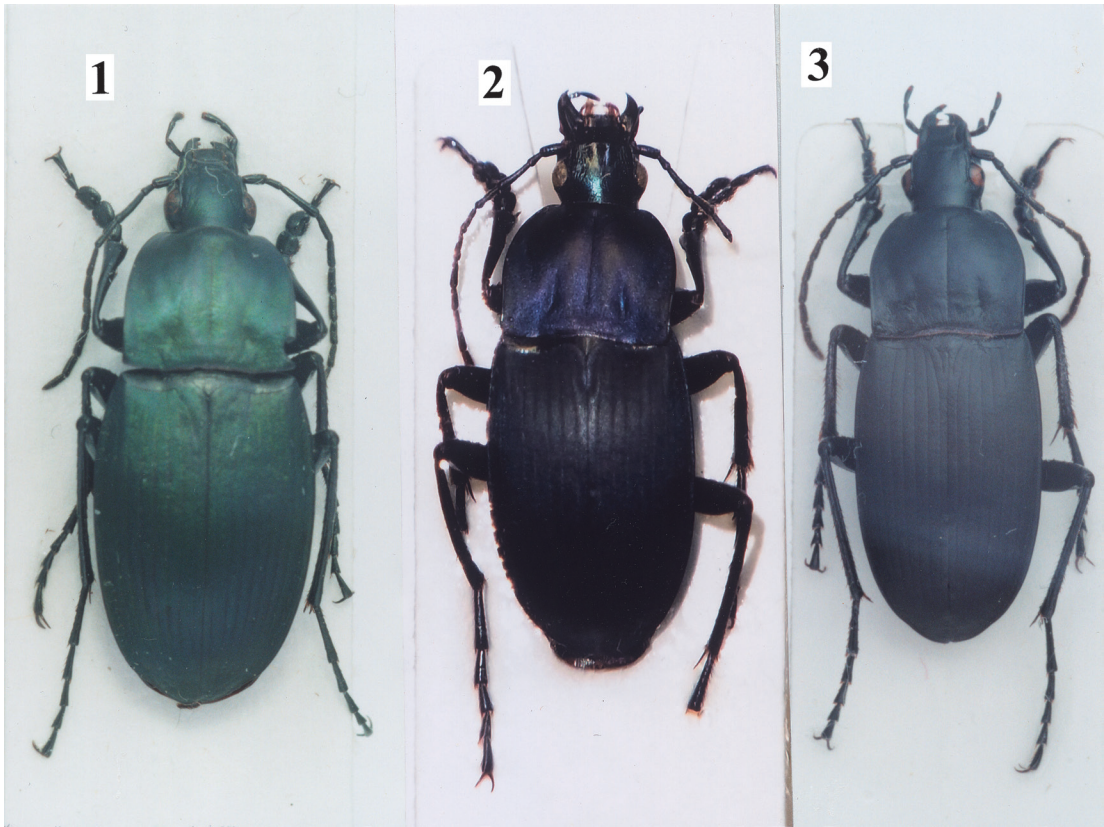
*Holosoma namikoeae* N. ITO, sp. nov.

(Figs. 1 & 4)

Body oval, green, somewhat aeneous blue, mostly opaque, weakly shiny on head; legs black, labrum and mandibles very slightly brown.

Head small, 0.54–0.56 times as wide as the pronotal width, weakly raised, sparsely and minutely punctate; labrum quadrate, rounded at apical corners; clypeus rather deeply emarginate apically, without any rugosities; clypeal suture thin, shallow, partly interrupted; frontal impressions not visible, only longitudinally coarsened on lateral portions of frons; eyes small and weakly convex; temples rather prominent, two-fifths the eye length; antennae slender, 3rd segment very sparsely covered with fine pubescence, two-fifths longer than the 4th and three times the 2nd; mandibles stout, not long, sharp at tips; labial palpi short, 3rd segment subsecuriform, very sparsely pubescent and as long as the 2nd, which bears three spinose setae at front margin; ligula wide, wedge-shaped, weakly triangularly arcuate at apex; mentum with median tooth notched at apex, epilobes abruptly widened apicad; microsculpture consisting of compact and minute meshes.

Pronotum weakly trapezoidal, two-sevenths wider than long, subarcuately convergent forwards, flattened on disc; apex obtrapezoidally and shallowly emarginate, vaguely bordered; base three-fifths



Figs. 1–3. Habitus of the genus *Holosoma* spp. — 1, *Holosoma namikoeae* N. ITO, sp. nov.; 2, *H. misaoae* N. ITO, sp. nov.; 3, *H. nigratum yae* N. ITO, subsp. nov.

wider than long, slightly emarginate in middle, truncate at sides where the margins are vaguely bordered; apical angles rather protrudent, widely rounded; basal angles almost right, narrowly rounded at tips; front and hind transverse impressions obsolete; median line thin, reduced near apex and base; lateral furrows narrow in apical third, thence rapidly widened basad and fused with basal foveae; basal foveae each only flat, with a short, vague and very shallow longitudinal groove; whole surface very sparsely and minutely punctate; microsculpture compactly and clearly impressed, consisting of fine isodiametric meshes.

Elytra ovate, one-fourth wider than the pronotal width, two-fifths longer than wide, weakly convex, with several short and fine hairs in apico-lateral areas; apical sinus very shallow; apices rather produced, more or less narrowly rounded, closed to each other; bases emarginate, steeply oblique at sides, humeral angles sharp; striae shallow throughout and finely punctate, scutellar striae moderate in length; intervals quite even, very sparsely and microscopically punctate, 3rd interval with one to three setiferous pores and 5th with one or two pores; marginal series composed of 23–26 umbilicate pores; microsculpture very clearly impressed, similar to that of pronotum. Hind wings vestigial.

Ventral surface sparsely punctate on prosternum, median part of metasternum, metepisterna, and abdominal sternites whose punctures become sparser backwards from 3rd segment; metepisterna transverse, nearly twice as wide as long; 6th abdominal sternite in both sexes bisetose at each side,

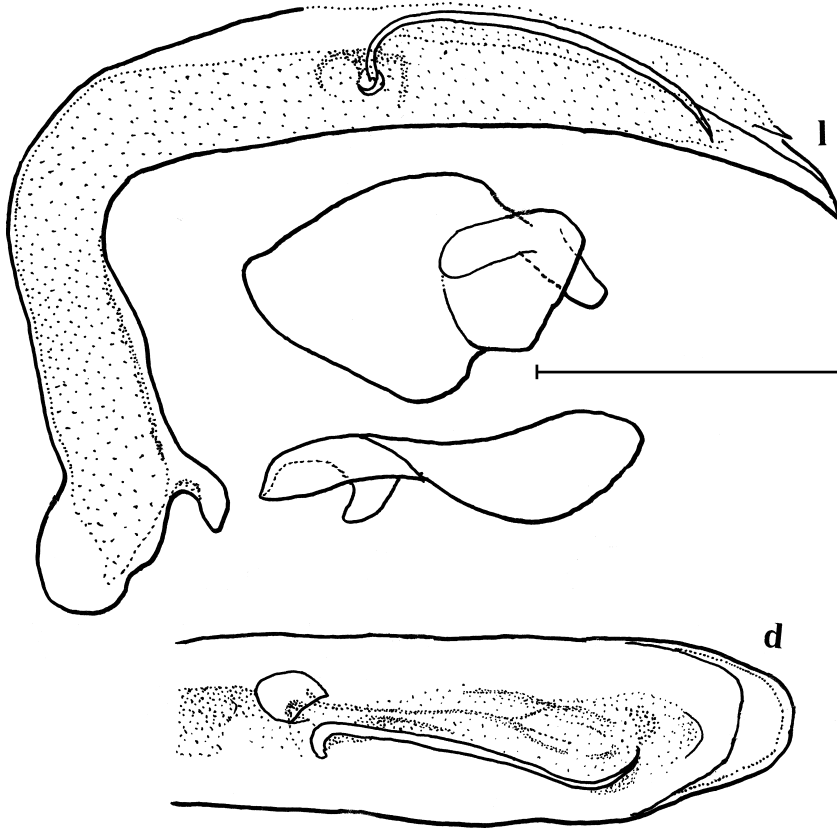


Fig. 4. Male genitalia of *Holosoma namikoe* N. ITO, sp. nov. — l, Lateral view; d, dorsal view. Scale: 1 mm.

weakly produced backwards in male and widely and very slightly arcuate in female at apical margin.

Legs long; fore tibia slender, gradually dilated apicad, with a series of punctures on dorsal surface; tarsi sparsely pubescent-punctate, hind tarsus nine-tenths in male and eight-tenths in female longer than the width of head, 1st segment as long as the 2nd and 3rd taken together, 2nd two-ninths longer than the 3rd and twice the 4th, claw segment quadrisetose along outer and trisetose along inner ventral margins.

Aedeagus (Fig. 4) slender, but is rather stout among known species of the genus *Holosoma*, weakly arcuate apicad from curving point, acute at tip; apical lobe transverse, widely arcuate at distal margin; apical orifice wide and long, inner sac armed with a capsule-like disc and an elongate sclerite clearly arcuate apically and hooked basally in dorsal view and arcuate in lateral view.

Length. 16.8–17.3 mm. Width. 6.5–7.2 mm.

*Holotype*. ♂, near Wudu, Mts. Min Shan, South, Gansu, China, 20–V–2001, A. GORODINSKI leg. Paratypes: 1 ♂, 8 ♀♀, same data as the holotype.

*Remarks*. This new species resembles *Holosoma hedini* (ANDREWES) (= *gansuensis* KIRSCHENHOFER 1995; BOUSQUET, 2002), but the body is larger in size, narrower, and not or more weakly grass green in colour, and the aedeagus is longer in apical orifice and more transverse in apical lobe.

*Etymology*. This specific name is dedicated to Ms. Namiko USHIYAMA (old family name, MARUBAYASHI) who always has been supporting on my field works and married in last year. I would

like to express my cordial congratulation to her by dedicating her name to the species.

*Holosoma misaoae* N. ITO, sp. nov.

(Figs. 2 & 5)

Body ovate, wide, black, hardly bluish, opaque; head aeneous blue, pronotum hardly dark purplish blue, maxillary, ligula, and apices of maxillary palpi light brown.

Head narrow, 0.57 times as wide as the pronotal width, weakly convex, minutely and sparsely punctate on clypeus and roughly and densely so on frons where surface is longitudinally, coarsely and widely wrinkled, with intercular space two-thirds of width of head; labrum transversely quadrate; clypeus rather thick, slightly elevated, shallowly emarginate at apex; clypeal suture almost obliterated, weakly raised; frontal impressions shallow, fovea-shaped; eyes gently convex; temples rather long, a half longer than eye length; space between buccal fissure and genuine ventral margins of eyes wide and sharply rugose; mandibles short, rather stout, acute at tips; antennae slender, apical two segments reaching elytra, 3rd segment wholly bearing very sparse and short setae, one-fourth longer than the 4th and 2.5 times as long as the 2nd; ligula wedge-shaped, slightly arcuate apically, sharp at apical corners; 3rd segment of labial palpus not securiform, more or less tumid, almost as long as the 2nd; mentum bifid-toothed at apex, epilobes narrow, parallel at sides; microsculpture finer on clypeus than on frons, composed of isodiametric meshes.

Pronotum trapezoidal, barely concave before base, 1.3 times as wide as long, flat on disc, weakly declivous apico-externad, very sparsely and minutely punctate on most areas, somewhat coarse and dense in basal areas; sides thinly bordered; apex shallowly and obtusely emarginate, unbordered at the bottom; base 1.80 times as wide as apex, very shallowly emarginate in middle, not bordered throughout; apical angles weakly protruding forwards, narrowly rounded; basal angles right but blunt at tips; lateral furrows wide and flattened; basal foveae each very shallow, with a short, clear and longitudinal groove; front transverse impression obliterated, the hind one hardly engraved; median line thin but clear, reduced near apex and base; microsculpture consisting of fine and clear isodiametric meshes over all, clearer than on head.

Elytra oval, more or less elongate, two-fifths longer than wide, one-fifth wider than the pronotal width, almost flattened, weakly and longitudinally elevated near humeral angles, sparsely pubescent laterally and latero-apically, very sparsely and minutely punctate; sides barely arcuate in humeri, not concave and only straight preapically; apices widely rounded, closed to each other; bases each clearly emarginate, with humeral angle very sharp and well produced; striae thin, shallow, and finely punctate, scutellar striole long; intervals largely flat, hardly raised near bases, and without any setiferous pores; marginal series composed of 22–24 umbilicate pores; microsculpture clear and fine isodiametric meshes which are a little larger than in pronotum. Hind wings vestigial.

Ventral surface finely and sparsely punctate on pro-, meso- and metasterna; metepisterna transverse, 1.71 times as wide as long; abdominal sternites very sparsely with very short pubescence, additionally with a little longer pubescence on 6th abdominal segment near apex, the 6th bisetose in male along apical margin.

Legs rather long; fore tibia gradually dilated apicad, oblique at apico-external corners which are very shallowly incised and trispinose, sparsely punctate, terminal spur rather long; mid femur armed with several short spines in inner half and one or two ones near apex; tarsi sparsely pubescent, hind tarsi a little more densely pubescent than fore and mid tarsi, almost twice the width of head in male, 1st segment in male as long as the 2nd and 3rd taken together, 2nd 1.18 times as long as the 3rd and 1.44 times as long as the 4th, claw segment hexasetose along each ventral margin.

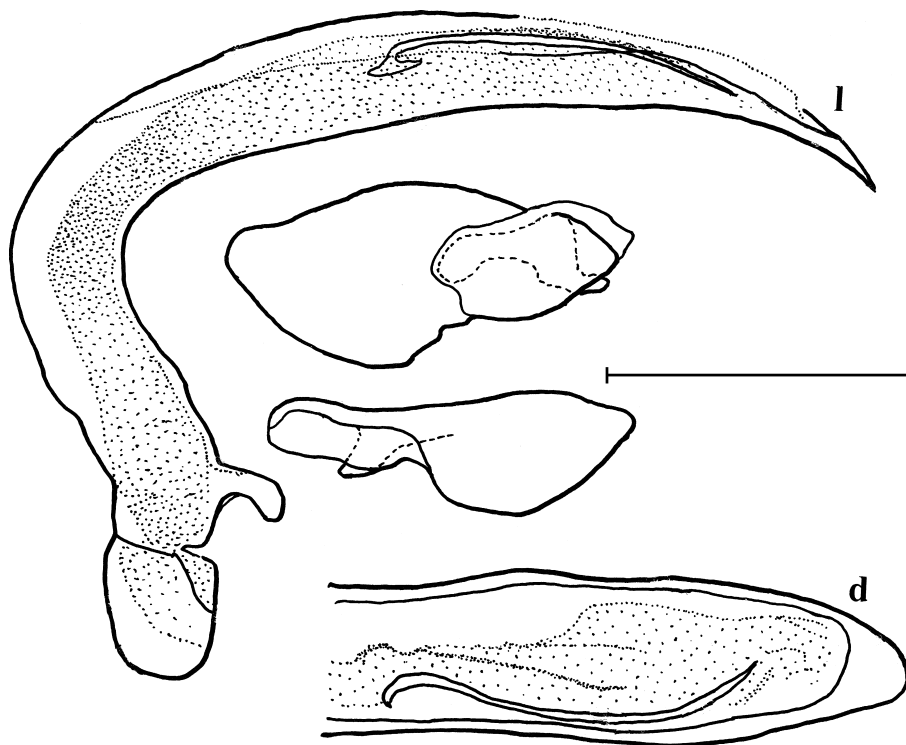


Fig. 5. Male genitalia of *Holosoma misaoae* N. ITO, sp. nov. — l, Lateral view; d, dorsal view. Scale: 1 mm.

Aedeagus (Fig. 5) slender, weakly arcuate in apical part from curving point, acute at tip; apical lobe subtriangular, narrowly rounded at distal margin; apical orifice wide, inner sac armed a sclerite which is long spindle-like in lateral view and widely arcuate in dorsal view and hooked at base.

F e m a l e unknown.

Length. 15.2 mm. Width. 6.3 mm.

*Holotype*. ♂, Wenxian, South Gansu, China, VI-1996, M. HÄCKEL leg. Paratype: 1 ♂, NW of Shangde, 5 km SEE of Wen Xian, alt. 950–1,050 m, N Bank of Riv. Wen He, South Gansu, China, 13 to 14-VI-1998, IMURA and SU leg.

*Remarks*. This new species is similar to the former new species, *namikoeae*, but the body is smaller in size and darker in colour, the elytra are more densely pubescent on apico-lateral areas, the hind tarsi is longer and hexasetose along each ventral margin instead of quadrisetose along outer and trisetose along inner margin, and the aedeagus is narrower in dorsal view, narrower and longer in apical lobe and without capsule-like disc.

*Etymology*. The species is named after Ms. Misao MARUBAYASHI. She always and kindly has been supporting on my field works in Nagano Prefecture for a long time. Fortunately, she became 88 years old (Beiju in Japanese) in last year. I would like to celebrate cordially her.

***Holosoma nigratum yae* N. ITO, subsp. nov.**

(Figs. 3 & 6)

This new subspecies is different from the nominotypical subspecies in having the head more

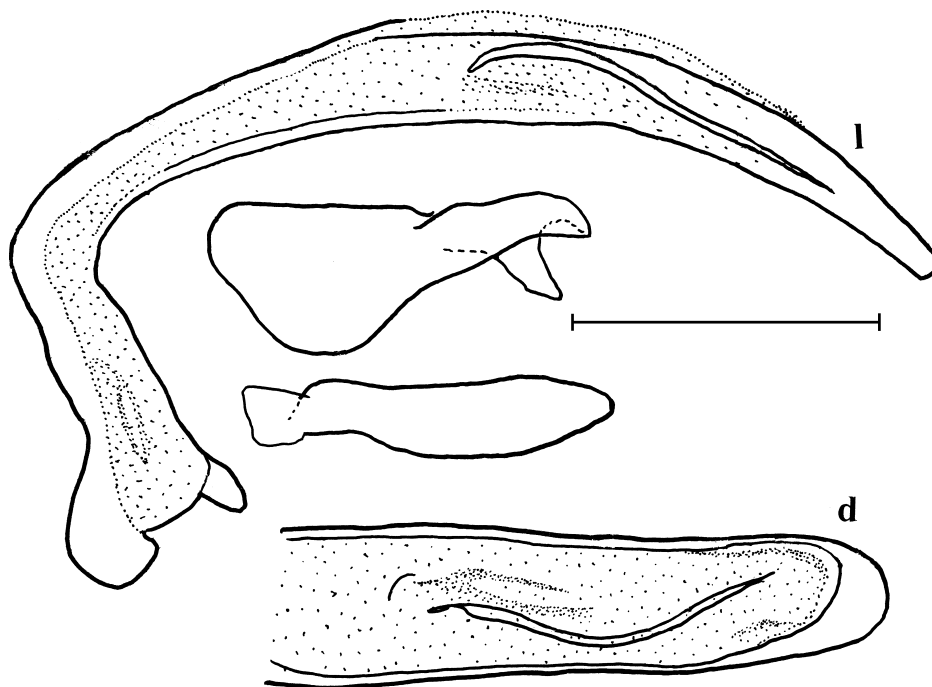


Fig. 6. Male genitalia of *Holosoma nigritum yae* N. ITO, subsp. nov. — l, Lateral view; d, dorsal view. Scale: 1 mm.

opaque, the eyes a little less prominent, the temples not developed, the apical segments of labial palpi not securiform and only weakly tumid medially, the pronotum wider in lateral furrows and a little more widely rounded at basal angles, the ventral surface almost not punctate, and the aedeagus thicker at apex.

*Brief description.* Body black, sometimes very slightly purplish, opaque. Head small, 0.55–0.57 times as wide as the pronotal width, sparsely punctate, longitudinally rugose in frontal impressions which are quite indistinct and very shallow; microsculpture consisting of clearly and fine isodiametric meshes. Pronotum one-fifth wider than long; base 1.8 times as wide as apex; surface wholly scattered with very sparsely and microscopic punctures; longitudinal grooves in basal foveae fine and short; microsculpture meshes similar to or a little more clear than those on head. Elytra nearly one-fourth wider than the pronotal width, 1.55–1.62 times as long as wide; dorsal punctures similar to those on pronotum. Metepisterna well transverse, twice as wide as long. Sixth abdominal sternite coarsened in apical area, weakly arcuate and bisetose at apical margin in both sexes. Hind tarsi nearly 1.90 times in male and 1.60–1.70 times in female as long as the width of head, 1st segment as long as the 2nd and 3rd taken together, 2nd one-ninth longer than the 3rd and one-fourth longer than the 4th, claw segment hexasetose along each ventral margin. Aedeagus (Fig. 6) gently arcuate in part before curving point; apical lobe transverse, widely rounded at distal margin; sclerite in inner sac long.

Length. 15.3–17.7 mm. Width. 6.2–7.0 mm.

*Holotype.* ♂, Naping, alt. 2,000 m, North Sichuan, China, 12–VI–2010, A. GORODINSKI leg. Paratypes: 2 ♂♂, 6 ♀♀, same data as the holotype; 3 ♂♂, 5 ♀♀, ditto, alt. 1,700 m, 15–VI–2012.

*Remarks.* The type locality of new subspecies, Naping is about 7–80 km northeast of the nominotypical species's type locality, Jiuzhaigou, Sichuan.

*Etymology.* The subspecific name is derived from my niece, Ms. Yae MARUBAYASHI who has been continuing to help my field works in Nagano Prefecture.

### Key to Species of the Genus *Holosoma*

1. Body aeneous blue to slightly purplish in colour. .... 2
- 1'. Body not bluish. .... 5
2. Body smaller, less than 17 mm in length. .... 3
- 2'. Body larger 19–23 mm in length, 7–8 mm in width. .... 4
3. Body lighter in colour; elytra punctate. .... *Holosoma sciackyi* KIRSCHHOFFER
- 3'. Body darker in colour; elytra not punctate. .... *Holosoma opacum* SEMENOW
4. Body more light blue in colour; pronotum not sinuate at sides near base .....  
..... *Holosoma speciosum* N. ITO
- 4'. Body more dark blue in colour; pronotum slightly sinuate at sides near base. ....  
..... *Holosoma weigoldi* (HELLER)
5. Body almost black in colour. .... 6
- 5'. Body greenish in colour. .... 9
6. Body smaller in size 13 mm. .... *Holosoma rambouseki* JEDLIČKA
- 6'. Body smaller in size 15–17 mm. .... 7
7. Body ovate, sometimes hardly greenish. .... *Holosoma misaoae* N. ITO, sp. nov.
- 7'. Body oblong, more elongate. .... 8
8. Head more strongly opaque; eyes prominent; pronotum more widely rounded at basal angles;  
ventral surface moderately punctate. .... *Holosoma nigratum nigratum* N. ITO
- 8'. Head less opaque; eyes weakly prominent; pronotum more narrowly rounded; ventral surface  
hardly punctate. .... *Holosoma nigratum yae* N. ITO, subsp. nov.
9. Body well elongate, larger, 18–21 in length. .... *Holosoma imurai* N. ITO
- 9'. Body ovate, smaller, 14–16 mm in length. .... 10
10. Body darker greenish, weakly ovate. .... *Holosoma namikoeae* N. ITO, sp. nov.
- 11'. Body more lightly greenish, fairly ovate. .... 11
11. Body greenish, though slightly bluish, smaller in size, 14 mm in length; elytra more or less  
clearly and seriatly punctate in 3rd, 5th and 7th striae. ....  
..... *Holosoma hedinii* (ANDREWES) (= *gansuensis* KIRSCHHOFFER, 1995)
- 11'. Body clearly grass green, larger in size, 16 mm in length; elytra more weakly seriatly punctate  
in 3rd, 5th and 7th striae. .... *Holosoma heros* KIRSCHHOFFER

### 要 約

伊藤 昇：*Holosoma*属の2新種及び1新亜種(鞘翅目オサムシ科)。——*Holosoma*属は中国特産の特異な一群である。本属の種は後翅が退化しているため、種分化が顕著で分布域が狭い。著者は最近再度本属の個体を検する機会があり、2新種と1新亜種と認めたので、*Holosoma namikoeae*, *H. misaoae*, *H. nigratum yae*と命名記載した。また全種の検索表を作成した。種名*namikoeae*は、信州の野外調査でお世話になり昨年結婚をされた、姪の牛山奈弥子氏(旧姓丸林)に謝意と祝意を表し、種名*misaoae*は、30年間以上信州での野外調査でお世話になり昨年米寿を迎えられた義母の丸林ミサオ氏にお礼とお祝いを申し上げる意で、亜種名*nigratum yae*は日ごろ野外調査でお世話になっている姪の丸林八重氏にお礼としてそれぞれ献名した。

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