

Three new species of the lady beetles of the tribe
Scymnini from Japan
(Insecta, Coleoptera)

MICHIKO ARAKI*

Clitostethus nakanei sp. nov.

Body very small in size, shortly oval and moderately convex above ; upper surface nearly black, the anterior margin of the clypeus, antennae, mouth parts, labrum, the narrow anterior margin of pronotum and the apical zone of elytra (one-seventh of elytral length) yellowish brown to reddish brown ; under surface black, legs and the apical area of abdomen reddish brown, but the femora blackish.

Head relatively large, finely and rather closely punctured ; eyes rather large in frontal aspect, with their inner margins rounded, markedly diverging both anteriorly and posteriorly in both sexes. Narrow apical margin of frons slightly expanded along the underside of eyes. Clypeus rather long, converging anteriorly and the anterior margin almost straightened. Pubescence of frons very closely set.

Pronotum transversely subpentagonal, somewhat strongly narrowing anteriorly, the anterior margin very shallowly emarginate, side margins slightly arched, basal margin roundly produced backwards at middle, anterior angles obtusely angulate with the tip rounded, posterior angles angulate ; punctuation closer but weaker than on the head. Scutellum small, triangular.

Elytra short, with apex rounded and humeral angles rather strongly raised ; disk somewhat coarsely, closely and shallowly punctured, with a microsculpture on the surface ; pubescence very densely set.

Under surface sparsely hairy only at side margins ; prosternum very short, two carinae nearly parallel and widely separated, but apically slightly converging and touching the anterior margin ; prosternal process quadrate, slightly longer than wide ; inner part bounded by the prosternal carinae densely granulate ; metasternum finely and rather closely punctured, with a microsculpture on the surface. Femoral lines of the 1st abdominal sternite incomplete, extending to three-fourths of the length of sternite, slowly recurved basally and ending near the lateral margin ; area bounded by the femoral line rather coarsely and closely punctured.

Body length : 1.4~1.5 mm.

Holotype (♂) : Kitashirakawa, Kyoto, Japan, 2. V. 1964, T. Nakane leg.

Allotype (♀) : same as the holotype.

Paratype : 1 ♂, Hozukyo, Kyoto.

This new species resembles *C. nagasakiensis* H. Kamiya in appearance, but may be easily separated from the latter by the following key :

1. Dorsal surface entirely black ; under surface black, trochanters and femora pitchy black. Elytra with a strongly punctured stria running along the suture. Male genitalia : siphon comparatively long and slender, with apical half scarcely curved outwards and basal half semicircular ; median piece of tegmen narrowing apically, with a sharply pointed apex in ventral aspect ; lateral lobe of tegmen slender and straight, shorter than four-fifths the length of the median piece

nagasakiensis H. Kamiya

2. Upper surface nearly black, the narrow anterior margin of pronotum and the apical zone of elytra yellowish brown to reddish brown ; under surface black, legs and the apical area of abdomen reddish brown, femora blackish. Elytra somewhat coarsely, closely and weakly punctured,

*=Mrs. M. Kosugi, Biological Laboratory, Kyoto Prefectural University

with a microsculpture on surface. Male genitalia : siphon very long and slender, with terminal portion gradually becoming thinner towards the apex ; siphonal capsule small ; median piece of tegmen long and slowly narrowing apically, with a bluntly pointed apex ; lateral lobe of tegmen very slender and short, its length only one-fourth the length of median piece

nakanei M. Araki sp. nov.

Scymnus (Pullus) kamiyai sp. nov.

Body moderate in size, oval and rather strongly convex above. Black, weakly shining ; head, antennae, mouth parts, clypeus, pronotum (except a large semicircular black marking at base) and the apical portion of elytra (occupying one-eighth of elytral length) reddish brown ; under surface black, prosternum (prosternal process black) reddish brown to blackish brown, legs and the apical area of abdomen widely reddish brown.

Head rather large and subquadrate ; finely and rather sparsely punctured ; frons wider than the length of an eye, which is oval and rather large ; pubescence of frons sparse, decumbent towards the middle of front ; clypeus fairly short (the ratio between the length and width is 3 : 7), with its anterior margin shallowly emarginate.

Pronotum nearly transversely trapezoided, moderately narrowing anteriorly, anterior margin deeply emarginate and nearly straight at middle, side margins rather arcuate, basal margin shallowly arched-produced and gently sinuate on both sides, anterior angles rounded, posterior angles angulate ; punctuation rather coarser and closer than on the head. Scutellum rather small, with a microsculpture on the surface.

Elytra barely long, with apex slightly rounded ; coarsely, rather closely and strongly punctured ; each elytron with two irregular rows of coarse punctures along the suture, but the rows disappeared at apical half.

Under surface very finely hairy ; prosternum rather long, two carinae narrowly separated, slightly converging apically and approaching to anterior margin, gradually diverging posteriorly ; inner part bounded by the carinae finely granulate ; metasternum very coarsely, strongly and sparsely punctured, but rather closely punctured on both sides ; abdominal sternites finely and closely punctured ; femoral line of the 1st abdominal sternite complete, extending to three-fourths of the length of sternite, drawing a small arc ; area bounded by the femoral lines, except marginal area, coarsely and closely punctured, but the punctures becoming gradually finer and closer inwards.

Body length : 2.0~2.4 mm.

Holotype (♂) : Kurama, Kyoto, Japan, 14. V. 1959, T. Nakane leg.

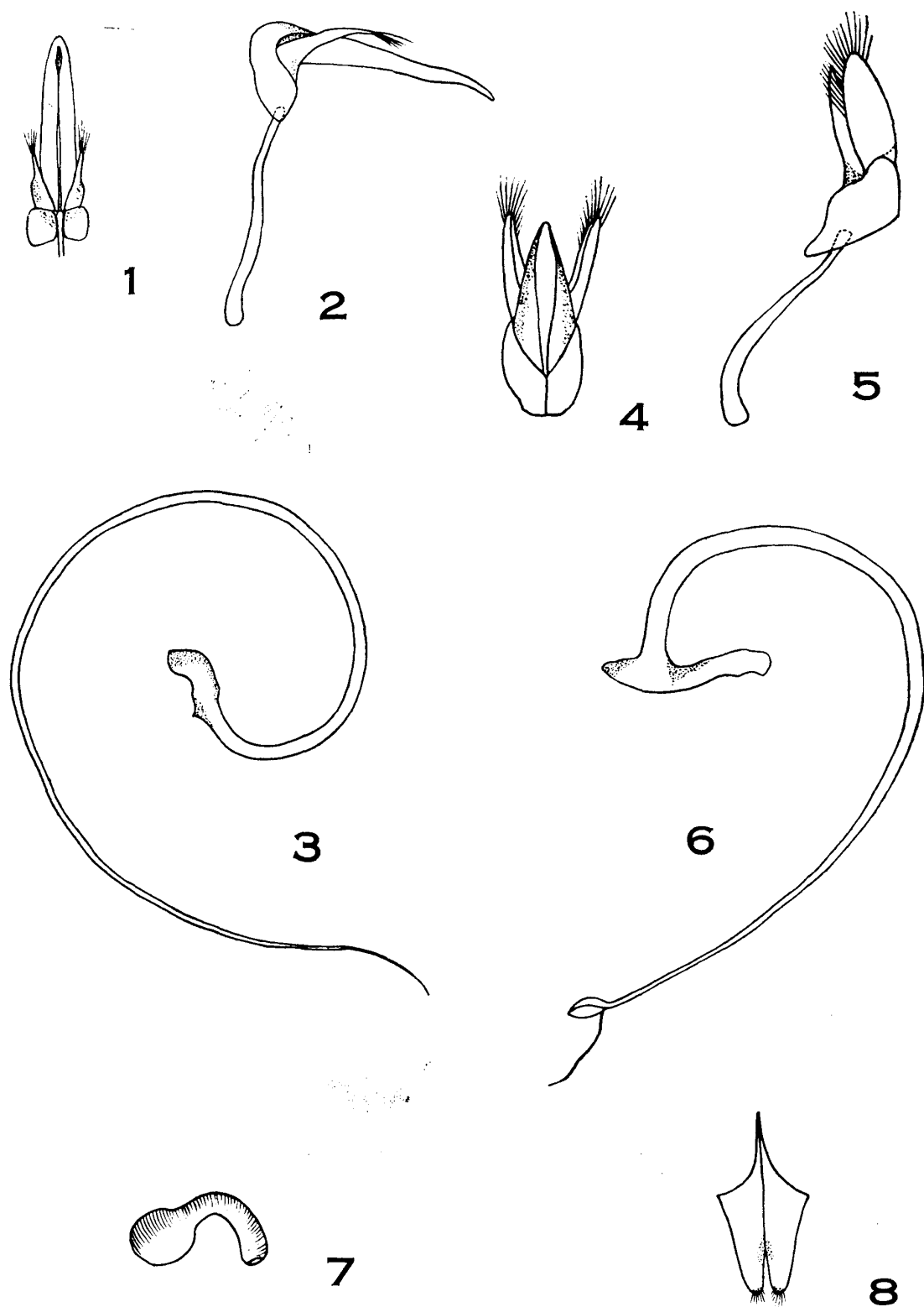
Allotype (♀) : Mt. Nachi, Kii, Japan, 5. V. 1952, K. Sakaguti leg.

Paratypes : 2 ♂, Arashiyama, Kyoto ; 1 ♂, Kumogahata, Kyoto ; 1 ♂ 1 ♀, Ohsugidani, Mie ; 1 ♂, Hikosan ; Kyushu, 1 ♂, Sogawa, Kii ; 1 ♂, Kamimiyori, Aizu ; 1 ♂, Mt. Seaburi, Aizu ; 1 ♀, Shingu, Kii ; 1 ♀, Sata, Ohsumi, Kyushu.

This new species resembles *S. (P.) kawamurai* Ohta in external view, but may be easily separated by the following key:

1. Pronotum reddish with a small black marking at base ; head and pronotum rather coarsely and strongly punctured ; punctuation of elytra very coarse, deep and close ; areas surrounded by the femoral line finely and very closely punctured. Median piece of tegmen of male genitalia long and slender, distinctly longer than lateral lobes ; siphon rather short, slightly swollen at the apical one-third ; thread-like process of siphonal apex short*kawamurai* Ohta

2. Pronotum reddish brown with a large semicircular black marking at base ; head and pronotum rather finely and weakly punctured ; elytra coarsely and rather sparsely punctured ; area bounded by the femoral lines, except marginal area, coarsely and closely punctured, but the punctures becoming gradually finer and closer inwards. Male genitalia: median piece of tegmen slightly shorter and thicker, slightly shorter than lateral lobes ; siphon rather longer, gradually becoming slender to the apex ; thread-like process of siphonal apex rather long... *kamiyai* M. Araki sp. nov.



Explanation of Figures

- 1-3. *Clitostethus nakanei* M. Araki
 1. male genitalia in ventral view; 2. ditto in lateral view; 3. siph.
 4-6. *Scymnus (Pullus) kamiyai* M. Araki
 4. male genitalia in ventral view; 5. ditto in lateral view; 6. siph.
 7-8. *Scymnus (Pullus) puellaris* M. Araki
 7. spermatheca; 8. genital plate.

Scymnus (Pullus) puellaris sp. nov.

Body very small, shortly oval and moderately convex above. Black, weakly shining ; the anterior margin of head, antennae, mouth parts, the anterior margin of pronotum (very narrowly) and the apical margin of elytra (one-twelfth of elytral length) yellowish brown ; under surface black, legs and the apical area of abdomen yellowish brown, prosternum and the basal portion of abdomen blackish brown.

Head rather large and transversely rectangled ; finely, somewhat closely and weakly punctured ; pubescence of frons rather close and decumbent towards the middle of front ; frons much wider than the length of an eye ; eyes small and oval ; clypeus very short, with its anterior margin nearly straight.

Pronotum almost transversely trapezoided, rapidly narrowing anteriorly, anterior margin shallowly arched-emarginate, side margins slowly rounded, basal margin gently projected posteriorly, arcuately so at middle, anterior angles rounded, posterior angles angulate ; punctuation nearly the same as on the head. Scutellum rather small.

Elytra relatively short, the apex slightly rounded ; disk rather coarsely and closely punctured, with a microsculpture ; each elytron with two irregular rows of coarse punctures along the suture.

Under surface rather coarsely hairy ; prosternum short, two carinae almost parallel and somewhat widely separated, but slightly converging apically and touching the anterior margin ; inner part surrounded by the prosternal carinae nearly smoothed ; metasternum rather coarsely, shallowly and closely punctured ; femoral lines of the 1st abdominal sternite complete, extending to three-fourths of the length of sternite, drawing a small arc ; area bounded by the femoral lines bearing seven or eight coarse and strong punctures ; abdominal sternite rather finely and closely punctured, with a microsculpture ; fifth abdominal sternite very long, and its length is twice the other sternites.

Body length : 1.5 mm.

Holotype (♀) : Yase, Kyoto, Japan, 19. IV. 1963, Y. Kishi leg.

Paratype : 1 ♀, Arashiyama, Kyoto, T. Kishii leg.

This species may be easily distinguished from *S. (P.) otohime* H. Kamiya by the following key :

1. A pair of red spots on elytra being long oblique oval. Head small, two-fifths as wide as body width, frons with very distinct coarse punctures ; pronotum pentagonal, anterior angles somewhat angulate, posterior margin marginated and weakly angulate ; punctuation of pronotum closer than that of frons ; elytra very strongly and coarsely punctured, weaker along the suture ; prosternal process rather short, prosternal carinae weakly narrowing anteriorly ; femoral line of the 1st abdominal sternite short, reaching apical one-fifth the length of sternite..... *otohime* H. Kamiya
2. Elytra black, without a pair of red spots. Head rather large and transversely rectangled ; frons finely, somewhat closely and weakly punctured ; pronotum almost transversely trapezoided, anterior angles rounded, posterior angles angulate ; punctuation nearly the same as on head ; elytra rather coarsely and closely punctured, with a microsculpture, each elytron with two irregular rows of coarse punctures along the suture ; prosternum short, two carinae almost parallel and somewhat widely separated ; femoral line of the 1st abdominal sternite extending to three-fifths of the length of sternite..... *puellaris* M. Araki sp. nov.

(本研究の一部は文部省科学研究費の援助による)