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A NEW TRIBE OF COCCINELLIDAE (Coleoptera)*

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Introduction

In August, 1957 and May, 1958, in the suburbs of Fukuoka city, Japan, the author discovered one species of small beetles that might be attacking *Aulacaspis difficilus* Cockerell together with some species of Coccinellidae and *Cybocephalus*. In the next year, this curious species was again collected on Mt. Hikosan, Fukuoka Prefecture, Japan. The general appearance of this species recalls some small Endomycid beetles belonging to the subfamily Mycetaeninae, but the author's detailed study on the anatomy of the beetle reveals that it may belong to the Coccinellidae and it is necessary to establish a new tribe and genus for the reception of this remarkable species.

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Sukunahikona H. Kamiya, gen. nov.

Type species: *Sukunahikona japonica* H. Kamiya, sp. nov.

General form very small in size, oval, convex, pubescent on the dorsal surface. In dorsal aspect, head invisible, covered by strongly bending pronotum.

Head faced to underside at the normal condition, relatively small with cylindrically projected anterior part. Compound eyes very small. Antennae ten-segmented, three terminal segments of antenna distinctly clubbed; antennal sockets separated from eyes for comparatively a long distance. Mandible without distinct apical tooth or basal one. Maxilla elongate in general form; apical segment of maxillary palp semifusiform with a pointed apex; lacinia smaller than galea. Prementum subquadrate; mentum elongate V-shaped; postmentum pedunculate; labial palp relatively long, three-segmented, each segment cylindrical. Gular sutures strongly narrowed at anterior half. Tentorium without a tentorial bridge; postentorium large, with a projected long posterior arm.

Pronotum subpentagonal, surface strongly convex, each of the lateral projected parts quadrate; the margin simple without any margination. In normal condition, prosternum almost covered by head and invisible from outside; prosternum not T-shaped as in the case of many of the other Coccinellidae; narrow furcal sternum of prosternum visible from outside, either basisternum or prosternal

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process very narrow, the latter without any carina; lateral half of anterior coxal cavities covered by pleura, pleural process short, not reaching prosternal process. Mesosternum transverse, either anterior or posterior or lateral margin arched to innerside; anterior part of mesosternum proceeded to front of middle coxal cavities, but strongly narrowed and not reaching mesoepimeron. Mesoepimeron not quadrate but elongate triangular. Metasternum quadrate, somewhat narrowed anteriorly, with incomplete arched femoral lines. Metendosternite characteristic as shown in Plate 3-I; stalk of furca quadrate much wider than long; long lateral process of ventral process and anterior tendons being near the apex of lateral arms of furca.

Elytra convex, each with eleven subregularly punctured striae, each puncture on stria bearing a short and suberect hair; intervals with less stronger punctures bearing long and erect hair on each. Lateral margins of elytra strongly margined by a distinct carina. Epipleuron of elytron relatively narrow. Hind wing with only a few veins.

Trochanter of each leg quadrate; tarsi four-segmented, the second segment lobed, the third very short; claws weakly swollen at middle as shown in Plate 3-M; posterior coxa not strongly transverse but oval.

Abdomen with six visible segments in both sexes, but segmentation between the first and the second ones is incomplete at median part. First abdominal segment with incomplete femoral lines and another arched carina at the base of lateral part. Fifth segment distinctly longer than each of the second, the third and the fourth segments.

Male genitalia very characteristic as shown in Fig. 2-A~G. Apodeme, appendage of ninth sternum, triangular with a pair of setae. Median piece of tegmen strongly depressed laterally; lateral lobes of tegmen very short with long flat setae on each lobe; median strust long; sipho weakly curved.

Female genitalia : tenth tergite long, V-shaped; each coxite long triangular with a stylus. Spermatheca divided into three parts.

This new genus may belong to the family Coccinellidae in having the following characters: characteristic male genitalia of Coccinellid type with a true sipho, tegmen divided into three parts; femoral lines on metasternum and first visible abdominal sternum; parallel tentorium without a tentorial bridge, etc. Although the last mentioned character has hitherto been almost neglected, the author has confirmed by his careful study on the comparative morphology of many Coccinellid groups and allied families that it is one of the very important characters in the family.

According to the classification of Coccinellidae that has long been adopted by many authorities, the new genus *Sukunahikona* is neither in the subfamilies Epilachninae nor Tetrabrachinae but in the third subfamily Coccinellinae which seems to be heterogenous.

As this new genus cannot be associated with any of the other known tribe of the Coccinellinae, it becomes necessary to erect a new tribe for the reception of the new genus.

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Sukunahikonini H. Kamiya, tribus nov.

Type genus: *Sukunahikona* H. Kamiya, gen. nov.

Diagnosis: generally small in size, dorsal surface pubescent; head capsule with a projected anterior part; compound eyes small; antennal sockets separated from eyes with some distance; mandible without apical and basal teeth; apical segment of maxillary palp semifusiform, with a pointed apex. Furcal sternum of prosternum visible from outside; prosternal process narrow; pleural process short, not reaching prosternal process. Metendosternite characteristic as shown in the description of the genus. Abdomen with six visible segments. Male genitalia: median piece of tegmen strongly depressed laterally.

This new tribe differs remarkably from any of the other tribe of the Coccinellidae, but has some relationship to the tribe Oeneini in the shape of the head capsule, mandibles, apical segment of the maxillary palp and the metendosternite.

Sukunahikona japonica H. Kamiya, sp. nov.

Body oval, pubescent on dorsal surface, entirely reddish brown or blackish brown. Head small, half as wide as pronotum; compound eye semicircular, less than a fourth of the head width; antennae ten-segmented, the first segment the longest, oval; the third a little longer than second and narrower, cylindrical; the fourth, fifth and sixth small; the seventh as long as the sixth, transverse; the eighth much wider, semitriangular; the ninth the largest, quadrate, wider than long; tenth, terminal segment oblong oval; antenna as long as head width. Apical segment of maxillary palp semifusiform, pointed, three times as long as wide; median segment of maxillary palp cylindrical, shorter than wide; basal

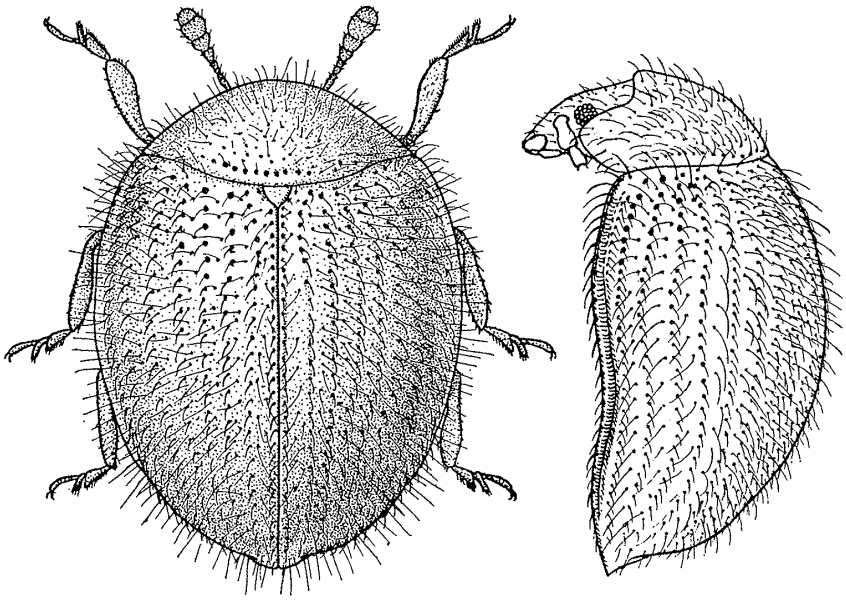

Fig. 1. *Sukunahikona japonica* H. Kamiya, gen. et sp. nov.

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segment long, narrowed basally. Each segment of labial palp longer than wide, apical one twice as long as basal one.

Pronotum very convex, subpentagonal, without any margination; anterior margin bisinuate; pronotum sparsely and finely punctured; strong punctures being along the posterior margin; each puncture on pronotum with a fine and somewhat long erect hair.

Scutellum triangular with the latero-posterior margins rounded, relatively large, with fine punctures.

Elytron with a lateral carina which is reaching the apical one seventh of the elytral length. Eleven strial punctures, with short suberect hair on each, very strong; the other punctures with long erect hair distinct but somewhat weaker than the former. On the median part of each elytron, these striae being irregular. The just lateral margin of the elytron bearing regular distinct hairs.

Prosternum and pterosternum as described in the generic description and shown in Plate 3-H.

Femoral lines of first abdominal sternum incomplete, arched, reaching posteriorly one seventh of first abdominal sternum and running nearly to the lateral margin of abdomen; the second basal lines short as shown in Plate 3-N. Second abdominal sternum half as long as the first; the third and fourth as long as the second; the fifth about twice as long as the former. Apical margin of sixth abdominal sternum rounded.

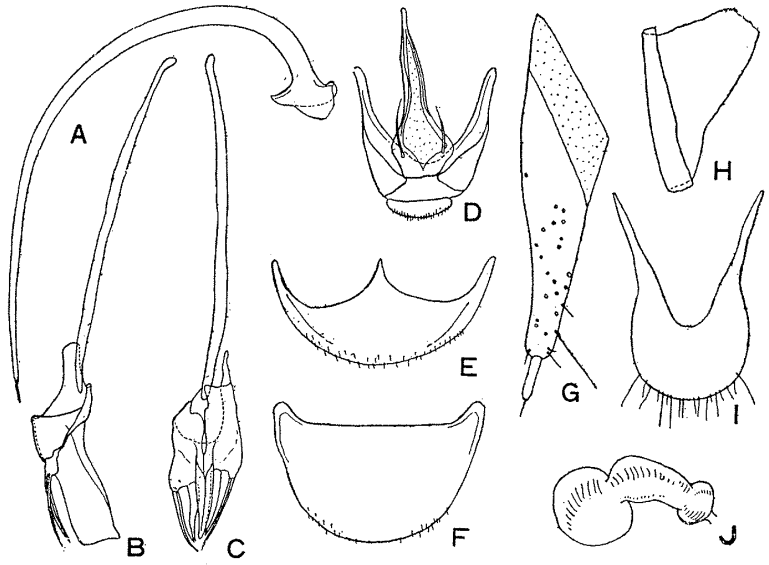

Fig. 2. Male and female genitalia of *Sukunahikona japonica* H. Kamiya, gen. et sp. nov.

A: Sipho, lateral aspect, B: Tegmen, lateral aspect, C: Tegmen, ventral aspect, D. Ninth abdominal segment of male, E: Eighth (visible sixth) abdominal sternum of male, F: Eighth abdominal tergum of male, G: Coxite (female genital plate), H: Ninth abdominal pleuron of female, I: Tenth abdominal tergum of female, J: Spermatheca.

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Male genitalia: sipho simple and slender, weakly curved; siphonal capsule very short; sipho narrowed toward apex. Tegmen short; median piece of tegmen strongly depressed laterally, quadrate, flattened, three times as wide in lateral aspect; lateral lobes of tegmen very short, dorsally depressed, each lobe bearing three flattened setae. Basal piece of tegmen irregular in form; median strust twice as long as the remaining part of tegmen. Apodeme of ninth segment long triangular with a pair of long setae widest at basal one fourth, median part of apodeme membranous.

Female genitalia: each half of the ninth sternite (coxite or genital plate) long triangular with a rather long stylus bearing a seta. Tenth tergite rather long, with a pair of long pointed processes at the anterior part; apical margin rounded, bearing about ten pairs of setae. Spermatheca with spherical parts on both ends, basal one small and apical one large.

The other characters of the male and female genitalia are as shown in fig. 2.

Body length: 1.00–1.08 mm., width: 0.75–0.80 mm.

Distribution: Japan(Kyushu).

Holotype: ♂, Mt. Wakasugi, near Fukuoka city, Kyushu, Japan, 18. v. 1958, H. Kamiya leg.

Paratypes: 2 ♂♂ 1 ♀, the same locality as the holotype, 11. viii. 1957, H. Kamiya leg.; 2 ♀ ♀, the same locality, 18. v. 1958, H. Kamiya leg.; 1 ♂, Mt. Hikosan, Fukuoka Pref., Kyushu, 12–14. vi. 1959, H. Kamiya leg.; 1 ♂, the same locality, 14–15. vi. 1959, K. Morimoto leg., 1 ♂, the same locality, 7. vi. 1959, Y. Miyatake leg.

The holotype and two paratypes are preserved in the collection of the Entomological Laboratory, Kyushu University, Fukuoka and the remaining paratypes in the author's collection.

Remarks

In general appearance, this new species, *Sukunahikona japonica* H. Kamiya resembles a Japanese Endomycid beetle, *Mycetophilus japonicus* Reitter, but the former is easily distinguishable from the latter in having the femoral lines on the first abdominal sternum.

Explanation of Plate 3

Sukunahikona japonica H. Kamiya, gen. et sp. nov.

A: Head capsule with antenna and mandible, ventral aspect, B: Inner side of head capsule showing the tentorium, lateral aspect, C: Labium, D: Maxilla, E: Mandible, F: Prothorax, ventral aspect, G: Hind wing, H: Pterothorax, ventral aspect, I: Metendosternite, J: Fore leg, K: Middle leg, L: Hind leg, M: Hind tarsus, N: Abdomen, ventral aspect.

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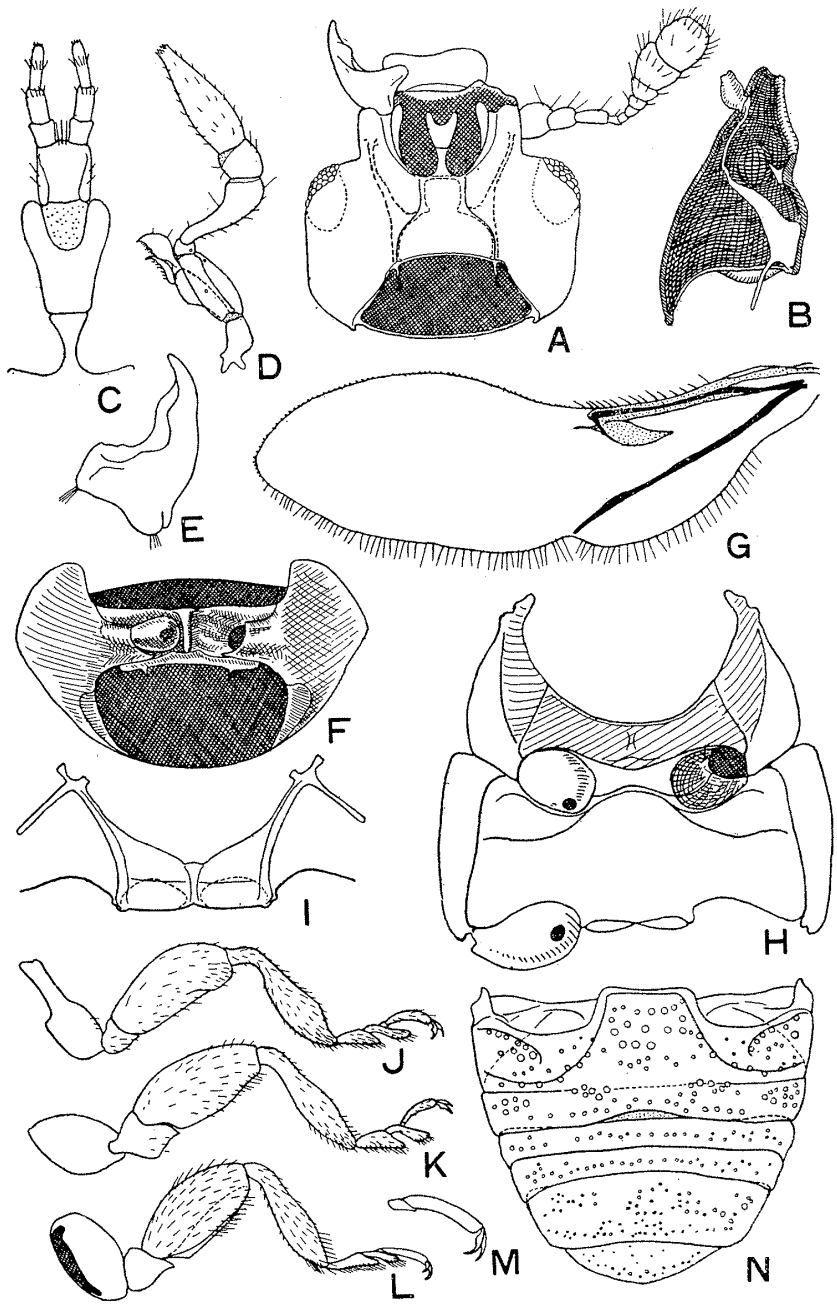

Kamiya — A new tribe of Coccinellidae

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