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Gonocephalum ficifolium, a New Species of Tenebrionidae from Japan (Coleoptera)[1)]

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Abstract ***Gonocephalum ficifolium,*** a new species of Tenebrionidae is described from Japan, which is an injurious pest to fig trees cultivated in a vinyl house in Kagawa Pref.

Gonocephalum ficifolium sp. nov.

Oblong oval, dark brown, gently convex, wholly, densely covered with short hairs.

Head weakly convex, rather densely granulate, every granule surrounded with narrow ridge, with a short hair at top of the granule. Clypeus roundly, strongly produced forwards, with a median deep notch in the middle, narrowly, strongly reflexed along the margin, clypeal suture strongly depressed, gena roundly, strongly expanded laterally, marginal part of eyes deeply grooved, with a row of long hairs along hind ocular margin; eyes rounded, rahter large, roughly faceted. Labrum with sides roundly warped outwards, with apical margin deeply, roundly sinuate; gena roundly, strongly expanded outwards; frons strongly convex. Antennae not reaching base of pronotum, relative length of each segment from base to apex: 8 : 2 : 10 : 5 : 5 : 5 : 5 : 5 : 5 : 5 : 5, apical five segments loosely clavate.

Pronotum transverse, 1.9 times as wide as long in the middle, medial 70% of dorsum weakly convex, remaining side areas depressed, marginal part roundly reflexed; disk wholly, densely granulate, each granule with a brown hair and surrounded with low and fine ridge; front margin deeply sinuate, front comers obtusely angulate, sides evenly arcuate, weakly constricted shortly in front of hind comers, hind angle acutely pointed latero-posteriorly, hind margin widely, bisinuate with a median faint cavity, shallowly grooved along hind margin on each lateral one-third. Prosternum transversely convex at a little behind median part, with subbasal part depressed in front of procoxal cavities, inter coxal area convex, with median part widely grooved. Scutellum wide pentagonal, irregularly punctate.

Elytra with base a little wider than pronotal base, widest at a little behind middle part, narrowly, wholly marginate at sides except for subapical part, rather strongly convex dorsally, punctate-striate, interstices convex, with two or three longitudinal rows of short hairs.

1) Contribution from the Hikosan Biological Laboratory, Faculty of Agriculture, Kyushu University, Hikosan (Ser. 4, No. 13).

Mesostemum with dense, fine hairs; metastemum convex, shallowly depressed at median part, very sparsely punctate, every puncture with a fine hair.

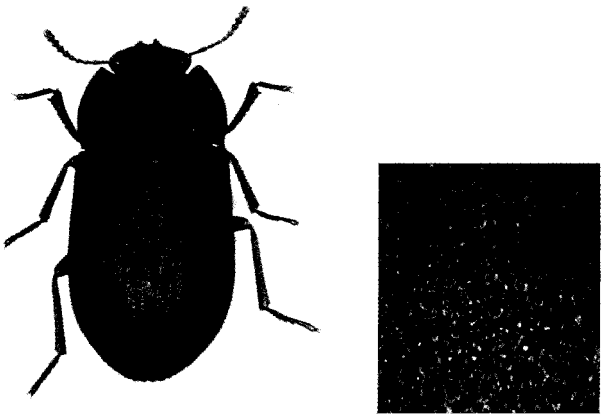
Visible abdominal sternites convex, sparsely punctate, every puncture with a short hair, shallowly depressed at median part of basal three sternites in male, last stemite narrowly, shallowly marginate at apical margin. Front tibiae nearly straight, gently dilate towards apex, ridged on upper surface, in entire length, obliquely truncate at apex, with rather thick hairs along outside margin, with dense and short spines on the under surface, hind tibiae slender, very weakly bent outwards. Front tarsi with terminal segment a little shorter than the rest put together, hind tarsi with terminal segment a little shorter than 1st segment.

Length: 7.9-9.4 mm. Width: 3.9-4.8 mm.

Distribution. Japan (S. Honshu, Shikoku & Kyushu).

Holotype: male (Type No. 2996, Kyushu Univ.), Takamatsu City, Kagawa, Japan, 30. iii. 1994, E. Matsumoto leg.

Paratopotypes: 72 males & 63 females, same collecting data with holotype. **Paratypes:** male, Mt. Maya-San, Hyogo, Japan, 8. iv. 1954, S. Tokunaga leg.; 3 males, Ikenobe, Kagawa, Japan, 15. x. 1960, M. T. Chûjô leg.; 2 females, Takematsu-shi, Kagawa, Japan, 15. v. 1961, M. Chûjô leg.; female, Miki-cho, Kagawa, Japan, 16. vi. 1961, M. T. Chûjô leg.; male, Takamatsu, Kagawa, Japan, 1. ix. 1961, M. T. Chûjô leg.; male & 2 females, Tsuda sea shore, Kagawa, Japan, 8. vi. 1963, M. T. Chûjô leg., male, Takamatsu shi, Kagawa, Japan, 20. vii. 1963, M. Chûjô leg.; 8 males & 6 females, Mt. Shiun, Kagawa, Japan, 8. iii. 1965, Y. Ohira leg.; male, Hakozaki, Fukuoka, Japan, 1. v. 1965, M. T. Chûjô leg.; male, Takamatsu-shi, Kagawa, Japan, 15. vi. 1965, M. Chûjô leg., 2 females, Takamatsu, Kagawa, Japan, 29. vi. - 24. vii. 1974, M. Satou leg.; male & 3 females, Nagasakibana, Kagawa, Japan, 29. v. 1976, A. Oda leg.; 18 males & 14 females (in the vinyl house of fig trees), 22. ii. 1994, E. Matsumoto leg.; 71 males & 67 females (in the vinyl house of fig trees), Takamatsu, Kagawa, Japan, 17. iii. 1994, M. T. Chûjô leg.; 58 males & 63 females (in the vinyl house of fig trees), 30. iii. 1994, E. Matsumoto leg.;female, Hakozaki, Fukuoka, Japan, 15. vi. 1962, M. T. Chûjô leg.; 2 males & 6 females, Hakozaki, Fukuoka, Japan, 10-30. vi. 1962, M. T. Chûjô leg.



A B

Fig. 1. A: Dorsal view of ***Gonocephalum*** *ficifolium* sp. nov. B: Enlarged surface of frons.

This new species is very close to G. coenosum Kaszab, 1954 from Japan, Korea, China and Formosa, but is separated from the latter by the following characters: generally larger, eyes also much larger, inter ocular area about 4.5 times as wide as transversal diameter of eye, 3rd antenna1 segment about 5 times as long as 2nd, pronotum with hind comers acutely produced latero-posteriorly, with both sides widely depressed and roundly reflexed, whereas in *coenosum* hind comers rectangular and both sides rather flat.

Biological brief notes. Beetles of the genus *Gonocephalum* Solier have been known as humivores. But present new species is the first case attacking sprout of cultivated fig trees in the non-heating vinyl house in the suburb of Takamatsu City, Kagawa Prefecture. Damage to fig tree is observed only in the vinyl house.

In the open habitat they usually stay in the soil or under some shelters (such as stones, fallen leaves, chips of decayed wood, and cut grasses), and feed on plant debris. But in the vinyl house, beetles of this new species hibernate in the adult stage in the shallow part of soil of the vinyl house, then climb up the sprouting fig tree and feed on the shoots. The humus was very scarce in the binyl house. No infestation by this species was recognized in the open culture plantation near the vinyl house.

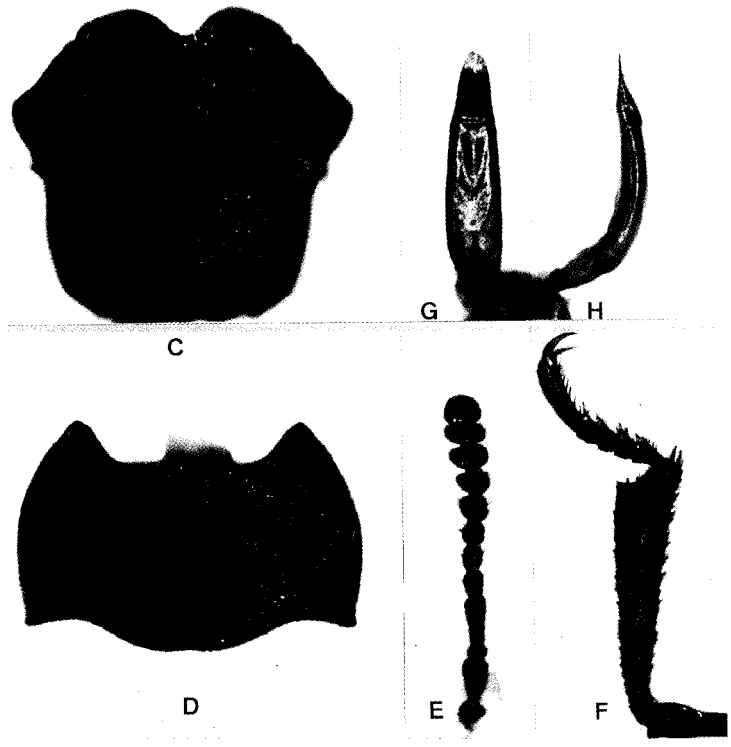


Fig. 2. C: Dorsal view of head. D: Dorsal view of pronotum. E: Dorsal view of right antenna. F: Dorsal view of left tibia and tarsi. G: Dorsal view of male genitalia. H: Lateral view of male genitalia.

It seemed that scarce hood and closed habitat make it to bring on shift of hood habit. They rapaciously bite the leaves and the bark of young twigs of fig, lettuce and also Chinese cabbage put on sandy soil in the small plastic container by experiment.

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