

Occurrence of the Genus *Dictyon* (Coleoptera, Staphylinidae,  
Aleocharinae) in the Ogasawara Islands, with  
Description of a New Species

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**Abstract** A new species of the aleocharine genus *Dictyon*, hitherto known from only Caucasus, is described from the Ogasawara Islands. Because of the apterous condition of the beetle, it is regarded as being endemic to the oceanic islands.

During the course of my study on the staphylinid fauna of the Ogasawara Islands (Bonin Islands), I found a small but strange species. After a careful examination of the specimens, it was concluded that this interesting species could be regarded as a new species of the genus *Dictyon* FAUVEL belonging to the tribe Mesoporini of the subfamily Aleocharinae. Up to the present, this genus has been monotypical, only one species, *Dictyon pumilio* (EPELSHEIM) being known from Caucasus. Therefore, this new species is a second species of the genus and is the first representative from the Pacific or the East Asian fauna. In this paper, I will describe and illustrate the new species under the name of *Dictyon insulicola*.

Genus *Dictyon* FAUVEL

*Dictyon* FAUVEL, 1900, Rev. Ent., Caen, **19**: 160 [type species: *Coproporus* (?) *pumilio* EPELSHEIM, fixed by original description and monotypy]. — LUZE, 1902, Verh. zool.-bot. Ges. Wien, **52**: 17.

This distinctive genus is characterized by a combination of the following characters: minute limulodid body, 11-segmented antennae with club composed of apical four segments, hind margin of elytra with deep arcuate emarginations inside posterolateral corners, tarsal formula 5–5–5 and lacking the defensive gland of 8th abdominal tergite (FAUVEL, 1900; SCHEERPELTZ, 1929; NEWTON, 1985).

*Dictyon insulicola* KISHIMOTO, sp. nov.

(Figs. 1–8)

Body length: 1.06–1.28 mm (from front margin of head to anal end); 0.53–0.57 mm (from front margin of head to elytral apices).

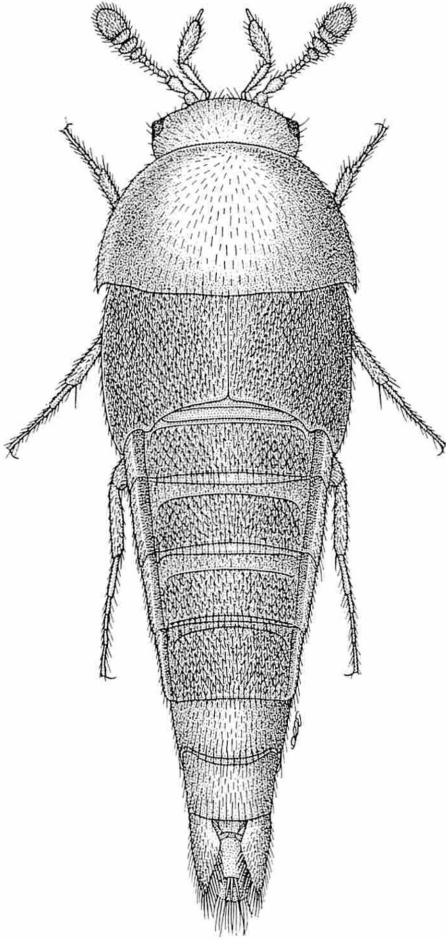


Fig. 1. Habitus of *Dictyon insulicola* sp. nov., ♂.

Body convex above, moderately shining. Colour reddish brown to dark reddish brown, antennae, mouth parts and legs somewhat paler.

Head subrectangular, strongly transverse (width/length=0.30/0.17 [mm]=1.76), broadest across compound eyes, anterior margin broadly rounded, clypeo-frontal part visible only in anterior aspect; surface smooth and moderately shining, moderately covered with silky pubescence. Eyes small but apparently pointed, longitudinal diameter of an eye less than a half as long as postocular part. Antennae (Fig. 2) very short and stout, extending to anterior third of pronotum; 1st segment large and subglobular (width/length=1.00), 2nd longer than broad (length/width=1.62), a little longer (2nd/1st=1.05) and narrower (2nd/1st=0.65) than 1st, 3rd broadened at apex, much shorter (3rd/2nd=0.54) and narrower (3rd/2nd=0.38) than 2nd, 4th to 7th each small and moniliform, 8th to 11th forming a large club, 8th to 10th each transverse, 11th very large and a little longer than broad (length/width=1.16); relative length (width) of

each segment from base to apex: 2.0 (2.0): 1.3 (2.1): 0.7 (0.8): 0.6 (0.5): 0.6 (0.4): 0.8 (0.5): 1.1 (0.7): 1.4 (0.8): 1.8 (0.9): 2.2 (0.8): 2.5 (2.9).

Pronotum strongly convex above, transverse (width/length=0.50/0.28 [mm]=1.79), broadest at posterior margin, with sides evenly and arcuately convergent to apex; posterior margin weakly and irregularly arcuate to almost straight, protruding posteriorly on each lateral end and pointed at the corners; surface smooth and moderately shining and similarly pubescent to head. Scutellum wide and transversely rhomboidal, though concealed under pronotum in ordinary condition. Elytra convex above and strongly transverse (width/length=0.50/0.31 [mm]=1.61) and almost as wide as pronotum, widest at anterior third, gently rounded at the sides and weakly narrowed posteriad, with a distinct deep emargination inside each postero-lateral corner; surface with fine, regular, diagonal reticulation and with relatively short pubescence. Legs rather short though the mid and hind tarsi are slender; tarsal formula 5-5-5. Hind wings absent. Abdomen strongly narrowed posteriad, well convex above; 3rd to 6th paratergites distinctly erect; surface covered with rather long pubescence and similar reticulation to that of elytra, which is sharply impressed particularly in anterior segments; 8th tergite (Fig. 5) elongate, apical margin ciliated, surface with fine and short pubescence, 9th tergite separated into right and left lobes, each densely bearing stout setae on its margin.

Male. Seventh abdominal sternite with a small tooth at the middle of posterior margin; 9th sternite rounded at posterior margin; 10th tergite almost membranous, with a pair of elongate tubercles, each bearing a long seta at the tip. Aedeagus (Figs. 3-4) with median lobe somewhat shaped like a gourd, bulbous at base, moderately constricted at the median part, relatively narrow but slightly dilated apicad at the apical part, and roundly produced at the apex; inner sac almost inerm, with small sclerotized portions; parameres slender and almost symmetrical, with four long distinct setae, two of which are located at the apical part and the others at apical third.

Female. Seventh abdominal tergite not modified. Spermatheca seemingly obliterated.

*Type series.* Holotype: ♂, Mt. Chibusa-yama, Haha-jima Is., Ogasawara Isls., 1-II-1997, T. KISHIMOTO leg. Paratypes: 1 ex., same data as for the holotype; 1 ex., Sekimon, Haha-jima Is., 5-VII-1997, T. KISHIMOTO leg.; 2 exs., same locality and collector as above (collected by using Tullgren funnel), 7-VII-1997. The type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture, Tokyo.

*Additional specimens examined.* 1 ♀, near Mt. Tenkai-san, Otôto-jima Is., Ogasawara Isls., 5-VII-1997, T. KISHIMOTO leg.; 4 exs., Ainosawa, Otôto-jima Is., 9-VII-1997, T. KISHIMOTO leg.; 1 ex., south part, Muko-jima Is., 8-VII-1997, T. KISHIMOTO leg.

*Distribution.* Ogasawara Islands (Haha-jima Is., Otôto-jima Is., Muko-jima Is.).

*Remarks.* This new species can be distinguished from *D. pumilio* (EPPELSHEIM) by very short and stout antennae with the 4th to 7th segments small and moniliform

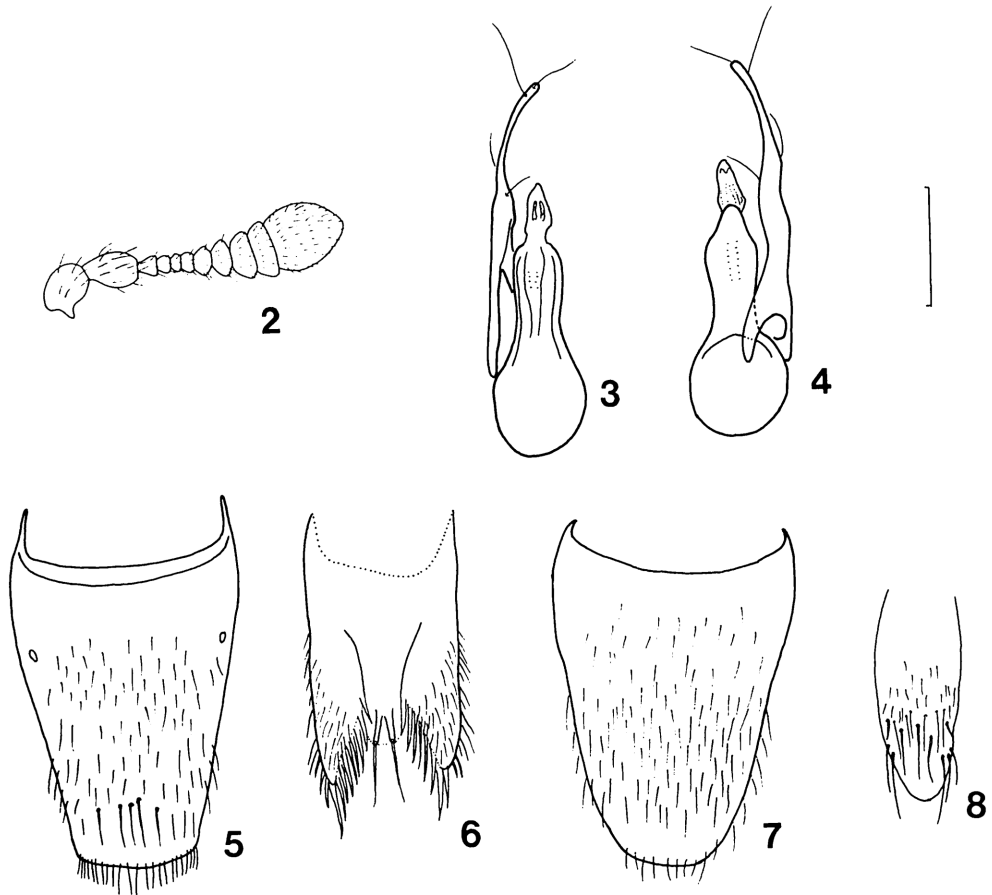


Fig. 2-8. *Dictyon insulicola* sp. nov., ♂. — 2, Antennae; 3, aedeagus, dorsal view; 4, same, ventral view; 5, 8th abdominal tergite; 6, 9th and 10th tergites; 7, 8th sternite; 8, 10th sternite. Scale: 0.1 mm.

and by the absence of hind wings. The type series was collected from relatively moist leaf litter in old evergreen forests situated in relatively well preserved areas and never discovered in dry or windy environment and in such forests disturbed by human activities. Judging from apterism prevalent in the beetles occurring on oceanic islands, this peculiar new species seems endemic to the Ogasawara Islands. If this be true, *Dictyon insulicola* may be the first staphylinid species endemic to these oceanic islands which are very remote from other islands or continents.

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### 要 約

岸本年郎： *Dictyon* 属の小笠原からの発見と1新種の記載。—— 小笠原諸島で発見された、非常に小型であるが顕著なハネカクシは、検討の結果、これまではコーカサスからただ1種しか知られていなかった *Dictyon* 属の新種であることがわかったので、シマツチケシハネカクシ *D. insulicola* KISHIMOTO と命名して記載した。また本種は後翅が退化していることなどから固有種だと考えられ、小笠原諸島からはじめての固有のハネカクシとなる。またこの種は、よく発達した森林の林床から採集されるが、人為的な攪乱の激しい森林からは見出されないことを報告した。

### References

- CAMERON, M., 1944. Descriptions of new Staphylinidae (Coleoptera). *Proc. r. ent. Soc. London*, (B), **13**: 11–15.
- FAUVEL, A., 1900. Nouveau genre de Tachyporien du Caucase. *Rev. Ent., Caen*, **19**: 160–161.
- LUZE, G., 1902. Die Staphyliniden-Gattung *Dictyon* FAUV. und Revision der paläarktischen Arten der Gattung *Conosoma* KRAATZ. *Verh. zool.-bot. Ges. Wien*, **52**: 17–39.
- NAOMI, S. I., & R. IWATA, 1996. *Kistnerium japonicum* NAOMI & IWATA n. gen. & n. sp., the first representative of the tribe Mesoporini (Coleoptera, Staphylinidae, Aleocharinae) from Japan, associated with termites (Isoptera: Phinotermitidae). *Sociobiol., Chico*, **28**: 73–81.
- NEWTON, JR., A. F., 1985. South temperate Staphylinidae (Coleoptera): their potential for biogeographic analysis of austral disjunction. In BALL, G. E. (ed.), *Taxonomy, Phylogeny and Zoogeography of Beetles and Ants*, 180–220. W. Junk, Dordrecht.
- SCHEERPELTZ, O., 1929. Staphyliniden aus Ostasien. (Gesammelt von Dr. H. EIDMANN, München.) (12. Beiträge zur Kenntnis der paläarktischen Staphylinidenfauna.). *Neue Beitr. syst. Insektenk.*, **4**: 114–142.