

## Two New Species of the Genus *Acropyga* (Hymenoptera, Formicidae) from Taiwan and Japan

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**Abstract** Two new species of the ant genus *Acropyga*, *A. (Atopodon) baodaoensis* sp. nov. from Taiwan and *A. (At.) nipponensis* sp. nov. from Japan, are described and illustrated.

The ant genus *Acropyga* is widely spread through temperate to tropical zone of the world. This genus is characteristic with 7-11-segmented antennae, 1-2-segmented maxillary and 3-segmented labial palpi, and divided into 4 subgenera, *Acropyga s. str.*, *Atopodon*, *Rhizomyrma*, and *Malacomyrma*. The subgenus *Atopodon* is restricted to Southeast Asia, including 6 known species.

FÖREL (1913) established the subgenus, describing 3 species, *A. termitobia*, *A. butteli*, and *A. inezae*. In 1915, he described 4th species, *A. amblyops*, and EMERY (1922) and KARAWAJEW (1935) added *A. ambigna* and *A. distinguenda*, respectively.

In the present paper, the author describes 2 new species of *Atopodon* from Taiwan and Japan.

### *Acropyga (Atopodon) baodaoensis* sp. nov.

(Figs. 1-13)

*Worker.* head length (HL) 0.63-0.65 mm; head width (HW) 0.55-0.60 mm; scape length (SL) 0.43-0.45 mm; cephalic index (CI;  $HW \times 100/HL$ ) 87-95; scape index (SI;  $SL \times 100/HW$ ) 74-81; WEBER's length of alitrunk (WL) 0.55-0.65 mm; alitrunk width (AW) 0.38-0.40 mm; petiole length (PL) 0.10-0.13 mm; petiole height (PH) 0.23-0.27 mm; dorsal petiole width (DPW) 0.13-0.15 mm; total length (TL) 1.9-2.2 mm. (Six individuals were measured.)

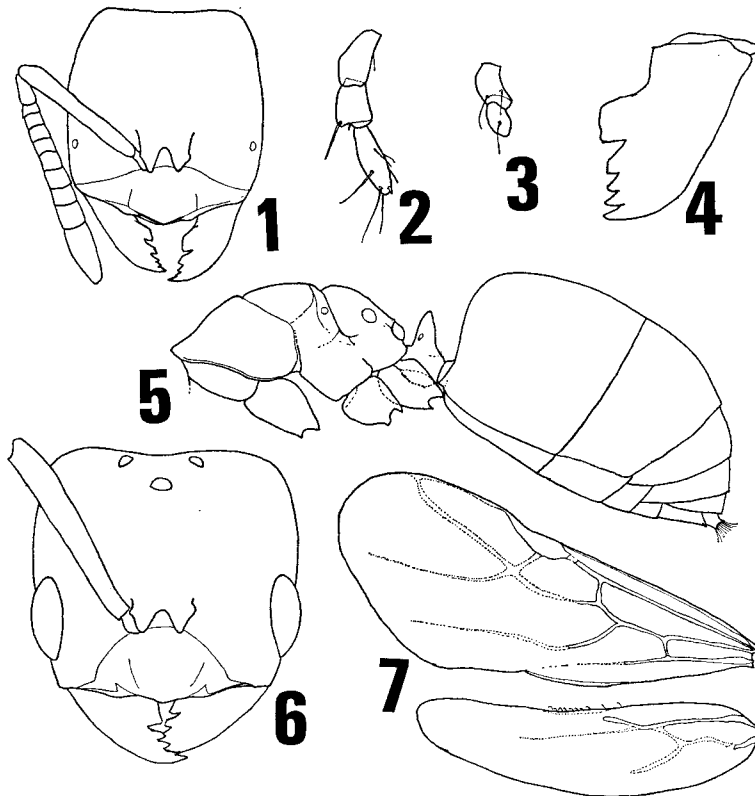
Head as in Fig. 1, slightly longer than wide, with slightly convex sides and shallowly concave occipital border. Mandibles subtriangular with 5 teeth; apical 3 smaller and pointed; 4th larger than apical 3, tip more rounded; basal tooth heavy and truncate, with straight opposable surface. Eyes small, 0.025 mm in maximum diameter, situated laterally about  $0.75 \times$  the distance from occipital corner to anterior cephalic corner. Antennae 11-segmented; scape almost reaching median occipital border; 10th segment as long as broad; last segment  $2.7 \times$  as long as broad. Anterior border of clypeus convex; median carina of clypeus distinctly raised. Frontal area distinct, subtriangular. Maxillary palpi 2-segmented, in a ratio of length from

the base 3 : 2; labial palpi 3-segmented, in a ratio of length about 3 : 2 : 4.

General form of alitrunk, petiole, and gaster as in Fig. 5. Alitrunk convex in profile; propodeum with sloping declivity; pro-mesonotal and mesonotal-propodeal suture distinct. Viewed from above, pronotum  $2.0\times$  as broad as long; propodeum broader than long. Petiole rather compressed antero-posteriorly; petiolar node thin, anterior face rather perpendicular, slightly curved posteriorly, posterior face slightly convex, sloping to the gaster. Subpetiolar process large, rounded.

Head, alitrunk, gaster shagreened; propodeum less shagreened and more shining. Mandibles shining with scattered shallow punctures. Clypeus sparsely punctate. Head and scapes with numerous suberect short hairs; anterior border of clypeus with 5 long hairs medially; dorsum of petiole with 3 to 4 distinct hairs.

Color pale yellow; vertex with large dark subtriangular spot; mandibles slightly reddish; mandibular teeth reddish brown.



Figs. 1-7. *Acropyga (Atopodon) baodaensis* sp. nov. (worker and female).—1, Worker, head, full face view; 2, worker, labial palp; 3, worker, maxillary palp; 4, worker, mandible; 5, worker, alitrunk, petiole and gaster, lateral view; 6, female, head, full face view; 7, female, fore and hind wings.

*Female.* HL 0.68–0.70 mm; HW 0.68–0.70 mm; SL 0.55–0.58 mm; CI 100; SI 81–83; WL 1.00–1.03 mm; AW 0.70–0.73 mm; PL 0.10 mm; PH 0.28–0.29 mm; DPW 0.23–0.25 mm; fore wing length (FWL) 3.3–3.4 mm; TL 3.1–3.3 mm. (Three individuals were measured.)

Head square as in Fig. 6. Eyes prominent, approximately 0.25 mm in maximum diameter. Median ocellus about 0.06 mm in diameter; lateral ocelli 0.15 mm in distance. Mandibles with 5 teeth, basal tooth as in workers. Antennae 11-segmented; scapes long, exceeding median occipital border; 2nd–8th segments wider than long respectively; 9th and 10th each as broad as long; terminal segment  $2.3\times$  as long as broad. Maxillary palpi 2-segmented; labial palpi 3-segmented; general form as in workers.

Scutellum convex in lateral view; propodeum rather straight. Petiole as in that of worker. Wing venation as in Fig. 7.

Head and gaster shagreened; alitrunk and petiole less shagreened than head and gaster; lower 1/2 of petiole almost smooth and shining. Body with yellowish hairs; scutellum with a pair of long erect hairs, which are about 0.15 mm in length.

Color brown; alitrunk lighter than head and gaster. Mandibular denticles reddish brown; vertex with dull black triangular spot which is enclosed by ocelli.

*Male.* HL 0.48–0.55 mm; HW 0.50–0.55 mm; SL 0.35–0.38 mm; CI 100–104; SI 69–70; WL 0.80–0.83 mm; AW 0.55–0.57 mm; PL 0.10–0.13 mm; PH 0.28 mm; DPW 0.25 mm; FWL 2.4–2.5 mm; TL 1.9–2.0 mm. (Three individuals were measured.)

Head as in Fig. 8. Eyes large and well convex, approximately 0.19 mm in maximum diameter. Mandibles with 4 teeth; apical 3 well developed, triangular; basal blunt, subrectangle-shaped. Antennae 12-segmented; 2nd segment  $3.0\times$  as long as broad; 3rd–11th segments wider than long respectively; terminal segment  $3.0\times$  as long as broad. Ratio of length of each segment from 10th to apical segment, 1 : 1 : 4. Maxillary palpi 2-segmented, slender, ratio of length from the base, 5 : 6; labial palpi 3-segmented.

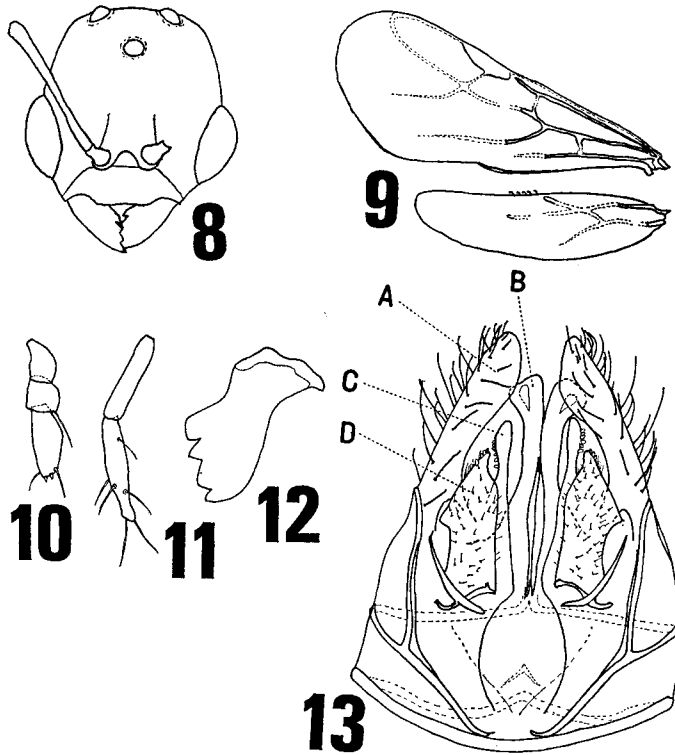
Dorsal outline of alitrunk round; petiolar node thin. Wing venation as in Fig. 9 and general form of genitalia as in Fig. 13.

Body surface subopaque with shallow punctures sparsely; mesoscutum and scutellum less punctated; propodeal declivity shining. Pubescence abundant on the whole body; mandibles with longer hairs.

Color fuliginous brown; blackish in the area enclosed by ocelli, and darker in mesoscutum. Antennal 2nd–11th segments yellowish, terminal segment darker. Mandibular denticles reddish brown; legs pale cream yellow.

Holotype: worker, 12. VIII. 1980, Nanshanchi (alt. ca. 800 m), Nanfen Cun, Ren'ai Xiang, Nantou Hsien, Taiwan, M. TERAYAMA leg.

Paratypes: 11 workers, 4 alate females, 3 males (from the same nest as holotype); 6 workers, 1 dealate female, 4 alate females, 2 males, 13. VIII. 1980, Nanshanchi, Nanfen Cun, Ren'ai Xiang, Nantou Hsien, Taiwan, M. TERAYAMA leg.



Figs. 8–13. *Acropyga (Atopodon) baodaensis* sp. nov. (male).—8, Head, full face view; 9, fore and hind wings; 10, labial palp; 11, maxillary palp; 12, mandible; 13, genitalia (A, paramere; B, aedeagus; C, digitus; D, cuspis).

The holotype is preserved in the collection of the National Institute of Agro-Environmental Sciences, and the paratypes in the collection of mine, the Taiwan Agricultural Research Institute, and the Osaka Museum of Natural History.

*Remarks.* Judging from the original description, this species is closely related to *A. distinguenda* from China, Tonkin in having the subrectangular form of the basal tooth and the tooth number (5) of the mandibles (*A. ambigua* with 6 teeth and the other species with the more or less half-circular basal tooth). *A. distinguenda* is distinguished from the present new species by the larger size (TL of worker 2.5–3 mm), the more projecting apical teeth of the mandibles, and the more convex mesonotum of worker.

*Acropyga (Atopodon) nipponensis* sp. nov.

(Figs. 14–18).

*Worker.* HL 0.58–0.60 mm; HW 0.45–0.48 mm; SL 0.38–0.39 mm; CI 76–

80; SI 81–84; WL 0.50–0.53 mm; AW 0.33–0.34 mm; PL 0.13–0.15 mm; PH 0.25 mm; DPW 0.14 mm; TL 1.8–1.9 mm. (Five individuals were measured.)

Head slightly longer than wide, with slightly convex sides and rather straight occipital border. Mandibles subtriangular with 5 teeth; apical 3 smaller and pointed; 4th larger than apical 3; basal tooth heavy and subrectangular. Eyes minute, consist of 1 or 2 indistinct facets, approximately 0.013 mm in maximum diameter, situated laterally about  $0.70\times$  the distance from occipital corner to anterior cephalic corner. Antennae 11-segmented; scape short, not reaching the occipital border; 3rd–9th segments broader than long respectively; 10th segment as long as broad; terminal segment  $2.3\times$  as long as broad. Clypeus with distinctly raised median carina, anterior border convex. Maxillary palpi 2-segmented, in a ratio of length from the base, 3 : 2; labial palpi 3-segmented, in a ratio of length from the base, 2 : 1 : 2.

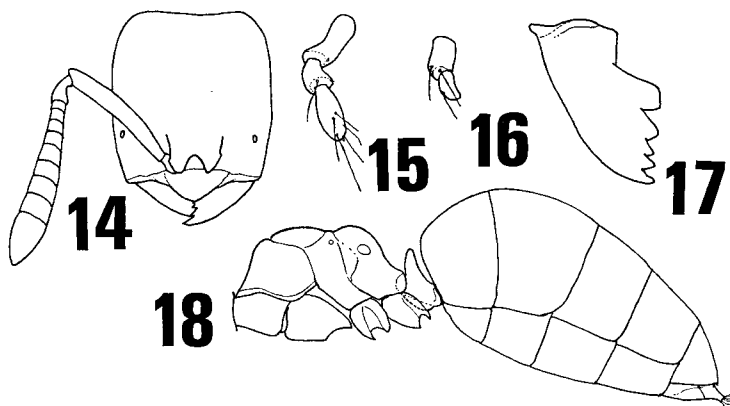
General form of alitrunk, petiole, and gaster as in Fig. 18. Dorsal outline of pro- and mesonotum convex in profile; propodeum with sloping declivity.

Head and gaster shagreened; alitrunk less shagreened and more shining. Mandibles and clypeus shining with scattered shallow punctures. Head and scapes with numerous suberect short hairs; Anterior border of clypeus with 5 long hairs medially; pronotum with 2 or 3 pairs of long erect or suberect hairs, mesonotum with 2 pairs of long hairs present.

Color pale yellow, gaster more whitish than head or alitrunk. Mandibles reddish, mandibular teeth reddish brown.

Holotype: worker, 30. III. 1980, Noboritachi, Mikura-jima Is., Tokyo, Japan, K. MASUKO leg.

Paratypes: 9 workers (from the same nest as holotype); 5 workers, 3. VII.



Figs. 14–18. *Acropyga (Atopodon) nipponensis* sp. nov. (worker).—14, Head, full face view; 15, labial palp; 16, maxillary palp; 17, mandible; 18, alitrunk, petiole and gaster, lateral view.

1983, Honcha Pass, Amami-ōshima Is., Kagoshima Pref., Japan, M. TERAYAMA leg.; 1 worker, 15. III. 1980, Shinaha, Yoron-tō Is., Kagoshima Pref., Japan, M. TERAYAMA leg.; 1 worker, 10. I. 1983, Tancha, Motobu-machi, Okinawa-hontō, Okinawa Pref., Japan, K. KINOMURA leg.

The holotype is deposited in the collection of the National Institute of Agro-Environmental Sciences, and the paratypes are in the collection of mine and the Osaka Museum of Natural History.

*Remarks.* This species closely resembles *A. baodaoensis* sp. nov., but differing in the following characters: 1. Head smaller and narrower (HL 0.58–0.60 mm, HW 0.45–0.48 mm, CI 76–80), in *baodaoensis* as opposed to HL 0.63–0.65 mm, HW 0.55–0.60 mm, CI 87–95. 2. Eyes smaller, about 0.5× in maximum diameter of *baodaoensis*. 3. Scapes shorter, 0.38–0.39 mm in length (0.43–0.45 mm in *baodaoensis*). 4. Occipital border of head less convex. 5. Gaster more whitish than head or alitrunk (same color in *baodaoensis*).

Materials from Mikura-jima Is. were taken from under a stone on the floor of broad-leaved forest, with ant-attended mealybugs, which belong to a new species of the subfamily Rhizoecinae (Homoptera, Pseudococcidae) (TERAYAMA, in prep.).

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