

FIG CHALCIDOIDS OF JAPAN.

By TEI ISHII.

Imperial Agricultural Experiment Station, Tokyo.

As is well known, fig Chalcidoids play a role in cross pollination of fig plants. Such a form as *Blastophaga psenes* is of great practical use for the production of the smyrna fig in Europe and America. Therefore, it is of argent importance, from the economic standpoint, to study not only their systematics but their biology as well. So far as I can learn, there can be distinguished in fig Chalcidoids such three families as Agaonidae, Torymidae and Eurytomidae. Of these the biology of only some *Blastophaga* belonging to the Agaonidae has been studied by CUNNINGHAM, GRANDI and BAKER to a certain extent.

Very little has been known of fig Chalcidoids inhabiting Japanese territories. The species already known are *Blastophaga nipponica*, *B. ishiana* and *B. callida* which were described by GRANDI. Under this circumstance, my special attention was first paid some years ago to the classification of our fig Chalcidoids and I was fortunate enough to be able to determine nine new species referable to seven genera and two families. Of those genera two appear to be new. In this account descriptions are given of those forms.

Here I deem it my duty to express my hearty thanks to Messrs. H. YASHIRO and S. MIKI for their kindness in placing some valuable specimens at my disposal.

Family AGAONIDAE 142272ハダ

Subfamily Agaoninae

Blastophaga nipponica GRANDI

GRANDI, Ann. Mus. Civico Stor. Nat. Genova, ser. 3a, IX, 1921, pp. 304-305; Boll. Lab. Zool. Portici, XV, 1922, pp. 205-212, figs. 1-3.

Host.—Fruit of *Ficus erecta*.

Habitat.—Nagasaki.

Blastophaga ishiana GRANDI

GRANDI, Ann. Mus. Civ. Stor. Nat. Genova, LI, 1923, pp. 101-103; Boll. Lab. Zool. Portici, XVIII, 1924, pp. 4-10, Figs. 1-3.

Host.—Fruit of *Ficus Wightiana*.

Habitat.—Nagasaki.

Blastophaga callida GRANDI

GRANDI, Boll. Soc. Entom. Ital., LIX, 1927, pp. 18-24, figs. 1-2.

Host.—Fruit of *Ficus foveolata*.

Habitat.—Nagasaki.

Euprista okinavensis n. sp. (Pl. I, figs. 1-10).

Female.—Brownish black in general. Antennae deep brown; scape and the first funicle joint pale brown. Wings hyaline, veins pale brown. Ovipositor dark brown. Legs pale brown except all the tarsi which are whitish. Head and body smooth with sparse fine hairs.

Head slightly wider than deep (22:19); frontovertex very broad; ocelli arranged in an obtuse-angled triangle; the posterior pair very near to the eye margins; malar space considerably shorter than the length of the eye; clypeal margin with three lobes, a short bristle on each side of the lobes; maxillae and labium much elongated; mandibles apically bidentate with six ventral ridges; the anterior edge much swollen, appendage narrow, about twice as long as wide, and with 13 ridges of which basal 2nd-4th are strong. Antennae 0.56 mm. in length, composed of 11 joints; scape stout with sparse numbers of stiff bristles on the inner side; pedicel as long as wide, the tip narrower than the base, and with sparse stiff bristles on the dorsal part; first funicle joint with a long and tubular sense organ, on the tip of which there is a small tooth-like spike; second slightly longer than wide at apex and with few bristles on the tip; third slightly wider than long and wider than the second, and with 3 long and tubular sense organs; fourth slightly longer and wider than the third, with 5 long and tubular sense organs and a disk-like sense organ on the tip of the outer margin; funicle joints 5-8 subequal in length and width, and slightly wider than long respectively and slightly wider and longer than the 4th; 5th with 5, 6th with 6, 7th with 5, and 8th with 4 long and tubular sense organs; club one jointed, pointed at tip, as wide as the tenth joint and as long as the 7th and 8th funicle joints combined, with about 17 long and tubular sense organs and a

ovate small furrow in which two stout spines are standing.

Pronotum sparsely pilose and striated on each side at the posterior margin; scapula with small bristles near the lateral side; parapsides with 3 small bristles; scutellum with 5 bristles; propodeum with 4 bristles behind the spiracle; metapleurae bare; spiracle is oval, and reticulated around it. Abdominal tergites 1-3 with transverse line of several bristles on each side; tergites 2-5 deeply incised in the middle of the posterior margins; ovipositor much longer than the abdomen, about 1 mm. in length.

Fore-wings 1.34 mm. in length and 0.68 mm. in width and uniformly ciliated except the basal part which is hyaline; stigmal and postmarginal veins obsoleted. Hind-wings uniformly ciliated except the basal part which is hyaline.

Fore-legs: rather stout; coxa twice as long as wide, with a row of about 20 bristles along the lower margin; femur thrice as long as the coxa, almost as wide as the width of the coxa, with short few bristles; tibiae very short, thrice as long as wide, as long as one half the femur, with sparse stiff bristles and two stout teeth at the tip dorsally and one short projection ventrally; the first tarsal joint considerably longer than the other joints; joints 2-4 subequal in length; last joint as long as the preceeding joints combined; joints 1-4 with two spines ventrally respectively.

Middle-legs; rather slender; coxa as long as wide; femur considerably shorter than the tibia, with sparse bristles; tibia with few bristles; tarsus much longer than the tibia; the first joint slightly longer than the other joints and joints 2-4 subequal in length; each joint with few stiff bristles.

Hind-legs: very stout; coxa about twice as long as wide; femur about twice as long as wide, longer than the coxa, and with sparse bristles; tibia much shorter than the femur, with few bristles, and two teeth on the tip ventrally, the inner one of which is bidentated, the outer one tri-dentate; tarsi with fringe-like hairs; joints 2-4 subequal, the first joint as long as the following two joints combined.

Length of body 1.6 mm. and width of thorax 0.44 mm. Male.—Unknown.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was reared from the fruit of *Ficus retusa* L. var. *nitida* by the writer, on March 22, 1927, at Naha, Okinawa, and is

closely allied to *E. verticillata* WATERSTON from Borneo, but differs in the following points:—

Maxillae and labium much elongated; mandibles with 13 ridges; a tooth-like spike of the first funicle joint more slender and sharpe; extreme apex of the club with a group of three sensory spines; spiracles of the propodeum round; area surrounding the abdominal spiracles reticulate.

Family TORYMIDAE

Subfamily Idarninae

Goniogaster inubiae n. sp. (Pl. I, figs. 11–19).

Female.—Shining green in general; mesonotum with a bronze reflection; antennae with scape yellowish red, and pedicel brown; funicle joints and club dark brown. Wings hyaline with the veins brown. Legs yellowish except the basal part of the hind coxae which are brown; apices of all legs pale brown.

Head wider than deep (33:23), subtriangle in frontal view and oblong in dorsal view; frontovertex very broad; ocelli arranged in an obtuse-angled triangle, the posterior pair separated from the eye margins by about their own diameter; vertex slightly depressed; eyes bare, almost as long as the cheek; scrobe shallow; toruli very near each other, situating below the middle of the face; a pair of longitudinal furrow between the toruli and the mouth edge, which are diverging towards below; clypeal margin with a sharp projection at the middle; mandibles bidentate, the lower tooth much larger than the upper one. Antennae 0.7 mm. in length; scape subcylindrical, moderately long; pedicel twice as long as wide at apex, slightly longer than the first funicle joint; there are two ring joints which are subequal in length and width; funicle joints equal in length and width; first joint slightly longer than the other joints; club three jointed, as long as the last three funicle joints combined; each joint of the funicle and of club with about 8 longitudinal furrow-like sensoriae. Thorax slightly narrower than the head; pronotum moderately long and wide; mesoscutum slightly wider and longer than the pronotum, and a little depressed at the middle; parapsidal furrows distinct; axillae much separated; scutellum as long as wide, and as the mesoscutum; propodeum with 3 longitudinal keels. Abdomen as long as the head and thorax combined and considerably wider than the thorax; segments subequal in length except the first which is a little

longer. Ovipositor very long, about 4 mm. in length.

Fore-wings 1.5 mm. long by 0.65 mm. wide, and sparsely ciliated except the part just below the marginal vein, where is hyaline; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 32:22:11:22. Hind-wings 0.93 mm. long by 0.23 mm. wide, and sparsely ciliated. Legs normal; fore-tibiae with a spur on the tip, which is bidentate at the tip; hind-tibiae with 8 spines on the outer margin.

Head and body raised reticulate; abdomen more or less coarsely reticulate. Clypeal region and each side of the propodeum with fine ciliae. Ovipositor with sparse ciliae.

Length of body 1.6 mm. and width 0.42 mm.

Male.—General colour yellowish red; eyes black; mandibles yellowish brown; apices of all legs brown.

Head subquadrate and slightly emarginate at the anterior margin and much wider than long (39:32). Mandibles edentate and stout; antennae inserted near the clypeal edge, about 0.45 mm. in length, and 11 jointed; scape rather stout, considerably dilated below and with a few short bristles; pedicel a little more than twice as long as wide at apex; funicle 6 jointed, the joints much wider than long, subequal in length, and slightly increasing in width distad; the second joint twice as wide as the third joint; club oval in shape, three jointed, much wider than the last funicle joint, and as long as the last four funicle joints combined. Pronotum very large, quadrate, considerably wider than long, the anterior margin rounded and the posterior margin emarginate, slightly wider than the head, and 3 bristles on the posterior corner, one of which is much longer than the others. Mesonotum much narrower and shorter than the pronotum; mesoscutum subquadrate, a little more than twice as wide as long; metanotum much narrower and shorter than the mesoscutum; propodeum considerably longer than the metanotum; stigma round. Abdomen small, much shorter and narrower than the thorax, and with a few short hairs.

Wings absent. Fore-legs: coxa large, considerably longer than the femur; femur considerably longer than the tibia; tibia as long as the tarsus, with about 16 spines on the tip. Middle-legs: tibia with about 35 spines on the outer margin and the tip. Hind-legs: tibia with about 30 spines on the outer margin and the tip; the last tarsal joint considerably enlarged.

Length of body 1.9 mm. and width of thorax 0.63 mm.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was reared from the fruit of *Ficus erecta* by the writer, on Sept. 25, 1921, at Nagasaki, and may be distinguished from *G. varicolor* MAYR by the colour of the abdomen and by the presence of a sharp projection on the clypeal margin.

Goniogaster gajimaru n. sp. (Pl. II, fig. 20).

Female.—Head and body shining green; abdomen with a bronze reflection; antennae brown except the scape which is yellowish brown; ovipositor brown with the tip darker. Wings hyaline with the veins pale brown. Legs pale yellow except the hind coxae which are pale brown.

Head wider than deep; mandibles as in the preceeding species; clypeal projection not so acute; frontovertex very broad; antennae 0.5 mm. in length, and 10 jointed exclusive 2 ring joints; scape cylindrical and slender; pedicel slightly longer than wide at apex; funicle joints sub-equal in length and width; each joint slightly wider than long; the first funicle joint as long as the pedicel; club as wide as the last funicle joint, and as long as the last three funicle joints combined; each joint of the funicle and club with about 5 longitudinal furrow-like sensoriae, and with sparse long hairs.

Fore-wings hyaline and with sparse short ciliae; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 23:17:10:19. Hind wings ciliated like the fore-wings.

Head, pronotum and mesonotum raised reticulate; propodeum and abdomen scaly reticulate.

Length of body 1.43 mm. and width of thorax 0.36 mm.; ovipositor 3.5 mm.

Male.—Unknown.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was bred from the fruit of *Ficus retusa* L. var. *nitida* by the writer, on March 22, 1927, at Naha, Okinawa, and allied to the preceeding species, but may be distinguished by the shape of the clypeal projection, shallow reticulation of the body, the postmarginal vein which is much longer than the marginal vein, and by the funicle joints and club which have much less numbers of sensoriae.

Philotrypesis okinavensis n. sp. (Pl. I, figs. 21—23).

Female.—yellowish red-brown in general. Antennae brown except the scape which is yellowish red-brown; abdominal segments 5-6 with transverse brown band at the base; segments 7-9 with a median longitudinal brown band; ovipositor black. Wings hyaline, the veins pale brown. Legs yellowish red-brown.

Head wider than deep (21:17); frontovertex a little more than half as wide as the head; ocelli arranged in an obtuse-angled triangle, the posterior pair separated from the eye margins by their own diameter; mandibles distinctly tridentate, the lower tooth largest; maxillary palpi 4 jointed; the first joint short, the second about twice as long as the first, the third as long as the first, the fourth long, about thrice as long as the third; labial palpi two jointed, the first as long as the second; toruli round, separated from the clypeal margin by twice their own diameter, and from each other by same. Antennae 0.7 mm. in length; 10 jointed exclusive 3 ring joints; scape cylindrical; pedicel considerably longer than wide at apex; funicle joints slightly wider than long, subequal in length and width; club a little wider than the last funicle joint and slightly shorter than the last three funicle joints combined; funicle joints and club with about 8 furrow-like sensoriae.

Mesonotum with distinct parapsidal furrows; axillae considerably separated; scutellum much shorter than the mesoscutum; mesoscutum and scutellum with a shallow median longitudinal furrow; propodeum with three longitudinal keels, the median one only indicated in the anterior half; abdomen almost as long as the head and thorax combined, long ovate; stalk very short; segments subequal in length; segments 8-9 abruptly narrowed with sparse bristles; ovipositor as long as the abdomen, more or less dilated at the middle, 1.8 mm. in length.

Fore-wings 0.64 mm. in width and 1.5 mm. in length; uniformly ciliated except the basal part; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 25:18:5:15; submarginal vein with about 10 bristles. Hind-wings hyaline and sparsely ciliated except the basal part.

Fore-legs: coxa considerably longer than wide; femur rather stout; tibia slightly shorter than the femur with a spur near the tip and two spines on the tip; tarsi 5-jointed, shorter than the tibia, the first joint as long as the second and third joints combined, the last joint as long as the preceding three joints combined.

Middle-legs: very slender, coxa small, twice as long as wide; femur much shorter than the tibia; tibia very slender with one spur; tarsus slightly shorter than the tibia, the first joint a little shorter than joints 2-3 combined. Hind-legs: coxa transversely stria-leticulate, a little shorter than the femur; femur rather stout; tibia considerably longer than the femur, with one spur; tarsus as long as the tibia, the first joint as long as joints 2-3 combined.

Head and thorax almost smooth, at most, faintly reticulated. Propodeum reticulate in the middle part.

Length of body 1.6 mm. and width of thorax 0.4 mm.

Male.—Unknown.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was reared from the fruit of *Ficus retusa* L. var *nitida* by the writer, on March 22, 1927, at Naha, Okinawa, and may be distinguished from other known species by the tridentate mandibles.

Otitesella ako. n. sp. (Pl. I, figs. 24-32).

Female.—Black in general with slight blue-green reflection. Wings hyaline, the veins pale brown. Legs dark brown except the tibiae and tarsi which are pale yellow; outer margin of the hind tibiae dark brown; terminal joint of all the tarsi pale brown. Head and body minutely scaly reticulate.

Head wider than deep (32:26), round in frontal view and oblong in dorsal view, frontovertex very broad; ocelli in an obtuse-angled triangle; cheeks as long as the length of the eyes; scrobe very shallow; mandibles tridentate; antennae 0.63 mm. in length, 10 jointed exclusive 3 ring joints and inserted near the middle of the face; scape rather short, cylindrical; pedicel as long as wide at apex; ring joints subequal in length and width; funicle joints subequal in length and width, slightly wider than long; the first joint as long as the pedicel; club 3 jointed, as wide as the last funicle joint, and as long as the last three funicle joints combined; funicle joints and club with about 10 furrow-like sensoriae.

Thorax as wide as the head; pronotum short and rather narrow; mesoscutum with distinct parapsidal furrows, posterior margin slightly emarginated medially; axillae small and widely separated; scutellum sub-triangle, as long as

the mesoscutum, and slightly convexed; propodeum short, with a pair of longitudinal keels; stigma round. Abdomen slightly longer than the head and thorax combined, more or less compressed; segments subequal in length. Ovipositor short, about one-seventh the length of the abdomen.

Fore-wings 1.5 mm. in length and 0.75 mm. in width, very sparsely ciliated in the apical half; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 35:18:8:13. Hind-wings very sparsely ciliated.

Legs normal; hind coxa as long as the hind femur. Length of body 1.8 mm.

Male.—Head quadrate, considerably wider than long (53:43), the posterior margin rounded and the anterior margin sinuated; eyes very small, very near to the anterior margin of the head; mandibles very stout and long, curved inwards, the tip bidentate, with a stout spine near the tip of the inner margin; antennae 0.84 mm. in length, 9 jointed; scape much dilated below with sparse hairs; pedicel thrice as long as wide at apex; funicle 5 jointed, the first joint slightly shorter than the pedicel, twice as long as wide, the second as long as one half the length of the first, slightly longer than wide, the third slightly longer than the second, the fourth as long and wide as the second, the fifth as long as the third; club indistinctly two jointed, as wide as the last funicle joint, and slightly shorter than the last three funicle joints combined.

Pronotum quadrate, much wider than long, the lateral margins rounded, and a little narrower than the head; mesonotum very short and much narrower than the pronotum; metanotum as wide as the mesonotum, twice as long as the mesonotum, with a pair of longitudinal keels diverging posteriorly; stigma round. Abdomen much shorter and narrower than the thorax; segments subequal in length with sparse hairs. Fore-wings of thread-like filaments, 0.39 mm. in length, with five long hairs. Legs stout: all tibiae with many spines on the outer margin and tip, with sparse, long bristles; tarsi 4 jointed, the last joint considerably dilated.

Yellowish red in general; tip of the mandibles dark; antennae paler.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was reared from the fruit of *Ficus Wightiana* by the writer, on April 2, 1924, at Fukuda near Nagasaki, and some-

what allied to *O. religiosa* Westwood, but differs from it in the shape of the mandibles, head and prothorax in the male.

Otitesella yashiroi n. sp. (Pl. II, figs. 1-5).

Female.—Black with a slight blue reflection; abdomen with a greenish reflection on the dorsal part; antennae brown except the scape which is pale yellowish brown; mandibles yellowish brown; wings hyaline; veins pale brown. Legs yellowish red-brown except all the coxae which are black; fore and middle femora darker.

Head, thorax and all the coxae raised-reticulate; abdomen rather smooth, faintly reticulate; propodeum raised-reticulate, with a median keel and a longitudinal furrow on each side.

Head wider than deep (26:23); frontovertex as wide as a little less than the half the width of the head; ocelli arranged in an obtuse-angled triangle, the posterior pairs separated from the eye margins by one and half their own diameter; scrobe very shallow; clypeal margin with two lobes; mandibles tridentate, the upper two teeth rounded at apex, the lower one sharply pointed; maxillary palpi 4 jointed, the basal two joints subequal in length and width, the third joint shorter than the preceeding joint, and the last joint as long as the preceeding two joints combined. Antennae 0.6 mm. in length; scape slender and cylindrical; pedicel slightly longer than wide at apex; there are two ring joints, the first half as long as the second; funicle 5 jointed, joints subequal in length, slightly wider than long except the first which is almost as long as wide; each funicle joint with about 5 furrow-like sensoriae and sparse hairs; club 3 jointed, slightly wider than the last funicle joint, and a little longer than the last 3 funicle joints combined, and each joint with about 8 furrow-like sensoriae.

Fore-wings 1.3 mm. long by 0.66 mm. wide, sparsely ciliated except the basal part which is hyaline; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 23:12:5:6; marginal vein with 7 bristles.

Fore-and hind-legs stout; hind coxa large, slightly shorter than the hind femur; middle legs slender.

Male.—Pale yellowish in general; mandibles brown.

Head sub-spherical in shape, much wider than long (16:10); mandibles very stout, about 0.36 mm. in length, and bidentate at apex, with a stout tooth near the base of the inner side. Antennae 0.48 mm. in length; scape much

dilated, a little longer than the pedicel and flagellum combined; pedicel slightly longer than the wide; there are two ring joints; funicle joints 5 in number, the joints subequal in length and each joint as long as wide; club as long as the last two funicle joints combined.

Pronotum rectangular in shape, twice as long as wide and a little wider than the head; mesonotum much narrower than the pronotum.

Abdomen much shorter and narrower than the thorax; claspers of the genitaliae with 3 spines. Femora and tibiae of all the legs much dilated; all the tibiae with stout spines on the outer margin and apex except the basal third.

Length of body 1.26 mm.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was reared from the fruit of *Ficus retusa* L. var. *nitida* by H. YASHIRO, on May 2, 1924, at Naha, Okinawa, and is allied to the preceeding species, but differs in the following points:—

Antennae with 2 ring joints; pedicel longer than wide; funicle joints with much less numbers of sensoriae.

Eufroggattia okinavensis n. sp. (Pl. II, figs. 6-11).

Female.—Yellowish red-brown in general; mesopleurae and abdomen brownish; mandibles brown; antennae yellowish red-brown. Wings faintly clouded, the veins pale brown. Legs yellowish red-brown except the hind coxae and tibiae which are brownish.

Head wider than deep (50:36); frontovertex, at the anterior ocellus, as wide as seven-tenth the width of the head; ocelli arranged in an obtuse-angled triangle; cheeks as long as the one half the length of the eyes; scrobe indistinct; clypeal margin with two lobes; clypeal region depressed forming a semicircular part; mandibles very stout with three teeth, upper one is truncated; maxillary palpi 3 jointed, the first as long as the second, the third as long as the preceeding two joints combined; labial palpi 2 jointed, both joints subequal in length; toruli situated in the middle of the face, round, separated from each other by twice their own diameter. Antennae 0.88 mm. in length; scape rather short, considerably swelled in the apical half, and with sparse hairs; pedicel slightly

longer than wide at apex; ring joint thrice as wide as long; funicle 7 jointed, the joints subequal in length, slightly wider than long, increasing in width distad; club 2 jointed, as wide as the last funicle joints with about 6 furrow-like sensoriae.

Thorax as wide as the head; pronotum transverse quadrate, with 5 bristles on each side; mesoscutum with distinct parapsidal furrows, and with sparse hairs; axillae almost meeting, with 2 bristles; scutellum with 4 pairs of bristles; propodeum areolated; abdomen as long as the thorax and compressed; first segment occupying one half the length of the abdomen; the tip of the abdomen with sparse hairs; ovipositor hidden.

Fore-wings 2 mm. long by 0.83 mm. wide: sparsely ciliated except the basal half which is hyaline; marginal ciliae obsolete except the posterior part of the outer margin; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 65:14:9:3. Hind-wings sparsely ciliated.

Head, pronotum, mesonotum except the scutellum and abdomen feebly scaly reticulate; mesopleurae longitudinally stria-reticulate. Legs normal; hind tibiae with rather thick hairs.

Male.—Similar to the female in general feature, but the antennae more hairy, and mesonotum more brownish, abdomen much more depressed, and the first abdominal segment yellowish red-brown.

Length of body 2.5 mm.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was collected from the fruit of *Ficus retusa* L. var. *nitida* by Mr. H. Yashiro, on May 2, 1924, at Naha, Okinawa, and differs from *E. polita* ASHMEAD in the number of joints of the antennae of the male.

Odontofroggattia n. g.

Allied to *Eufroggattia* ASHMEAD, but may be distinguished by the antennae, 9 joints in the female, 8 joints in the male, the mandibles of the male which are 2 dentate, and by abdominal petiol of the male with a tooth on each side.

Genotype.—*Odontofroggattia gajimaru* n. sp.

Odontofroggattia gajimaru n. sp. (Pl. II, figs. 12-16).

Female.—Head, thorax and legs yellowish red-brown; abdomen brown;

wings hyaline, the veins pale brown.

Head wider than deep (33:27); frontovertex very broad; ocelli arranged in an obtuse-angled triangle; occipital margin rounded; scrobes very shallow; malar space as long as one half the length of the eye; clypeal margin with two lobes; mandibles tridentate; maxillary palpi 2 jointed, the first joint much longer than the second; labial palpi one jointed, and small. Antennae inserted a little below the level of the lower corner of the eyes; 0.57 mm. in length; scape rather slender and subcylindrical; pedicel slightly longer than wide at apex; ring joint slightly longer than wide, one half as long as the pedicel; funicle joints slightly wider than long, slightly increasing in width distad; first joint a little shorter than the pedicel; club almost as long as the last three funicle joints combined; funicle and club with 3-4 longitudinal furrow-like sensoriae.

Thorax slightly narrower than the head; pronotum considerably large, quadrate, with the anterior margin round, wider than long; mesoscutum considerably longer than the pronotum, with distinct complete parapsidal furrows; scutellum as long as the mesoscutum; propodeum with a median carina. Abdomen slightly shorter than the thorax, considerably compressed; the first segment twice as long as the second, segments 2-4 subequal in length, the remaining segments very short.

Fore-wings 1.5 mm. long by 0.63 mm. wide, with marginal ciliae and sparsely ciliated except the basal third; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 44:8:7:1. Hind-wings very sparsely ciliated except the basal part.

Head feebly, scaly reticulate with sparse hairs; pronotum, mesonotum, propodeum and abdomen smooth with sparse hairs; mesopleurae feebly reticulate. Legs normal; the hind tibiae with few spines on the outer margin.

Length of body 1.65.

Male.—Head wider than deep (30:22); mouth opening very broad; frontovertex very broad; ocelli arranged in an obtuse-angled triangle; eyes rather small; malar space about one half the length of the eye; mandibles considerably long, bidentate, curved inwards; maxillary palpi one jointed, a little longer than wide; labial palpi obsoleted. Antennae 0.47 mm. in length, inserted very near the clypeal margin; scape subcylindrical; pedicel twice as long as wide at apex, as long as the first and second funicle joints combined; funicle joints subequal in length, slightly increasing in width distad; the first

funicle joints as long as wide; club slightly longer than the last three funicle joints combined; funicle and club without sensoriae. Pronotum slightly longer than the mesoscutum; abdomen much shorter than the thorax, and compressed, with a short stalk which have a horn on each side. Wings similar to those of the female.

Length of body 1.9 mm.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was reared from the fruit of *Ficus retusa* L. var *nitida* by Mr. H. Yashiro, on May, 2, 1924, at Naha, Okinawa.

Acophila n. g.

Allied to *Eufrognatia* ASHMEAD, but may be distinguished by the number of antennal joints; 9 jointed in both sex, without ring joints.

Genotype.—*Acophila mikii* n. sp.

Acophila mikii n. sp. (Pl. II, figs. 17-22)

Female.—Black in general; antennae brown except the scape which is pale brown; mandibles brown. Wings hyaline, the veins pale yellowish brown. Legs dark brown except the tibiae and tarsi which are pale yellow; apices of all the legs pale brown.

Head as wide as deep; frontovertex very broad, about one half the width of the head; ocelli arranged in an obtuse-angled triangle; cheeks as long as the length of the eye; mandibles tridentate, the upper tooth truncate; maxillary palpi 2 jointed, the first joint a little longer than wide, as long as the second; labial palpi 2 jointed, the first joint twice as long as wide, slightly longer than the second. Antennae 0.65 mm. in length, inserted on the level of the lower corner of the eyes; scape cylindrical, rather short; pedicel as long as wide; funicle joints subequal in length and width, twice as wide as long; the first funicle joint slightly shorter than the pedicel; club as wide as the last funicle joint, and as long as the last three funicle joints combined; funicle and club with about 8-9 furrow-like sensoriae.

Thorax as wide as the head; pronotum short and transverse; mesoscutum with distinct parapsidal furrows; axillae widely separated; scutellum with apical margin round, and slightly convex; propodeum with a distinct median

keel; stigma large and round. Abdomen slightly longer than the head and thorax combined, and considerably wider than the thorax; segments decreasing in length towards the terminal segment; ovipositor hidden.

Fore-wings 1.8 mm. in length and 0.83 mm. in width, very sparsely ciliated; marginal ciliae very few; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 50:12:7:1. Hind-wings also very sparsely ciliated. Legs normal, rather slender.

Head and body smooth with few punctures.

Length of body 3 mm. and width of thorax 0.6 mm.

Male.—Yellowish red in general; front, mesonotum and abdomen dark brown; apices of all the legs pale brown.

Head slightly longer than wide, round-quadrate in frontal view; front-vertex broad: ocelli arranged in an obtuse-angled triangle. Antennae 0.45 mm. in length; scape subcylindrical in shape; pedicel as long as wide at apex; funicle joints increasing in width and length distad, twice as long as wide; the first funicle joint one half as long as the pedicel, much narrower than the latter; club ovate, as wide as the last funicle joint, and as long as the last three funicle joints combined; funicle joints and club without sensoriae.

Thorax as wide as the mesonotum; mesoscutum with distinct parapsidal furrows; axillae considerably separated; scutellum rounded at apex; abdomen as long as the thorax, considerably broader than the thorax; segments subequal in length.

Fore-wings 1.3 mm. long by 0.58 mm. wide, and uniformly ciliated except the basal part; submarginal, marginal, stigmal and postmarginal veins approximately in the ratio of 30:11:6:1.

Legs normal, the hind femora considerably stout and slightly longer than the coxae.

Head with sparse, erect hairs. Antennae with sparse hairs. Pronotum with sparse, erect, considerably long and brownish hairs; axillae with 2 bristles; scutellum with 4 pairs of bristles.

Fore-wings faintly clouded, the veins pale brown; hind-wings hyaline.

Length of body 3 mm.

Type in the collection of the Imperial Agricultural Experiment Station.

This species was reared from the fruit of *Ficus Wightiana* by Mr. S. MIKI, on May 12, 1925, in Formosa.

EXPLANATION OF PLATES.

PLATE I.

- Fig. 1. Maxillae and labium of female of *Euprista okinavensis* n. sp.
 „ 2. Mandible of same.
 „ 3.—4. Antenna of same.
 „ 5. Tip of antenna of same.
 „ 6. Stigma of propodeum of same.
 „ 7. Fore-leg of same.
 „ 8. Hind-leg of same.
 „ 9. Middle-leg of same.
 „ 10. Stigma of 8th abdominal segment of same.
 „ 11. Stigmal vein of fore-wing of female of *Goniogaster inubiae* n. sp.
 „ 12. Clypeal margin of same.
 „ 13. Mandible of same.
 „ 14. Antenna of same.
 „ 15. Mandible of male of same.
 „ 16. Antenna of same.
 „ 17. Fore-leg of same.
 „ 18. Hind-leg of same.
 „ 19. Middle-leg of same.
 „ 20. Clypeal margin of female of *Goniogaster gajimaru* n. sp.
 „ 21. Antenna of female of *Philotrypesis okinavensis* n. sp.
 „ 22. Ring joints of antenna of same.
 „ 23. Clypeal margin of same.
 „ 24. Antenna of female of *Otitesella ako* n. sp.
 „ 25. Stigmal vein of fore-wing of same.
 „ 26. Mandible of male of same.
 „ 27. Antenna of same.
 „ 28. Fore-leg of same.
 „ 29. Middle-leg of same.
 „ 30. Hind-leg of same.
 „ 31. Spur of hind-leg of same.
 „ 32. Fore-wing of same.

PLATE II.

- Fig. 1. Clypeal margin of female of *Otitesella yashiroi* n. sp.
 „ 2. Mandible of same.

- Fig. 3. Antenna of same.
 „ 4. Mandible of male of same.
 „ 5. Antenna of same.
 „ 6. Clypeal margin of female of *Eufroggatia okinavensis* n. sp.
 „ 7. Mandible of same.
 „ 8. Maxilla and labium of same.
 „ 9. Antenna of same.
 „ 10. Stigmal vein of fore-wing of same.
 „ 11. Antenna of male of same.
 „ 12. Clydeal margin of female of *Odontofroggatia gajimaru* n. g. et n. sp.
 „ 13. Antenna of same.
 „ 14. Stigmal vein of fore-wing of same.
 „ 15. Mandible of male of same.
 „ 16. Antenna of same.
 „ 17. Mandible of female of *Acophila mikii* n. g. et n. sp.
 „ 18. Clypeal margin of same.
 „ 19. Maxilla and labium of same.
 „ 20. Antenna of same.
 „ 21. Veins of fore-wing of same.
 „ 22. Antenna of male of same.
-



