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A List of *Metapocyrtus* Weevils (Coleoptera, Curculionidae, Entiminae) Intercepted at Import Plant Quarantine in Japan, with Descriptions of Two New Species

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Abstract We provided a list of seven *Metapocyrtus* weevils (Coleoptera, Curculionidae, Entiminae) intercepted at import plant quarantine in Japan, including descriptions of two new species, *Metapocyrtus* (*Trachycyrtus*) *nautilus* sp. nov. and *M*. (*T*.) *pinya* sp. nov., both of which had frequently been intercepted during import inspections of pineapples from the Philippines. Five out of the seven species including the two new species belong to the subgenus *Trachycyrtus* whose members are abundant in and around farmlands and thus easily gotten mixed with plants at harvest. Among them, *M*. (*T*.) *adspersus* Waterhouse, a Philippine species reported in recent years to be introduced to Peninsular Malaysia, was found on especially various imported plants including seedlings of ornamental plants from both countries, suggesting its great importance in plant quarantine in Japan. In addition, two female specimens from the Philippines were identified as *M*. (*T*.) sp. prob. *hederaephilus* Yoshitake described from Japan but considered to be an invasive species whose origin remains uncertain.

Introduction

The genus *Metapocyrtus* Heller is the most complex and diverse taxon within the tribe Pachyrhynchini, containing more than 220 species, the vast majority of which occurs in the Philippines (Schultze, 1925; Yap, 2008). On the contrary, only a few *Metapocyrtus* species are known from outside the Philippines: *M*. (*Trachycyrtus*) *immeritus subtangensis* (Schultze, 1925) from Lanyu Is., Taiwan (Schultze, 1937; Kôno, 1942 a), *M*. (*T*.) *kashotonus* Kôno, 1942 from Ludao Is., Taiwan (Kôno, 1942 b), and *M*. (*T*.) *yonagunianus* Chûjô, 1971 from Yonagunijima Is., the Ryukyus, southwestern Japan (Chûjô, 1971). Relatively recently, *M*. (*T*.) *hederaephilus* Yoshitake, 2012 was described from Mie Prefecture in central Honshu, Japan, which is probably an invader from the Philippines (Yoshitake *et al*., 2012). In addition, *M*. (*T*.) *adspersus* (Waterhouse, 1843) was recorded more recently from Peninsular Malaysia, which is considered to be accidentally introduced from the Philippines (Yoshitake *et al*., 2016).

To our knowledge, *Metapocyrtus* weevils with a relatively wide range of food plants are pests or potential pests of agricultural importance, sometimes causing severe damages on crops or ornamental plants. For example, adults of *M*. (*Dolicocephalocyrtus*) *trifasciatus* Schultze, 1925 are known to feed on citrus, coffee, avocado, and many other economic crops (Stephens, 1984). In addition, Panda (2002) reported that the following five *Metapocyrtus* weevils caused defoliation of a medical plant, *Cinchona calisaya* (Rubiaceae) on Mindanao Is., the Philippines: *M*. (*Metapocyrtus*) *bukidnonensis* Schultze, 1925, *M*. (*M*.) *lindabonus* Schultze, 1922, *M*. (*D*.) *lineaticollis* Schultze, 1925, *M*. (*D*.) *ruficollis* Waterhouse, 1841, and *M*. (*T*.) *apoensis* Schultze, 1925. *Metapocyrtus* (*T*.) *hederaephilus* was reported to cause serious damages on the cultivated English ivy, *Hedera helix* (Araliaceae)

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(YOSHITAKE *et al*., 2012). Furthermore, VASQUEZ *et al*. (2016) listed "*Metapocyrtus* sp." as a minor pest of the red cabbage, *Brassica oleracea* (Cruciferaceae), on Mindanao Is., the Philippines.

Metapocyrtus weevils have been intercepted under plant quarantine inspection at Japanese seaports and airports, mainly on imported pineapples and bananas from the Philippines by ship cargoes. In fact, GENKA & YOSHITAKE (2014) listed and figured two *Metapocyrtus* species intercepted from imported pineapples from the Philippines, though the authors could not identify them to species.

Here we provide a list of seven *Metapocyrtus* species intercepted by Japanese plant quarantine inspectors, two of which are unknown species to science and described as new in this paper.

Material and Methods

This study was based on specimens preserved in the Plant Protection Station, MAFF, Japan (PPS) and Institute for Agro-Environmental Sciences, NARO, Tsukuba (NIAES). All examined specimens were found during import plant inspections from 1966 to 2018, except seven specimens which had been collected in pineapple fields in the Philippines, and identified by ourselves in 2018. The holotypes of new species described herein are deposited at NIAES whereas paratypes are mostly preserved in the Research Division, Yokohama Plant Protection Station, Yokohama (RDPPS) and partially in NIAES. The methods used in this study were the same as those explained in YOSHITAKE (2011) except external structures were observed under an Olympus SZX16 stereomicroscope. Verbatim label data indicated by quotation marks are provided for the holotype. Label breaks are indicated by a slash ("/"). Any illegible label data is indicated by question marks. Weevil scientific nomenclature follows YAP (2008). Plant nomenclature follows YONEKURA and KAJITA (2003).

List of *Metapocyrtus* Weevils Intercepted at Import Plant Quarantine in Japan

1. ***Metapocyrtus*** (***Dolichocephalocyrtus***) sp.

(Figs. 1 & 2)

Specimen examined. 1 ♀, Manila, Luzon Is., Philippines to Tokyo Port, 13.VI.2007, H. WATABE, on a bunch of fresh bananas.

Notes. The examined specimen was taken from *Musa nana* (Musaceae) from the Philippines.

2. ***Metapocyrtus*** (***Metapocyrtus***) ***rugicollis*** (CHEVROLAT, 1881)

(Figs. 3 & 4)

Apocyrtus rugicollis CHEVROLAT, 1881, 439 (type locality: "Ins. Philipp.").

Metapocyrtus (*Metapocyrtus*) *rugicollis*: HELLER, 1912, 355; SCHULTZE, 1916, 135; SCHULTZE, 1925, 201, pl. 5, figs. 5 & 6; DALLA TORRE *et al*., 1931, 13; YAP, 2008, 253.

Specimen examined. 1 ♂, Quezon, Luzon Is., Philippines to Narita Airport, 27.X.2015, M. TOMIZAWA, on a bunch of *Guzmania* sp. as cut flowers.

Notes. This species is known to occur on Luzon Is., the Philippines. The examined specimen was taken from a bunch of *Guzmania* sp. (Bromeliaceae) which was imported as cut flowers from the Philippines.

Figs. 1–10. Dorsal and lateral habitus of *Metapocyrtus* spp. intercepted at import plant quarantine in Japan from 1966 to 2018. —— 1 & 2, *Metapocyrtus* (*Dolichocephalocyrtus*) sp. from the Philippines; 3 & 4, *Metapocyrtus* (*Metapocyrtus*) *rugicollis* CHEVROLAT from the Philippines; 5 & 6, *Metapocyrtus* (*Trachycyrtus*) *adspersus* WATERHOUSE from the Philippines; 7 & 8, *Metapocyrtus* (*Trachycyrtus*) *miser* FAUST from the Philippines; 9 & 10, *Metapocyrtus* (*Trachycyrtus*) sp. prob. *hedelaephilus* YOSHITAKE.

3. ***Metapocyrtus*** (***Trachycyrtus***) ***adspersus*** (WATERHOUSE, 1843)

(Figs. 5 & 6)

Apocyrtus adspersus, WATERHOUSE, 1843, 254 (type locality: "Philippine Islands").

Metapocyrtus (*Trachycyrtus*) *adspersus*: HELLER, 1912, 375; SCHULTZE, 1916, 135; SCHULTZE, 1925, 278, pl. 10, figs. 35 & 36; DALLA TORRE *et al*., 1931, 15; YAP, 2008, 257.

Specimens examined. 1 ♀, Philippines to Osaka Airport, 12.VI.1987, M. SUMIDA, on a seedling of *Phalaenopsis* sp.; 1 ♀, Philippines to Nagoya Port, 7.VIII.2014, Y. KAWAI, on a bunch of fresh bananas. Philippines to Nagoya Airport: 1 ♂, 25.VI.2001, H. NAKAZAWA, on a seedling of *Dracaena* sp.; 1 ♀, 4.IX.2002, T. MIZUNO, on a seedling of *Schefflera* sp. Philippines to Chubu Airport: 1 ♂, 1 ♀, 13.VI.2007, on a seedling of *Codiaeum* sp. (name of inspector lacking); 1 ♀, 18.IV.2012, Y. TATEMATSU, on a seedling of *Dracaena* sp.; 1 ♂, 16.VI.2010, on a seedling of *Dracaena* sp.; 1♀, 18.IV.2007, H. KURAHASHI, on a seedling of *Pilea* sp.; 3 ♂♂, 22.V.2013, Y. KOGA, on a seedling of *Polyscias* sp. 1♂, Philippines to Tokyo Port, 31.X.2013, K. HAYASHI, on a bunch of fresh bananas. 1 ♀, Bagy, Anilao, Labac, Lipa, Batangas, Luzon Is., Philippines to Hakata Port, 9.XI.2015, S. WADA, on a seedling of *Osmoxylon* sp. 1 ♀, Quezon, Luzon Is., Philippines to Narita Airport, 22.XII.2015, T. KURIHARA, on a bunch of *Cyperus* sp. as cut flowers. Malaysia to Narita Airport: 1 ♀, 14.X.2017, R. TOKUDOME, on a bunch of *Chrysanthemum* sp. as cut flowers; 1 ♀, 19.IX.2017, T. NISHI, on fresh Chinese chive; 1 ♀, 5.XII.2017, R. SAKABE, on fresh Chinese chive; 1 ♀, 6.III.2018, A. YOSHIDA, on fresh Chinese chive; 1 ♀, 4.VI.2018, T. HIRAMOTO, on fresh Chinese chive; 2 ♀♀, 19.VI.2018, Y. ZAHA, on fresh Chinese chive.

Notes. This species had been known to occur only in the Central and Eastern Visayas, the Philippines. Recently, however, this weevil was suddenly discovered in Peninsular Malaysia, suspected to be an invader from the Philippines (YOSHITAKE *et al*., 2016). The examined specimens were taken mainly from seedlings of the following ornamental plants from the Philippines: *Osmoxylon* sp., *Polyscias* sp. and *Schefflera* sp. (Araliaceae), *Dracaena* sp. (Agavaceae), *Codiaeum* sp. (Euphorbiaceae), *Phalaenopsis* sp. (Orchidaceae), and *Pilea* sp. (Urticaceae). We also examined specimens taken from a bunch of *Cyperus* sp. (Cyperaceae) imported as cut flowers from the Philippines, as well as from a bunch of *Musa nana* (Musaceae) imported as fruits from the country. Moreover, one of the examined specimens were found on a bunch of *Chrysanthemum* sp. (Asteraceae) imported from Malaysia as cut flowers and six of them were found on *Allium tuberosum* (Amaryllidaceae) imported as fresh vegetables from the country.

4. ***Metapocyrtus*** (***Trachycyrtus***) ***miser*** (FAUST, 1895)

(Figs. 7 & 8)

Apocyrtus miser FAUST, 1895, 8 (type locality: "nördlichen Theil der Insel Luzon").

Metapocyrtus (*Trachycyrtus*) *miser*: HELLER, 1912, 374, 375; SCHULTZE, 1916, 135; SCHULTZE, 1925, 265, pl. 11, figs. 9 & 10; DALLA TORRE *et al*., 1931, 17; YAP, 2008, 258.

Specimen examined. 1 ♀, Philippines to Haneda Airport, 24.II.1966, H. YAMAMOTO.

Notes. This species has been recorded from "Baguio", "Trinidad", and "Palali", northern Luzon, the Philippines, respectively (SCHULTZE, 1925). The associated plant of the examined specimen is unknown.

5. ***Metapocyrtus*** (***Trachycyrtus***) sp. prob. ***hederaephilus*** YOSHITAKE, 2012

(Figs. 9 & 10)

Specimens examined. 1 ♀, Philippines to Kobe Port, 27.V.2003, T. MURATA, on fresh yacón. 1 ♀, Lipa, Batangas, Luzon Is., Philippines to Chubu Airport, 19.IV.2018, N. SHIMIZU, on a seedling of *Ficus pumila*.

Notes. One of the examined specimens was taken from *Smallanthus sonchifolius* (Asteraceae) imported as fresh vegetables from the Philippines, whereas the other was taken from *Ficus pumila* (Moraceae) imported as seedlings of ornamental plants from the country. Both of them closely resemble *Metapocyrtus* (*Trachycyrtus*) *hederaephilus* in general appearance including the female secondary sexual traits.

6. ***Metapocyrtus*** (***Trachycyrtus***) ***nautilus*** sp. nov.

(Figs. 11–14 & 19–26)

Metapocyrtus sp.: GENKA & YOSHITAKE, 2014, 23, figs. 135 & 136.

Diagnosis. This new species is easily distinguished from other species within the subgenus *Trachycyrtus* by the following features: body relatively small, 4.23–4.81 mm (male) or 5.08–5.84 mm (female) in length; elytra rather densely covered with pale gray-brown round scales; elytral intervals III, V, and VII mottled with whitish scaly patches, which are arranged in a row on each interval but become obscure in old specimens; elytra more or less costate on intervals I, III, and V; and elytra dorsally flattish (male) or flattened (female).

Description. M a l e. LB: 4.23–4.81 (holotype 4.48; mean 4.52). LR: 0.99–1.15 (holotype 1.00; mean 1.06). WR: 0.76–0.86 (holotype 0.78; mean 0.81). LP: 1.29–1.56 (holotype 1.38; mean 1.42). WP: 1.57–1.76 (holotype 1.59; mean 1.67). LE: 3.11–3.51 (holotype 3.18; mean 3.30). WE: 2.27–2.51 (holotype 2.35; mean 2.40). N = 5 for all measurements. Habitus as shown in Figs. 11 and 12.

Integument black to dark brown; antennae, tibiae and tarsi often become paler. Body surface mostly weakly shiny, except intercoxal portion of each sternum subopaque.

Body sparsely covered with light-colored hair-like scales, mingled with round ones which are pale gray-brown with a slight luster. Forehead between eyes covered with pale gray-brown narrow elliptic scales. Head mostly subglabrous, sometimes with an obscure, narrowly transverse elliptic patch of metallic green oval scales on each side below eye. Prothorax covered with thinner hair-like scales than those on head, with two pairs of longitudinal bands of round scales on both sides in entire length: a pair of dorsolateral bands and another pair of broader lateral bands. Elytra with denser and more erect hair-like scales than those on prothorax, rather densely covered with round scales; each elytron with the following markings of whitish round scales: a short longitudinal band on base of interval III and several small oval patches on intervals III, V, and VII, respectively. Femora mingled with pale brown and whitish narrowly elliptic scales on subapical parts. Tibiae moderately mingled with fine light-colored hairs which become longer apically; each tibia fringed with longer and stouter hairs on internal margin. Underside sparsely covered with fine, long, suberect light-colored hairs; metasternum and ventrite I each with a large scaly patch of round scales on each side; patches transverse, subrectangular; ventrite V furnished with denser hairs on apical half.

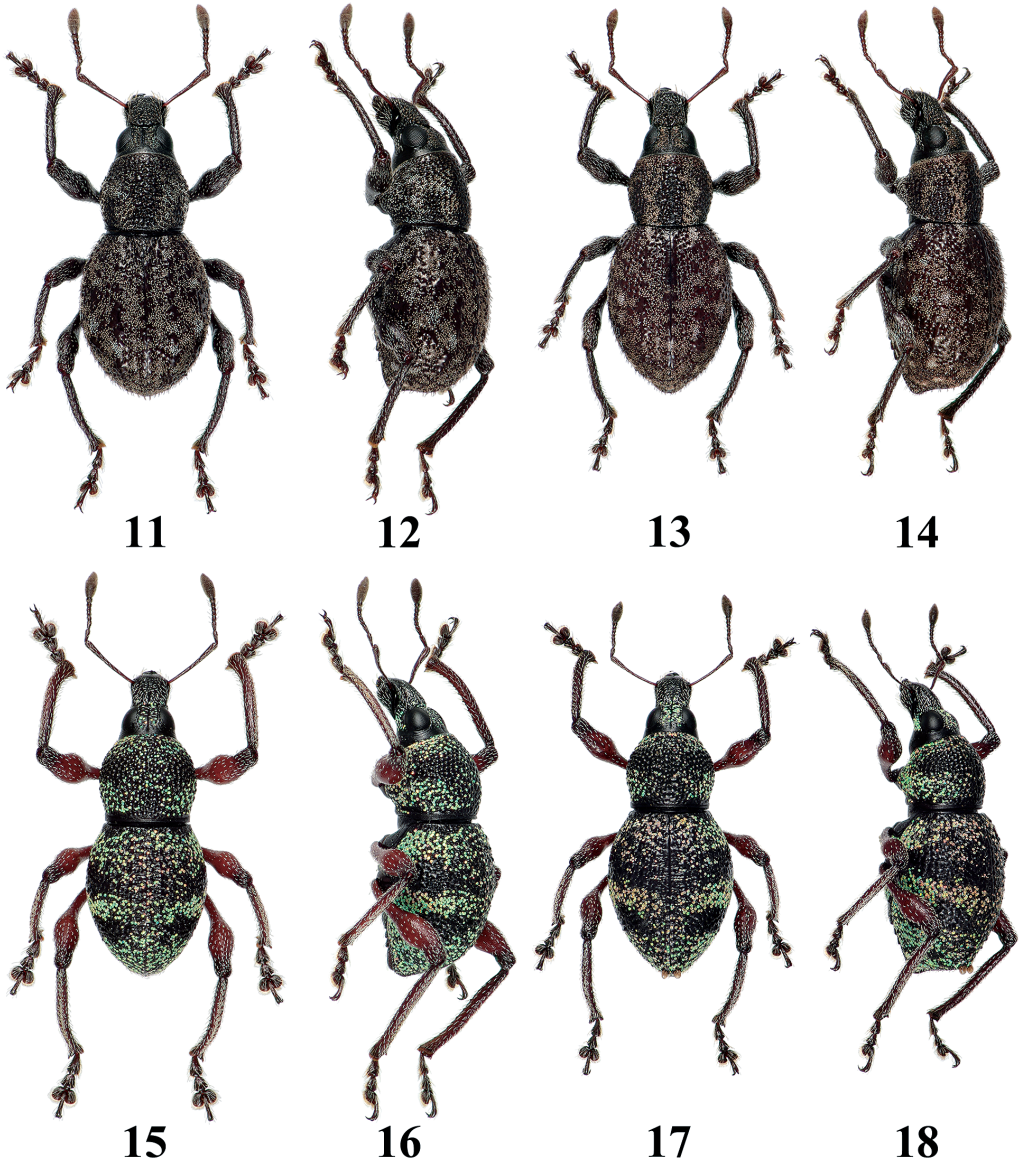
Body gourd-shaped. Forehead slightly depressed, sparsely finely punctured, finely grooved along midline in entire length; groove relatively shallow, abruptly widened at apex. Eyes moderately prominent from lateral contour of head. Antennae with scape slender, nearly as long as funicle; funicular segment I nearly 3.0 times as long as wide, slightly longer than II; segment II nearly twice as long as

wide, nearly 2.5 times as long as III; segments III–VI subequal in length, nearly as long as wide; segment VII more transverse, wider than VI; club lanceolate, nearly twice as long as wide. Rostrum slightly longer than wide, LR/WR 1.25–1.37 (holotype 1.28, mean 1.31), weakly widened apicad; dorsum rather strongly rugosely punctured, with a shallow transverse groove at base in entire width, a short shallow groove along midline on basal 1/5, and a large shallow oval depression along midline on basal half; punctures become smaller on apical 1/3; dorsal contour weakly discontinuous with forehead, nearly flat on basal 2/3, and then gently declined apicad; dorsolateral part on each side with a shallow subtriangular depression between dorsolateral edge of rostrum and upper margin of antennal scrobe which is interrupted by depression; ventral surface flattened and unarmed medially. Prothorax subglobular, slightly wider than long, WP/LP 1.13–1.22 (holotype 1.15, mean 1.18); dorsum moderately convex, coarsely and densely granulate, often with a short obscure shallow groove in middle along midline; granules becoming smaller on sides; dorsal contour highest just behind middle; sides gently dilated from moderately constricted base, widest just before middle, and then gently convergent to weak subapical constriction; basal margin subtruncate, not emarginate in middle; apical margin barely narrower than basal margin, shallowly arched anteriorly; subbasal groove entirely distinct; subapical groove often indistinct dorsally. Elytra subobovate, LE/WE 1.35–1.40 (holotype 1.35, mean 1.38), moderately wider and much longer than prothorax, WE/WP 1.36–1.48 (holotype 1.48, mean 1.44), LE/LP 2.14–2.45 (holotype 2.30, mean 2.33), moderately irregularly punctured, more finely granulate than prothorax; dorsum weakly convex; basal margin subtruncate; intervals I, III, and V more or less costate; costae often reduced into an irregular row of several large confluent granules; dorsal contour flattish, highest just behind middle, with steep apical declivity; sides gently dilated from base, widest just behind middle, then gently narrowed apicad, and finally moderately rounded at apices; subapical constrictions wanting. Legs slender; femora moderately clavate; tibiae weakly incurved apically, sharply sparsely serrate along internal margins, apically strongly mucronate on fore and mid legs; tibial apices simple on hind legs, not mucronate. Underside finely sparsely punctured except ventrite V with moderate punctures; metasternum and ventrite I conjointly depressed on middle; depression oval, large, reaching apical margin of ventrite I. Genitalia as shown in Figs. 19–23; aedeagal body relatively long and slender, thin and nearly as long as its apodemes in profile, and sharply produced apicad and narrowly rounded at apex; endophallus with a reniform sclerite in median part and a subrectangular sclerite near orifice; fragellum robust at base and tapered apically.

F e m a l e. LB: 5.08–5.84 (mean 5.37). LR: 1.06–1.32 (mean 1.15). WR: 0.83–0.99 (mean 0.93). LP: 1.46–1.88 (mean 1.61). WP: 1.78–2.11 (mean 1.90). LE: 3.75–4.32 (mean 4.00). WE: 2.57–3.02 (mean 2.75). N = 9 for all measurements. Habitus as shown in Figs. 13 and 14.

Body stouter. Rostrum LR/WR 1.18–1.33 (mean 1.24). Prothorax WP/LP 1.12–1.23 (mean 1.18), widest before middle; dorsal contour highest at middle. Elytra slightly stouter and longer, LE/WE 1.42–1.50 (mean 1.45), WE/WP 1.37–1.53 (mean 1.45), LE/LP 2.30–2.64 (mean 2.50); intervals I and III more strongly costate; dorsal contour flattened, bluntly produced at apex; sides more strongly expanded from base to behind middle, then more rapidly convergent to weak subapical constrictions, and finally more acutely produced at apices. Legs slightly shorter and thinner. Genitalia as shown in Figs. 24–26. Otherwise, essentially as in male.

Type material. Holotype male, "Philippines / → Tokyo port (JPN) / on fresh Pineapple / 200-11-42529 / 2007. VII. 6 / S. Sawada leg." (typed on white card); "*Metapocyrtus* / (*Trachycyrtus*) / sp. 1 / det. Hiraku YOSHITAKE, 2016" (typed on yellow card); "No. 9245 / 9-452 / N.I.A.E.S. / Tsukuba, Japan" (typed in red and hand-written in black on white card); "[H O L O T Y P E] Male / *Metapocyrtus* (*Trachycyrtus*) / *nautilus* / Genka & Yoshitake, 2018 / det. M. Genka & H. Yoshitake, 2018" (typed on a red card). Paratypes (14 exs.; NIAES & RDPPS). 1 ♂, Davao, Mindanao Is., Philippines



Figs. 11–18. *Metapocyrtus* (*Trachycyrtus*) spp. —— 11 & 12, *M.* (*T.*) *nautilus* sp. nov., holotype male; 13 & 14, ditto, paratype female; 15 & 16, *M.* (*T.*) *pinya* sp. nov., holotype male; 17 & 18, ditto, paratype female. 11, 13, 15 & 17, Dorsal habitus; 12, 14, 16 & 18, dorsolateral habitus.

to Kawasaki Port, 18.IX.1985, M. KAMAKURA, on fresh pineapple. 1 ♀, Davao, Mindanao Is., Philippines to Tokyo Port, 20.I.2017, G. TAKAHASHI, on fresh pineapple. Davao, Mindanao Is., Philippines to Nagoya Port: 1 ♂, 1 ♀, 9.V.2016, S. SAWADA, on fresh pineapple; 1 ♂, 18.VII.2016, S. SAWADA, on fresh pineapple; 1 ♂, 4.X.2016, on fresh pineapple; 1 ♂, 24.X.2016, T. DOI, on fresh pineapple; 1 ♀, 4.V.2017, K. MINOURA & M. ISHIYAMA, on fresh pineapple; 1 ♀, 18.IX.2017, M. ISHIYAMA, on fresh

pineapple. 1 ♂, Polomolok, South Cotabato, Mindanao Is., Philippines to Kawasaki Port, 13.XI.1986, T. MOROHOSHI, on fresh pineapple. 1 ♀, Polomolok, South Cotabato, Mindanao Is., Philippines to Tokyo Port, 7.VIII.2015, S. NAKAMURA, on fresh pineapple. 1 ♂, Tupi, South Cotabato, Mindanao Is., Philippines to Kobe Port, 21.VIII.2015, T. SATÔ, on fresh pineapple. 1 ♂, Bukidnon, Mindanao Is., Philippines to Kobe Port, 20.VIII.2015, N. ICHIRYÛ & S. KAMATA, on fresh pineapple. Philippines to Tokyo Port: 2 ♂♂, 2 ♀♀, 24.VI.1987, G. TOKIHIRO & H. NAKAMURA, on fresh pineapple; 1 ♀, 31.IV.1988, G. TOKIHIRO, on fresh pineapple; 1 ♀, 24.X.2008, M. NAKANO, on fresh pineapple; 1 ♀, 22.IV.2011, M. YAMAYA, on a bunch of fresh bananas. Philippines to Kobe Port: 1 ♀, 22.IV.1985, T. FUJISHIMA, on fresh pineapple; 1 ♀, 2.V.1985, Y. SHIMIZU, on fresh pineapple; 1 ♂, 2.IX.1985, M. SUMIDA, on fresh pineapple; 1 ♀, 18.XII.1985, Y. SHIMIZU, on fresh pineapple; 1 ♀, 7.VIII.19??, IKEDA, on fresh pineapple; 1 ♀, 22.VIII.1995, on fresh pineapple (name of inspector lacking); 1 ♀, 13.IX.2000, Y. TAKAHASHI, on fresh pineapple; 1 ♂, 10.XII.2001, on fresh pineapple; 1 ♀, 1.V.2002, H. KISHINO & S. TOMOMATSU, on fresh pineapple; 1 ♀, 8.III.2011, M. WATANABE, on fresh pineapple; 1 ♂, 18.VIII.2015, N. ICHIRYÛ, on fresh pineapple. 1 ♂, Philippines to Nagoya Port, 27.X.2009, S. KAWABATA, on fresh pineapple. 1 ♂, Philippines to Naha Port, 2.VIII.2014, H. KURAHASHI, on fresh pineapple.

Non-type material examined. 1 ♀ (damaged on the elytra and abdomen), Dadiangas, Mindanao Is., Philippines to Kawasaki Port, 29.V.1987, T. MOROHOSHI, on fresh pineapple.

Distribution. Philippines (Mindanao Is.).

Etymology. Named after the Greek word *nautilos* meaning 'sailor', as this new species has frequently been gotten mixed with pineapples imported by ships from the Philippines to Japan.

Biological notes. The examined specimens were intercepted during import inspections of pineapples from the Philippines, with an exception of one individual was captured on a bunch of bananas, suggesting strongly that this species is associated with the plant.

7. ***Metapocyrtus*** (***Trachycyrtus***) ***pinya*** sp. nov.

(Figs. 15–18 & 27–34)

Diagnosis. *Metapocyrtus* (*Trachycyrtus*) *pinya* sp. nov. is very similar in general appearance to *M*. (*T*.) *apoensis* SCHULTZE, 1925 described from Mt. Apo, Davao, Mindanao Is., the Philippines, especially due to the small body with markings of metallic green round scales, but *M*. (*T*.) *pinya* is readily distinguishable from *M*. (*T*.) *apoensis* by the following features: elytra with scattered round scales between each scaly band; body stouter; prothorax with dorsal contour highest behind middle; dorsal contour of elytra highest behind middle; and sides of elytra widest at middle, and then more weakly narrowed apicad. While in *M*. (*T*.) *apoensis*, the elytra lack round scales between each scaly band, body is slenderer, dorsal contours of the prothorax and elytra are highest at the middle, respectively, and elytral sides are widest behind the middle and then more acutely narrowed apicad. Also, in the female, *M*. (*T*.) *pinya* bears a pair of small subconical projections furnished with sparse tufts of pale hair-like scales on the elytral suture at the beginning of apical declivity, whereas *M*. (*T*.) *apoensis* possesses the vestigial projections with denser scaly tufts on the elytral suture in the female.

Description. M a l e. LB: 4.51–5.29 (holotype 5.29; mean 4.84). LR: 1.06–1.24 (holotype 1.24; mean 1.13). WR: 0.78–0.86 (holotype 0.86; mean 0.81). LP: 1.65–1.90 (holotype 1.90; mean 1.77). WP: 1.79–2.06 (holotype 2.06; mean 1.88). LE: 3.21–3.70 (holotype 3.70; mean 3.43). WE: 2.22–2.54 (holotype 2.54; mean 2.37). N = 6 for all measurements. Habitus as shown in Figs. 15 and 16.

Integument black; antennae dark brown; legs mostly dark brown, but femora often tinged with red except apical parts. Body surface mostly weakly shiny, except intercoxal portion of each sternum

Figs. 19–26. *Metapocyrtus* (*Trachycyrtus*) *nautilus* sp. nov. —— 19–23, Male genitalia: 19, aedeagus in dorsal view; 20, aedeagus in lateral view; 21, apex of aedeagus in dorsal view; 22, sternites VIII and IX in ventral view; 23, tegmen in dorsal view. 24–26, Female genitalia: 24, sternite VIII in ventral view; 25, apex of ovipositor in dorsal view; 26, spermatheca. Scale bar: 0.50 mm.

and ventrite I subopaque.

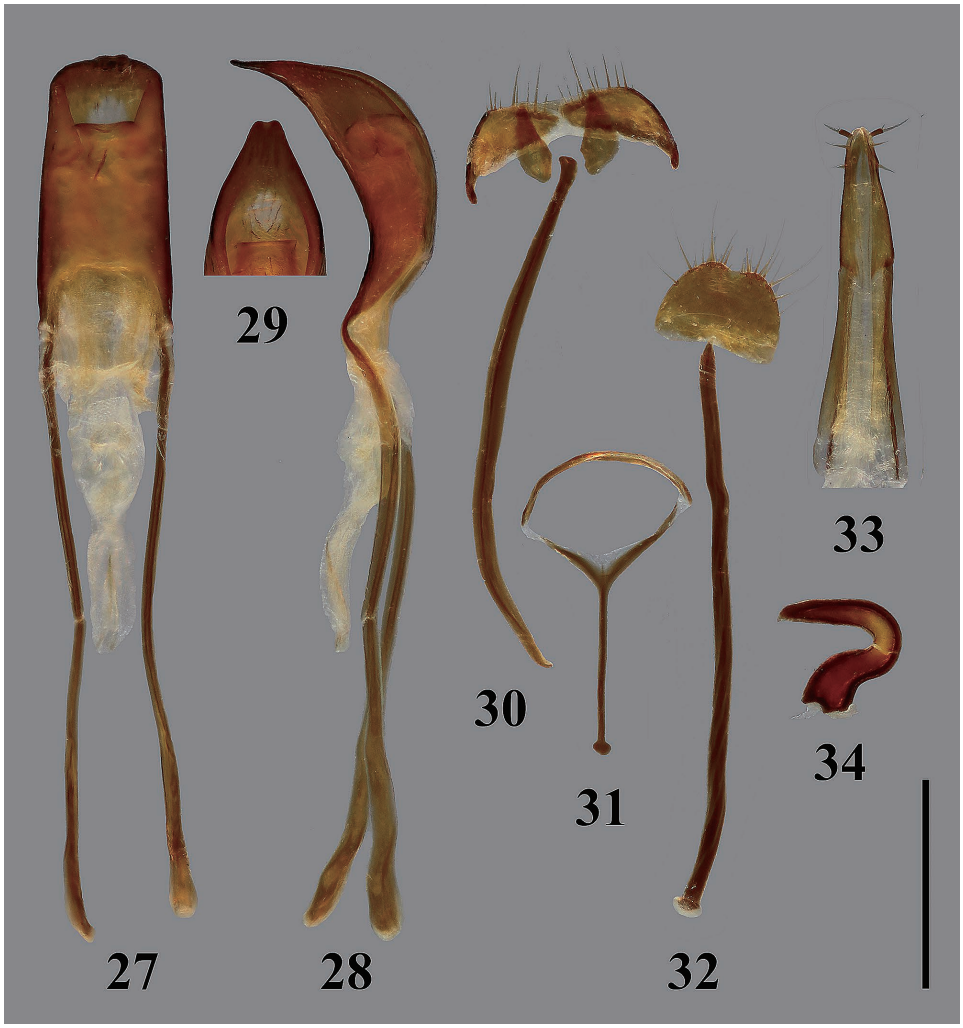
Body sparsely covered with light-colored hair-like scales, mingled with metallic green round scales. Forehead between eyes with scattered round scales. Head with a transversely elliptic patch of metallic green oval scales on each side below eye. Rostrum mingled with scattered round scales on basal 1/3 of dorsum. Prothorax covered with darker and shorter hair-like scales than those on head, mingled with round scales, which become denser on apical and subbasal parts, forming two indistinct transverse bands. Elytra with hair-like scales as those on prothorax, mingled with round scales which become denser on basal, median and subapical parts, forming three transverse bands; each band irregularly interrupted, often confluent with others near lateral margins. Tibiae moderately mingled with fine light-colored hairs; each tibia fringed with longer and stout hairs on internal margin and with narrow appressed light-colored scales on outer margin. Lateral pieces of meso- and metasterna sparsely covered with fine, long, and suberect light-colored hairs; mesepisterna and mesepimera densely cov-

ered with round scales. Underside sparsely covered with hairs as those on lateral pieces of meso- and metasterna; metasternum and ventrite I each with a large, transversely subrectangular patch of round scales on each side; ventrite V with denser hairs on apical half.

Body gourd-shaped. Forehead faintly depressed, sparsely finely punctured, with a fine longitudinal groove along midline in entire length. Eyes prominent from lateral contour of head. Antennae with scape slender, nearly as long as funicle; funicular segment I nearly three times as long as wide, slightly longer than II; segment II nearly twice as long as wide, nearly twice as long as III; segments III–VI subequal in length, nearly as long as wide; segment VII more transverse, wider than VI; club lanceolate, nearly 2.5 times as long as wide. Rostrum slightly longer than wide, LR/WR 1.36–1.44 (holotype 1.44, mean 1.40), weakly widened apicad; dorsum finely rugosely punctured, with a shallow basal transverse groove in entire width, a short shallow groove on basal part along midline, a shallow longitudinal depression which ranges from basal 1/4 to apical 1/3 along midline and is flanked by two costae in entire length; punctures become smaller and sparser on apical 1/3; dorsal contour weakly discontinuous with forehead, nearly flat on basal 1/3, then gently declined apicad; dorsolateral part on each side with a shallow subtriangular depression between dorsolateral edge and upper margin of antennal scrobe which is interrupted by depression; ventral surface flattened and unarmed medially. Prothorax broadly elliptic, nearly as long as wide, WP/LP 1.01– 1.13 (holotype 1.08, mean 1.06); dorsum moderately convex, coarsely, densely granulate, often with a short obscure median groove along midline; dorsal contour highest behind middle; sides gently dilated from moderately constricted base, widest at middle, then gently convergent to apex; basal margin subtruncate, not emarginate in middle; apical margin slightly narrower than basal margin, shallowly arched anteriorly; subbasal groove entirely distinct; subapical groove often indistinct dorsally. Elytra broadly subobovate, LE/WE 1.39–1.54 (holotype 1.46, mean 1.45), moderately wider and much longer than prothorax, WE/WP 1.22–1.30 (holotype 1.23, mean 1.26), LE/LP 1.81–2.15 (holotype 1.95, mean 1.94), finely irregularly punctured, more finely and sparsely granulate than prothorax; dorsum weakly convex; basal margin subtruncate; suture slightly obtusely prominent in apical part; dorsal contour highest behind middle, with gentle apical declivity; sides gently dilated from base to widest point behind middle, then gradually narrowed apicad, and finally moderately rounded at apices. Legs slender; femora moderately clavate; tibiae weakly incurved apically, sharply sparsely serrate along internal margins, apically strongly mucronate on fore and mid legs; tibial apices simple on hind legs, not mucronate. Underside finely sparsely punctured except ventrite V with moderate punctation; metasternum and ventrite I conjointly depressed on middle; depression oval, large but not reaching apical margin of ventrite I. Genitalia as shown in Figs. 27–31; aedeagal body short and stout, thick and nearly half as long as its apodemes in profile, and bluntly produced to and emarginate at apex; endophallus with a reniform sclerite in median part and a pair of subrectangular sclerites near orifice, one of which is widened at apex; fragellum robust at base and tapered apically.

F e m a l e. LB: 4.79–6.23 (mean 5.63). LR: 1.06–1.21 (mean 1.17). WR: 0.77–0.95 (mean 0.87). LP: 1.59–1.91 (mean 1.80). WP: 1.85–2.14 (mean 2.01). LE: 3.70–4.46 (mean 4.18). WE: 2.56–2.99 (mean 2.87). N = 6 for all measurements. Habitus as shown in Figs. 17 and 18.

Body stouter. Rostrum LR/WR 1.27–1.39 (mean 1.36). Prothorax slightly wider, WP/LP 1.07–1.16 (mean 1.12), widest before middle; dorsal contour highest at middle. Elytra stouter and longer, LE/WE 1.43–1.49 (mean 1.46), WE/WP 1.38–1.49 (mean 1.43), LE/LP 2.28–2.37 (mean 2.33); suture at the beginning of apical declivity with a pair of small subconical projections, each of which is furnished with a long tuft of pale hair-like scales; apical declivity steeper and slightly produced at apex; sides more rapidly convergent to weak subapical constriction, and finally more acutely produced at apices. Legs slightly shorter and thinner. Genitalia as shown in Figs. 32–34. Otherwise, essentially as in male.



Figs. 27–34. *Metapocyrtus* (*Trachycyrtus*) *pinya* sp. nov. —— 27–31, Male genitalia: 27, aedeagus in dorsal view; 28, aedeagus in lateral view; 29, apex of aedeagus in dorsal view; 30, sternites VIII and IX in ventral view; 31, tegmen in dorsal view. 32–34, Female genitalia: 32, sternite VIII in ventral view; 33, apex of ovipositor in dorsal view; 34, spermatheca. Scale bar: 0.50 mm.

Type material. Holotype male (NIAES), "Davao, Philippines / Apr. 1985 / Pineapple field / Coll. N. Hashimoto" (hand-written in white card); "[H O L O T Y P E] Male / *Metapocyrtus* (*Trachycyrtus*) / *pinya* / Genka & Yoshitake, 2018 / det. M. Genka & H. Yoshitake, 2018" (typed on a red card). Paratypes (11 exs.; NIAES & RDPPS). 2 ♂♂, 4 ♀♀, same data as the holotype. Bugo, Mindanao Is., Philippines to Yokohama Port: 1 ♂, 19.III.1984, Sone *et al*., on fresh pineapple; 1 ♂, 1 ♀, 17.V.1991, H. Karasawa, on fresh pineapple. 1 ♀, Davao, Mindanao Is., Philippines to Kobe Port, 15.X.1991, M. Sugimoto, on fresh pineapple; 1 ♀, Philippines to Yokohama Port, 13.II.1986, K. Totani, on fresh pineapple. 1 ♂, Philippines to Tokyo Port, 30.IX.2003, T. Inagaki, on fresh pineapple.

Distribution. Philippines (Mindanao Is.).

Etymology. Named after the Philippine word meaning 'pineapple', the putative food plant of this new species.

Biological notes. The examined specimens were intercepted at import inspections of pineapples from the Philippines or collected in a pineapple field in Davao, Mindanao Is., suggesting strongly that this species is associated with the plant.

Discussion

Among the seven *Metapocyrtus* weevils intercepted from 1966 to 2018 at the Japanese Plant Protection Stations, the dominant group is by far the subgenus *Trachycyrtus*, consisting of five species with 96 % (55 cases) of the total number of interceptions. In contrast, interceptions of weevils belonging to the other subgenera of the genus are infrequent, with only two cases, one for *Dolichocephalocyrtus* and the other for *Metapocyrtus*.

The largest number of interceptions (31 cases) was recorded for *Metapocyrtus* (*Trachycyrtus*) *nautilus*, which has frequently been found on pineapples imported from the Philippines since 1980's at major seaports throughout Japan including Naha Port in the Nansei Islands. Also, *M*. (*T*.) *pinya* has been intercepted on pineapples from the Philippines at several ports in Japan, as well as collected in a pineapple field in Davao, Mindanao Is. In addition to the risk of introduction of these two species to Japan, the possibilities of their establishment and spread are considered to be relatively high in the Nansei Islands, the largest production area of pineapples in Japan, due to the similarity in climate and vegetation to the Philippines. The two species whose ecological information is still limited are considered to have some relationship with the plant, though no weevil feeding scars have been detected on imported pineapples. Therefore, further researches on ecology of these two weevils, especially on relationships with pineapple, are needed to evaluate their potential risks on agriculture in Japan.

Metapocyrtus (*Trachycyrtus*) *adspersus*, which is known to originally occur in the Central and Eastern Visayas, the Philippines (YOSHITAKE *et al*., 2016), is the second frequent species (18 cases) found since 1987 on various plants including seedlings of ornamental plants from the Philippines. In addition, the frequent interceptions on fresh Chinese chive from Malaysia suddenly began in 2017, just after YOSHITAKE *et al*. (2016) reported on its occurrence in some artificial habitats in Kedah and Pahang, Malaysia, where is far apart from the previously known range of the species. YOSHITAKE *et al*. (2016) strongly suggested that this species is not native to Malaysia but an invasive species from the Philippines. According to Mr. Mohd NAZRI bin Mohd JOHA of the Department of Agriculture Malaysia, Kuala Lumpur (pers. comm.), this species was found also in an "edible garden" in Training Centre, the Central Bank of Malaysia, Kuala Lumpur in July, 2017. Judging from available data, *M*. (*T*.) *adspersus* is adaptable to newly introduced areas in Malaysia and has often gotten mixed accidentally with commercial plants during harvest or packing. We consider that this species is especially important for Japanese plant quarantine since the risks of its introduction to and establishment and spread in Japan are considered to be relatively high.

It is noteworthy that two female specimens found on fresh yacón and seedlings of *Ficus pumila* from the Philippines are closely similar to *M*. (*T*.) *hederaephilus* not only in general appearance but also in the female secondary sexual traits. *Metapocyrtus* (*T*.) *hederaephilus* is known in Japan as a pest of the cultivated English Ivy, *Hedera helix* (YOSHITAKE *et al*., 2012; YOSHITAKE, 2016). In Japan, this species has been regarded as an invasive species from the Philippines, but the origin of the Japanese population is still unclear. Generally, *Trachycyrtus* weevils are very difficult to identify to species based only on female morphological characters. Thus, we identified the two specimens tentatively as *M*. (*T*.) sp. prob. *hederaephilus*. They will remain unidentified until more specimens are added.

Among the genus *Metapocyrtus*, *Trachycyrtus* weevils seem to be especially easily gotten mixed with plants during harvest or packing, because they are quite abundant in artificial environments such

as parks, gardens, and farmlands adjacent to secondary forests throughout the Philippines. The subgenus contains many undescribed species due to insufficient taxonomic studies and very little is known about ecology of its members. Therefore, further studies are necessary to evaluate the potential risk of *Trachycyrtus* weevils to plant protection in Japan.

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要　　約

源河正明・吉武　啓：日本の輸入植物検疫で発見されたアカアシカタゾウムシ属 7 種（鞘翅目ゾウムシ科クチブトゾウムシ亜科）のリスト（含 2 新種の記載）．―――――― 日本の輸入植物検疫で発見されたアカアシカタゾウムシ属 *Metapocyrtus*（カタゾウムシ族）の標本を同定し，全 7 種のリストを作成した．その内，フィリピン産パイナップルから頻繁に発見される不明 2 種を詳細に検討した結果，未記載種であることが判明したため，それぞれを新種 *Metapocyrtus* (*Trachycyrtus*) *nautilus* sp. nov. および *M.* (*T.*) *pinya* sp. nov. として命名・記載した上で，種の特徴を明確化することによって植物防疫関係者による種同定を可能にした．また，*M.* (*T.*) *adspersus* WATERHOUSE は，近年になって本来の分布域であるフィリピンからマレーシアへの侵入が確認されており，日本の輸入検疫でも両国産のさまざまな植物，特に栽培を目的として輸入される観葉植物の種苗類から多く発見されていることから，国内への侵入を警戒する必要がある．さらに，三重県産の個体を基に新種記載され，フィリピンからの外来種と考えられるものの原産地は未だに特定されていないヘデラアカアシカタゾウムシ *M.* (*T.*) *hederaephilus* YOSHITAKE と推定される種も発見された．発見事例の大半を占める *Trachycyrtus* 亜属の種は一般に農耕地をはじめとする人為的な環境下に多く見られることから，収穫時に混入して輸入検疫で発見されるものと考えられる．本亜属には多数の未記載種が存在し，寄主植物などに関する知見も少ないことから，適切な検疫措置を講じるためにはさらなる分類学的および生態学的な研究が必要である．

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