Taxonomic notes on non-domiciliary *Periplaneta* species from the Ryukyus, Taiwan, Hong Kong and Thailand

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Abstract: The undescribed male insect of *Periplaneta suzukii* is described, and six Taiwanese representatives of wild *Periplaneta* are described and illustrated. Records of each one species from Hong Kong and Thailand are also added. Mention is made with regard to the difference between treated *Periplaneta* species and an African genus *Cartoblatta* Shelford.

In 1977 I described a peculiar short-winged *Periplaneta* species, *P. suzukii*, from Amami-oshima in the Ryukyus. Further material including unknown male sex of the same species were subsequently obtained, and it was revealed that the male insect possesses well developed both wings with flight ability.

In this paper the male insect of *P. suzukii* is described and taxonomic notes are given to several allied species very insufficiently known from Taiwan. The other related species taken from Hong Kong and Thailand are also dealt with on this occasion.

The newly designated type specimens will be deposited in the collection of the Medical Entomology Department, National Institute of Health, Tokyo.

1. *Periplaneta suzukii* Asahina

Periplaneta suzukii Asahina, 1977, p. 101, Fig. 1 (forewing), Fig. 2 (supra-anal plate) ♀ "1♀ Katoku, Setouchi-machi (Amami-oshima), 20.VI.1975, under a rotten wood."

Material examined:

1♀ (Holotype) Katoku, Amami-oshima, 20.VI.1975, leg. H. Suzuki; 1♂ (Allotype) 3♀ ditto, 18.IX.1976, bred in laboratory in Tokyo; 1♀ Komi, Iriomote

Island, 16.VII.1976, leg. S. Asahina; 1♂ Komi, Iriomote Island, 16.V.1977, leg. S. Asahina; 1♀ Komi, Iriomote Island, 17.V.1977, leg. S. Asahina; Larvae from Amami-oshima, Ishigaki Island and Iriomote Island.

♂ *Allotype*: Body length 24 mm, forewing length 24 mm. A typical Periplanetan insect; when closed the wing apices exceeding the end of abdomen. Body light brown, much paler against dark brownish female.

Head pale brownish, the upper part above the bases of antennae deep brownish, the ocellar spots whitish.

Prothoracic tergite fairly broad, almost ellipsoid, no distinct depression on the surface.

Forewing uniformly pale brownish, hindwing the same colour anteriorly but almost hyaline posterior to the plical vein.

Legs pale brownish, femora broad, the arolia poorly developed.

Abdominal tergites pale brownish, first tergite with a median tuft of hairs covering the secretory pit, posterior tergites 6-10 are deeper in colour.

Supra-anal plate broadly divided with round lobes (Figs. 19, 21). End of hypandrium rather squarely cut (Figs. 20, 22), styli long. Apex of left phallosome sharply pointed with a minute recurved hook at the base

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(Fig. 23). Gizzard in the proventriculus is as Figs. 30, 31.

A male specimen taken from a decaying wood in Iriomote Island is slightly larger in size, body 25 mm, forewing 27 mm, but is quite same in the other characters with those from Amami-oshima. Additional females from Amami-oshima and Iriomote Island were studied and the shape of their wings are illustrated in Figs. 24-27.

This seems to be a jungle forest insect, the adults seem to appear in May and June season, but the male insects are very scarce and difficult to capture with flight activity. The immature insects are not seldom in the same habitat.

Distribution: Endemic to the Ryukyus, Amami-oshima, Iriomote Island, and Ishigaki Island. From the last locality only one larval insect was taken.

2. *Periplaneta formosana* Karny

Periplaneta pallipalpis: Shiraki 1906 (nec Serville 1839), p. 4 "Nur ein Exemplare (♂) in der Sammlung von Herrn Dr. S. Matsumura aus Formosa (Juli)"

Periplaneta formosana Karny, 1915, pp. 96-97 (♀ only) "Fuhosho [2♂♂] 2♀♀"

Periplaneta formosana: Shiraki, 1931, p. 180

Cartoblatta formosana: Princis, 1966b, p. 511 "Formosa"

Material examined: 1♀ (Lectotype) Fuhosho, Formosa, Sauter, VII.1909, Karny det., Typus, "*Periplaneta formosana* Karny," "K. Princis 1961"; 1♂ (Allotype!) "*P. pallipalpis*," Formosa, T. Uchida, Taihoku, 22.VI.1925, Takahashi (Coll. Hokkaido Univ.); 1♂ "*P. pallipalpis*," Ranrun, 8.VII.1925, Formosa, T. Uchida, H. Kono, Y. Miwa (Coll. Hokkaido Univ.); 1♂ Koshun, 6.VII.1906, Formosa, Matsumura, "*P. pallipalpis*."

As was already mentioned by Asahina (1967) the original male insect of this species was an Epilamprid, *Rhabdoblatta takahashii* Asahina (1967), and only the female remained in Blattidae. In 1961 Princis examined the type series and labelled one of the type females to be the lectotype (Figs. 38, 39), and later, in his Catalogue (1966b), Princis placed this species in *Cartoblatta* of Blattidae.

I have examined the lectotype and accepted

Princis' type designation but now feel some doubt in selecting the male specimen for this species from Taiwan. However, from the body size and broader distribution I selected a series of long-winged males as listed above. The allotype male specimen now selected is a long-winged, pale brownish insect closely allied to that of *P. suzukii*.

♂: Length of body 23 mm, forewing 22 mm.

Head shining pale brownish, top of head above the level of ocellar spots deep brownish.

Prothoracic tergite broad, broadest at the level posterior to the middle length, almost smoothly surfaced without distinct depression.

Forewings light brownish, hindwings the same colour anteriorly to the plical vein, posteriorly of which entirely hyaline.

Tergite of first abdominal segment with a secretory pit and hairs, posterior abdominal tergites slightly deeper in colour but not so distinctly as in the preceding species.

Supra-anal plate as Figs. 32, 35, posterior margin with lateral angles and a median incision. Hypandrium as Figs. 33, 35, almost flatly cut, with long styli. Left phallosome ending in a round head with a minute recurved hook at the base (Figs. 34, 36, 37).

3. *Periplaneta* sp.

Material examined: 1♂ (alcoholic) Wulai, Formosa, 7.VII.1961, leg. T. Shirozu.

This single male specimen is rather problematical. The body has been crushed and kept in alcohol. The body about 28 mm, forewing length 27 mm. General body coloration brownish, a little deeper than that of the preceding species.

Head brownish, prothoracic tergite the same colour but the marginal area deeper. In this alcoholic specimen the surface shows irregular markings as shown in the figure (Fig. 40).

Wings chestnut brown, posterior area of the hindwing paler. Arolia between the tarsal claws are well developed.

Abdomen with a secretory pit at the center of the first segment. Distal segments deeper in colour on the dorsum.

Supra-anal plate allied to that of *formosana*, but broader and without median incision. Hypandrium flatly produced and very slightly bilobed. The styli are very long

Figs. 1-3 *Periplaneta suzukii* Asahina, The Ryukyus

1: ♂ (Allotype) Amami-oshima, 2: ♀ Komi, Iriomote Island, 3: ♀ (Holotype) Amami-oshima

Fig. 4 *Periplaneta arisanica* Shiraki ♂, Fen-ch'i-hu, Taiwan

Figs. 5, 6 *Periplaneta formosana* Karny, Taiwan

5: ♂ (Allotype) Koshun, 6: ♀ (Holotype) Fuhosho, leg. Sauter

Figs. 7-9 *Periplaneta karnyi* (Shiraki)

7: ♀ (Allotype) Koshun, 8: ♀ Koshun, 9: ♀ (Holotype) Taihanroku, Sauter leg.

Fig. 10 *Periplaneta arisanica* Shiraki ♂, Tattaka, Taiwan
 Figs. 11-12 *Periplaneta ceylonica* Hanitsch, Hong Kong, leg. J. D. Romer
 11: ♂ Hong Kong, 12: ♀ (Allotype) Peak, Hong Kong
 Figs. 13-16 *Periplaneta floweri* Hanitsch, Thailand
 13: ♂ Chiangmai, 14: ♀ (Allotype) Chiangmai
 Figs. 15, 16 *Periplaneta karnyi* (Shiraki)
 15: ♂ Kanchanaburi, Thailand, 16: ♂ Cap St. Jacques, S. Vietnam
 Figs. 17-18 *Periplaneta banksi* Hanitsch, Taiwan
 17: ♀ Fuhosho, leg. Sauter, 18: ♂ (?) Forewing, Kenting, leg. Fukuhara

(Figs. 41, 42).

The end of left phallosome as Fig. 43, very much allied to that of the preceding species, but the end is abbreviated with a round head. The gizzard armature is illustrated in Fig. 44.

Remarks: Since only a single imperfect alcoholic specimen was available no name is given for this species. It is impossible to decide if this is the real male insect of *formosana* or merely an individual variation of it.

4. *Periplaneta uenoi* sp. nov.

Material examined: 1 ♂ (Holotype) Wushe (Musha), Nan-t'ou Hsien, 14.VI.1961, leg. S. Ueno.

A middle-sized deep brownish species, superficially allied to the preceding two species, but decidedly distinct from them in the structure of supra-anal plate. Body 20 mm, forewing 23 mm, entirely deep brownish in colour.

Head shining brown, paler in labrum and anteclypeus, ocellar spots light yellowish. Prothoracic tergite entirely deep brownish,

Figs. 19-31 *Periplaneta suzukii*, ♂ Amami-oshima, dried specimens (19, 20, 23-26, 28), Amami-oshima, KOH treated specimens (21, 22, 30), ♀ Iriomote specimen (27, 29, 31)
19, 21: Supra-anal plate, 20, 22: ♂ Hypandrium, 23: Apex of left phallosome, 24-27: ♀ Left forewings, 28, 29: ♀ Supra-anal plate, 30, 31: Gizzard armature (c. t.: constricted tooth)

broadest at the middle, surface slightly depressed posterolaterally.

Forewings deep brownish, hindwing paler with posterior hyaline area. Abdomen with a usual secretory pit at the middle of the first segment. Distal abdominal segments deep brown.

Supra-anal plate very much specialized with median longitudinal furrow (Fig. 45). Hypandrium broadly rounded with long styli (Fig. 46).

The end of left phallosome as Fig. 47, rather allied to that of *formosanus*.

Remarks: It is impossible to decide if this is, only because of its deep brownish coloration, the real male insect of *formosanus*.

5. *Periplaneta arisanica* Shiraki

Periplaneta arisanica Shiraki, 1931, pp. 180-181, Fig. 3 (♀ forewing and abdominal end). ♂ ♀ "Formosa-Arisan, (IV)"

Cartoblatta arisanica: Princis, 1966b, p. 511

"nur ♀ (nec ♂ = *Cartoblatta formosana*, *Periplaneta*)"

Material examined: 2♂ Tattaka, Taiwan, 1.VI.1965, leg. T. Shirozu; 1♂ Fenchihu, 1370 m, Chia-i Hsien, Taiwan, 11.IV.1965, leg. R. Kano; 1♂ Punkiko, Taiwan, 18.V.1968, Coll. Tokyo Agr. Univ.; 1♂ Sungkan, Central Taiwan, 9.V.1971, N. Fukuhara, Coll. N. I. Agr. Sci.

A rather slender pale brownish species. In general view these are allied to *P. formosana* but smaller and delicately built with shorter prothoracic tergite.

♂ Body 18 mm-20 mm, forewing length 19-21 mm (1♂ 23 mm)

Head entirely brownish, only ocellar spots pale yellow. Prothoracic tergite broad, not strongly lustrous, dorsal surface more or less uneven, sides rather semihyaline. Legs not robust.

Wings pale brownish, thin and semitrans-

Figs. 32-39 *Periplaneta formosana*, Taiwan

32: ♂ Supra-anal plate, dried specimen, 33: Hypandrium, 34, 36, 37: Apex of left phallosome, Taihoku (34), Ranrun (36), Kosun (37), 35: ♂ Abdominal end, ventral, 38: ♀ Forewing, Type specimen, 39: ♀ Supra-anal plate, Type specimen

parent, not shining.

Abdomen flat and concolorous, supra-anal plate broadly bilobed (Fig. 48). Hypandrium with smoothly waved distal end, the styli are rather fine. In one specimen which is large in body size, the hypandrium is more angular at the sides (Fig. 52) when treated by KOH.

Left phallosome with peculiar end, the apex pointed (Figs. 50, 53).

Remarks: Shiraki illustrated the peculiar shortened female wings but nothing of the male. Since any female specimen was not accessible to us our identification may not be very final!

6. *Periplaneta ceylonica* Karny

Periplaneta ceylonica Karny, 1908, p. 18 ♂
(key only!)

Periplaneta ceylonica: Princis, 1951, p. 89, Figs. 1-3 (♂ supra-anal plate, subgenital plate, left phallosome) "1 ♂ Indien (British Museum)"

Periplaneta ceylonica: Princis, 1952, p. 41 (Arten die zu streichen sind)

Periplaneta fallax: Bey-Bienko, 1957, pp. 903-904, Fig. 2 (♂ supra-anal plate) "Yunnan, Tszinpin, 1,200 m, 30.V.1956, 1 ♂ (D. Panfilov)"

Periplaneta ceylonica: Princis, 1966a, pp. 44-45 "Untersuchtes Material: ♂ (Holotypus von Ceylon), Ceylon, Paradenia, No. 5664 ex Coll. Brunner v. W. (Mus. Wien); 3 ♂ ♂ Ceylon, Kandy, 13 bzw. 19 bzw. 25.XI.1953, F. Keiser leg. (Mus. Basel); ♂ Ceylon, Kandy, L. Horton's Drive, 4.XI.1953, F. Keiser leg. (Mus. Basel)"

Figs. 40-44 *Periplaneta* sp. ♂, Wulai, Taiwan, alcoholic

40: Prothoracic tergite, 41: Supra-anal plate, 42: Hypandrium, 43: Apex of left phallosome, 44: Gizzard armature (c. t.: constricted tooth)

Figs. 45-47 *Periplaneta uenoi*, ♂ Wushe, Taiwan

45: Abdominal end, dorsal, 46: Hypandrium, 47: Apex of left phallosome

Periplaneta ceylonica: Princis, 1966b, p. 445
"China, Indien, Ceylon"

Material examined: 1♂ Hong Kong Island, 1962, leg. D. J. Romer; 1♀ (Allotype) Peak, Hong Kong Island, 27.IV.1963, leg. D. J. Romer.

A robust species among this group, with deep brownish body. Undescribed female is brachypterous.

♂ Body 25 mm, forewing 27 mm.

Head deep brownish, no particular marking present excepting pale ocellar spots. Prothoracic tergite broad and shining, no wavy depression; legs robust, tarsal arolia moderately developed. Both wings well developed, entirely brownish, paler in the anal field of hindwings.

First abdominal segment with median secretory opening surrounded by a conspicuous tuft of hairs. Supra-anal plate developed into paired round lobes, margined with bristles (Fig. 55). Hypandrium ending in a round head, styli long. The distal end of left phallosome ending in a curved, broad head with a recurved hook (Fig. 57).

♀ (Allotype) A mature specimen. Body 26 mm, forewing 7 mm, entirely chestnut brown.

Head entirely deep reddish brown with yellowish ocellar spots.

Prothoracic tergite broad, width 10 mm, broadest in the behind. Legs robust with strong tibial spines. Forewing abbreviated as Fig. 58, distal end rather straightly cut, entirely deep reddish brown.

Abdomen also deep brown, the supra-anal plate ending somewhat to semitubular piece, divided at the end, but covered by the extended lobe of 9th tergite at the base (Fig. 59).

Remarks: The structure of abdominal end and the left phallosome of our Hong Kong specimen agrees well with the same of Princis' pictures (1951). According to him this species ranges rather widely in Ceylon, India, and Southwest China, but the female insect has never been described. Only one pair of this important species was obtained by Mr. J. D. Romer.

7. *Periplaneta karnyi* (Shiraki)

Ischnoptera formosana Karny, 1915, 102
"Taihanroku, 1♀"

Periplaneta karnyi (Shiraki), 1931, p. 182
nom. nov.

Hebardina karnyi: Princis 1966b, 465 "For-

Figs. 48-54 *Periplaneta arisanica* ♂ Taiwan, Tattaka (48-50), Fen-ch'i-hu (51-54)

48: Supra-anal plate, 49: Hypandrium, 50: Apex of left phallosome, 51: Supra-anal plate, KOH treated, 52: Hypandrium, KOH treated, 53: Apex of left phallosome, 54: Hypandrium, dried specimen

mosa ”

This is a small species, and Karny's single type female specimen which has rather shortened wings and abdomen was entirely misidentified by him as an "*Ischnoptera*." It is interesting to note that Karny even stressed that "Von den übrigen *Ischnoptera*-Arten durch die kürzeren Flugorgane und die eigentümliche Form des weiblichen Subgenitalplatte leicht zu unterscheiden."

Shiraki (1931, p. 182) examined the type specimen and removed it from *Ischnoptera* to *Periplaneta* but mentioned nothing.

Material examined: 1 ♀ (Holotype) Taihanroku, Formosa, H. Sauter, "*Ischnoptera formosana* Karny," "Karny det.," "Deutsch. Entom. Inst., Berlin," "7. IX.," "♀"; 1 ♂ (Allotype) Kuraru, Koshun, 2.IV.1965, leg. T. Shirozu; 1 ♀ ditto, (both taken in copula!); 1 ♂ Kanchanaburi, Thailand, 8. X.1975, leg. H. Kurahashi; 1 ♂ Cap St. Jacques, Prov. de Phuoc Tuy, Sud Vietnam. 3.VI.1962, leg. Sadanobu Inoue.

♂ Body 19 mm, forewing 15 mm. A small flat-bodied, entirely pale brownish insect.

Head entirely pale brownish, ocellar spots are obscured in this specimen. Prothoracic

tergite transverse, very broad, forewing normal, apices well beyond the abdominal end when closed.

First segment of abdomen with median secretory pit covered with the tuft of hairs. Distal margin of supra-anal plate divided into two lobes, the hypandrium also into two pieces with a narrow depression (Fig. 61). The end of left phallosome iron-shaped (Fig. 62).

♀ Body 14 mm (Type), 21 mm (Kuraru specimen), forewing length 9.5 mm (Type), 8 mm (Kuraru specimen).

Body coloration more or less deeper than that of male. Prothoracic tergite broader, 5.5 mm. Forewing more or less roundly abbreviated, but not squarely cut. Hindwings present and similarly shortened as the forewings, never degenerated. The supra-anal plate as Figs. 68, 69, divided at the end.

Remarks: These 1 ♂ 1 ♀ now treated are all the specimens hitherto collected by us. Dr. Shirozu was fortunate enough to find a pairing couple of this species which is very much allied to the following Southeast Asiatic species.

8. *Periplaneta floweri* Hanitsch

Figs. 55-59 *Periplaneta ceylonica*, Hong Kong, dried specimens

55: ♂ Supra-anal plate, 56: Hypandrium, 57: Apex of left phallosome, 58: ♀ Forewings, 59: ♀ Supra-anal plate

Periplaneta floweri Hanitsch, 1931, 386, 400

"Bangkok, 1 ♂ (S. S. Flower, 1898 ♂)"

Periplaneta floweri: Hanitsch, 1932a, p. 5

"1 example (sex? abdomen missing),
Medan, 1921-6"

Periplaneta floweri: Hanitsch, 1932b, 51, 75

"1 ♂ Siboga, Sumatra, Oct. 1890-March, 1891, E. Modigliani," "I have also before me a ♂, from Pulo Tioman (V. Knight, June 1915) and another ♂, from the Lang Kawi Is. (H. M. Pendlebury, April, 1928)"

Periplaneta floweri: Bruijning, 1948, 39,

112 "Amsterdam Mus.: Medan, Sumatra, J. B. Corporaal, Sept. 1920, 1 ♂"

Periplaneta floweri: Princis, 1966b, p. 456

"Siam, Sumatra"

Material examined: 1 ♂ Chiangmai, Thai-

land, 16. II. 1958, leg. H. Ikoma; 1 ♀ ditto, 26. V. 1958 (Allotype); 1 ♂ Khao Chong, S. Thailand, 23. V. 1965, leg. Y. Miyatake.

♂: Body 16.0-16.5 mm, forewing 15.0-15.5 mm. Flat-bodied, pale brownish species.

Head light brown, the ocellar spots whit-

ish. Prothoracic tergite broad, 5.0-5.5 mm. Forewings broad, and broadly rounded at the end. The supra-anal plate and hypan-drium as Figs. 71, 72, 74, 75. The end of left phallosome was examined with North Thai specimen (Fig. 73), which allies to that of the preceding species.

♀: Body 15 mm, forewing 10 mm. Body as that of the male but the wings are shorter (Fig. 76), and generally deeper in colour. The supra-anal plate as Fig. 76, slightly deeper divided at the end.

Remarks: As supposed by Hanitsch (1932, Sumatra), this species is very closely allied to *karnyi* Shiraki, but may be separated from it by the shape of supra-anal plate in both sexes. The female is now described for the first time.

9. *Periplaneta banksi* Hanitsch

Periplaneta banksi Hanitsch, 1931, 386, 401 ♀

"Philippines, 1 ♀ (C. S. Banks, 1908),"

"Exceeding in size all other oriental species of *Periplaneta*"

Periplaneta picea: Karny (nec Shiraki, 1906),

Figs. 60-70 *Periplaneta karnyi*, dried specimens, Koshun, Taiwan (60-62, 68), Kanchanaburi, Thailand, KOH treated (63-65), S. Vietnam (66, 67), Taihanroku Sauter. leg. Type (69)

60, 63: ♂ Supra-anal plate, 61, 64, 66: Hypan-drium, 62, 65, 67: Apex of left phallosome, 68, 69: ♀ Supra-anal plate, 70: Gizzard armature (c. t.: constricted tooth)

Figs. 71-76 *Periplaneta floweri*, Thailand, Chiangmai (71, 72, 73, 76), Khao Chong, Thailand (74, 75), dried specimens

71, 74: ♂ Supra-anal plate, 72, 75: Hypandrium, 73: Apex of left phallosome, 76: ♀ Abdominal end, dorsal

1915, p. 62, 97 "Fuhosho, VII.1909, (1 ♂)

3 ♀ ♀ Hoozan, 1910, 1 larve (♀)" (!)

Periplaneta banksi: Bruijning, 1948, 110

"Leiden Mus.: Sinabang, Sumatra, J. B. Corporaal, 1913, 1 ♀"

Periplaneta banksi: Princis, 1966b, p. 441

"Formosa, Philippinen, Sumatra (?)"

Material examined: 1 ♀ Fuhosho, Formosa,

Sauter, VI.1909, ♀ Karny det., Coll.

Inst. Pflanzenschutzf., Eberswalde; 1

left forewing Kenting, S. Taiwan, 22.

IV.1971, N. Fukuhara, Coll. Nat. Inst.

Agr. Sci. Tokyo.

It is curious that Karny (1915) identified this huge cockroach species to be *Periplaneta picea* Shiraki (= *fuliginosa*!). Shiraki (1931) said nothing about this. Princis (1966b) placed this insect under Philippine *banksi* Hanitsch (1931). But Bruijning (1948), judging from the description, noted the similarity of this species with Malaysian *P. regina* Saussure (1864). Unfortunately the male insect of *banksi* has never been described.

♀ ad. Body 38 mm, forewing 37 mm.

Width of prothorax 14 mm. A gigantic, robust insect, body entirely shining chestnut brown.

Head brownish, paler below the level of antennal bases, ocellar spots whitish. Antenna short, about 30 mm. Prothoracic tergite broad, without any depression. Wing apices reaching well beyond the abdominal end, therefore this species is exceptional to the others treated in this paper. Legs ro-

Fig. 77 *Periplaneta banksi*, ♀ dried specimen, abdominal end, leg. Sauter

bust and spiny, the tarsal arolia moderately developed.

Abdomen broad and robust, supra-anal plate deeply divided (this part is asymmetrical in this specimen). The ovipositor valve is well developed (Fig. 77).

Remarks: A detached forewing now obtained by Mr. Fukuhara is very long, measuring 45 mm (Fig. 18). Therefore it is larger than the Sauter's specimen. Does this forewing belong to a male insect?!

Notes on the genus *Cartoblatta*

Concerning these sexually dimorphic *Periplaneta* species mention should be made about the genus *Cartoblatta* Shelford (1907).

In his World Catalogue of Blattaria Princis (1966b) placed several Asiatic *Periplaneta*, including *formosana* Karny and *arisanica* Shiraki here treated, in the genus *Cartoblatta*. Later Bey-Bienko (1969) also used this name for two Asiatic species.

Originally *Cartoblatta* is established by Shelford (1907) to include African species. His original generic definition is as follows: "♂ allied to *Periplaneta* Burm., but the pronotum is transversely elliptical, anterior border truncate, posterior border slightly produced. Tegmina and wings considerably longer than the body. Mesonotum and metanotum without long backwardly-directed processes. No scent gland opening on first abdominal tergite."

"♀ With the tegmina short, quadrate, not covering the first abdominal tergite. Sixth and seventh abdominal tergites slightly declivous, seventh tergite not covered by the sixth" (Pl. 2, Fig. 4. ♀ entire insect).

His later definition (1910) is: "Allied to *Blatta* Linnaeus and *Pseudodelopeltis* Krauss. Pronotum (♂) transversely elliptical, its anterior border truncate, the posterior border slightly produced. Meso- and metanotum (♂) without backwardly directed membranous processes. Tegmina and wings (♂) considerably exceeding the apex of the abdomen. Tegmina (♀) short and quadrate, not covering the first abdominal tergite, their sutural margins touching; wing rudiment present. No scent-gland opening on dorsum of abdomen (♂). Tarsi as in *Blatta*." "Type-

species *C. pulchra* Shelford, East Africa (1907)."

From these definition it is clear that two Taiwanese species cannot be placed in *Cartoblatta* since the males of both species now supposed have evident secretory pit on the first abdominal segment.

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摘 要

琉球・台湾・香港・タイ国より得られた野棲
Periplaneta 属ゴキブリ類の分類

1977年筆者が奄美大島産の1号によって命名記載した *P. suzukii* スズキゴキブリは、その後に公が得られたのでそれを記載した。他にこのような♀短翅・♂長翅の *Periplaneta* については、台湾、香港、タイ国などよりの資料が得られたので、あわせてここに同定記載した。さらにこれらの種とアフリカより知られている *Carto-blatta* 属との関係についても考察した。

なおこれらの種類は最後の *banksi* を除いて、いずれも♂長翅♀短翅であるので、全体をフタガタゴキブリ群として扱い、各種には次のような和名を与えておきたい。

P. suzukii Asahina スズキゴキブリ(朝比奈, 1977), *P. formosana* Karny タイワンゴキブリ(新称), *P. uenoi* nov. ウエノゴキブリ(新称), *P. arisanica* Shiraki アリサンゴキブリ(新称), *P. ceylonica* Karny セイロンゴキブリ(新称), *P. karnyi* (Shiraki) カルニーゴキブリ(新称), *P. floweri* Hanitsch フロワーゴキブリ(新称), なお *P. banksi* Hanitsch にはバンクスゴキブリ(新称)としておく。

チビゴキブリ四国に産す

Anaplectella ruficollis taken in Shikoku

チビゴキブリ科 Anaplectidae のゴキブリは熱帯・亜熱帯の昆虫であって、本邦からはただ1種、*Anaplectella ruficollis* (Karny) が八重山諸島と奄美諸島から知られていた(Asahina, S.: 衛動, 28(3), p. 275, 1977)。

今回、石井 孝教授から同定を依頼された徳島県産標本

中に1♀を発見したのでここに記録しておく。これは石井教授が1979年6月10日、徳島県石井町にある墓地のマツ(独立樹)を燻煙した際に得られたもので、他に多数のヒメクロゴキブリ *Chorisoneura nigra* (Shiraki) と、若干のモリチャバネゴキブリ *Blattella nipponica* Asahina があつた。(朝比奈正二郎)