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ENICOCEPHALIDAE IN TAIWAN (HEMIPTERA)

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Three species of the genus *Stenopirates* Walker were recorded from Taiwan by Dr. Esaki (1922 & 1935). Based upon the material taken by the 2nd team under the Japan-U.S. Co-operative Science Program to Taiwan, 1965, and the collection of Kyushu University, 2 species of respective different genera are newly added to the fauna. The species, not included in the present material, is *Stenopirates yami* (Esaki, 1935) from Kotosho (Lan Yu or Botel Tobago).

I wish to express my hearty thanks to Prof. T. Shirôzu, Mr. T. Saigusa and Dr. S. Asahina of National Institute of Health, Tokyo, and Drs. T. Nakane and S.-I. Uéno of National Science Museum, Tokyo, for their kind assistance in collecting material. Further to Prof. K. Yasumatsu of Entomological Laboratory, Kyushu University I was obliged in studying the Formosan Enicocephalids in the Esaki Collection.

Acknowledgment is made of the partial financial support of this investigation through a grant from the Japan Society for the Promotion of Science as part of the Japan-U.S. Co-operative Program.

***Henschiella saigusai* Miyamoto, sp. nov.**

(Pl. 15, fig. a; Textfigs. 1—11)

Size: For male body length 2.4 mm., width across pronotum 0.48 mm. and width across hemelytra ca. 0.6 mm.

Coloration: General colour dark brown, slightly paler on apical portion; antennae and rostrum dark, the former with paler base of 1st segment and apex of 2nd one. Pronotum very little paler than on head; scutellum and basal half of fore wings pale, apical half of fore wings infuscate; legs dark except for bases of femora and of hind tibiae paler. Ventral side of body somewhat dark, with meso- and metasterna paler. Body covered with sparse moderately long hairs, fore wings with shorter hairs.

Structure: Head (including neck portion) (Textfig. 1) slightly shorter than twice as long as wide across eyes (.42 : .24), vertex between eyes

with a distinct longitudinal median sulcus, eyes half as wide as interocular space (.06 : .12) above, postocular lobe distinctly shorter than wide (.17 : .24), with a broad median sulcus which is strongly narrowed behind, interocular space a little more than interocular space. Antennae (Textfig. 2) subequal to head and pronotum put together, 1st segment thick but short, 2nd clavate, 3rd linear and the longest, 4th slightly shorter but wider than the preceding; relative lengths of the segments from I to IV = .09 : (.015)* : .15 : (.015) : .24 : (.006) : .22. Rostrum rather broad and short.

Pronotum (Textfig. 1) a little more than half as long as wide (.27 : .48), lateral sides constricted very slightly between fore and middle lobes but distinctly between middle and hind lobes; proportions of fore, middle and hind lobes .09 : .16 : .02 in length, .26 : .33 : .48 in width. Fore and middle lobes somewhat polished, the latter with a median longitudinal sulcus on anterior half; hind lobe matted, markedly short in middle and bilobed. Scutellum nearly two-thirds as long as wide, subequal to middle lobe of pronotum in length. Fore wings almost 2.5 times as long as wide (1.67 : .65), covered with sparse short hairs on veins; venation shown in the Textfig. 3. Coxal cavity of fore legs closed behind. Legs (Textfigs. 4—8) moderately thick; fore legs (Textfig. 4) stout, femora thickest before middle, a little more than one-third as thick as long, tibiae dilated toward apex, apical width somewhat wider than one-third as much as long, inner apical corner (Textfigs. 5 & 6) armed with 5 spines and one leaf-like bifurcate bristle; tarsi (Textfig. 5) with 2 unequal apical claws, with one curved bristle-like hair and a tubercle on inner side; proportions of femur, tibiae and tarsus .43 : .41 : .11. Middle legs (Textfig. 7) slender and short, proportions of the segments from femur to tarsus (2 segments combined) .32 : .29 : .14. Hind legs (Textfig. 8); femora widest before middle, about one-fourth as wide as long; tibiae straight, slightly widened toward apex; proportions of the segments from femur to tarsus (2 segments combined) .50 : .57 : .18.

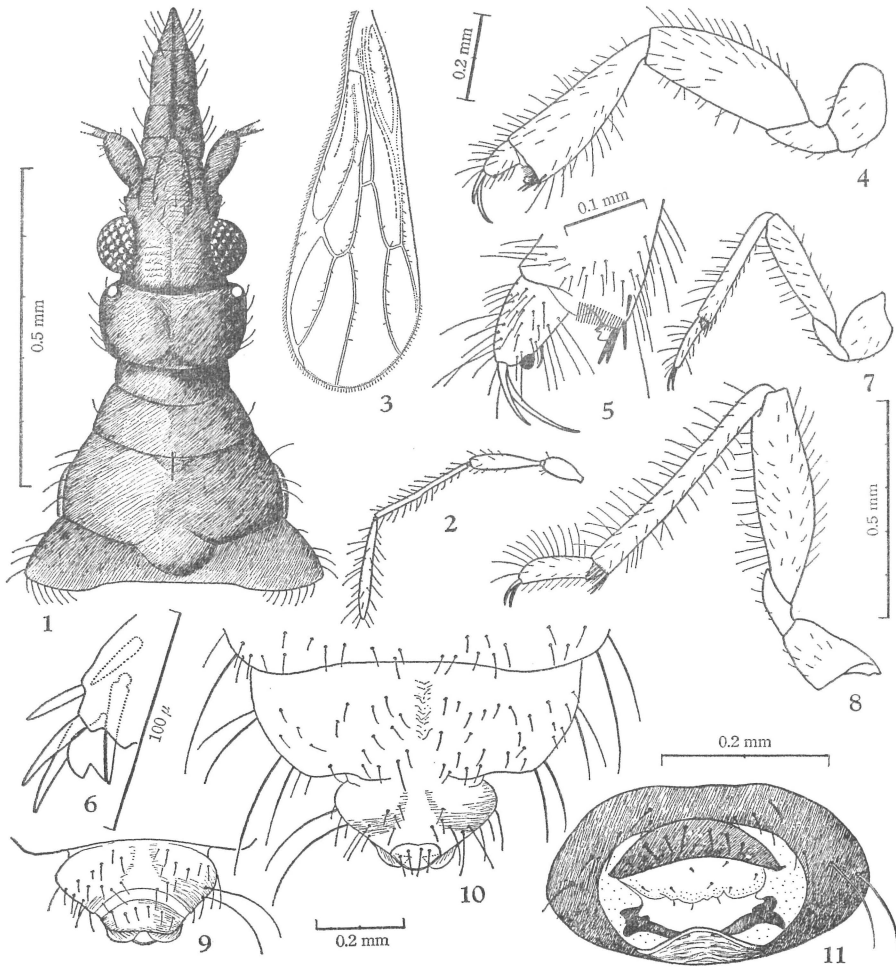
Abdominal segments weakly sclerotized; dorsal gland opening in middle of hind margin of 3rd abdominal tergite completely atrophied. Genital segment (Textfigs. 9—11) widest near base, with a pair of semicircular lobes above posterior median process which is somewhat roundly produced behind, distinctly broader than long and not constricted in middle.

Holotype ♂ and a paratype ♂, dissected and mounted on the slide, Chi-hsin-liao (Keishinryô), 450 m. in height, near Chu-chi (Takesaki), C. Formosa, 15. iv. 1965, T. Saigusa, sweeping herbs along road-side in evening; the type is kept in the Entomological Laboratory, Kyushu University.

The present species is most related to *H. capillicornis* (Bergroth) but distinguished from the latter by smaller body, darker colour, much longer

*Lengths in brackets are of accessory segments.

pronotum, shorter scutellum than pronotum, longer hind femora than fore ones, etc.



Textfigs. 1—11. *Henschiella saigusai*, ♂. 1 Head with pronotum, dorsal view, rostral segments not shown in correct proportions, 2 left antenna, 3 left fore wing, 4, 7 & 8 fore, middle & hind legs of left side, 5 tibial apex and tarsus of left fore leg, 6 inner apical corner of fore tibia, seen from the opposite side, 9 apical segments of abdomen, dorsal view, 10 the same, ventral view, 11 apex of abdomen, caudal view.

Hoplitocoris lewisi (Distant)

Henicocephalus Lewisi Distant, 1903, Ann. Soc. Ent. Belg. 47: 53.

Henicocephalus lewisi: Esaki, 1929, Kontyû 3: 148—150, fig. 2.

Henicocephalus Lewisi: Jeannel, 1941, Ann. Soc. Ent. France 110: 359.
(as *sp. incert. sed.*).

Pseudenicocephalus lewisi: Usinger, 1945, Ann. Ent. Soc. Amer. 38: 337.

Hoplitocoris lewisi: Hasegawa, 1960, Bull. Nagaoka Mus. 1; 45.

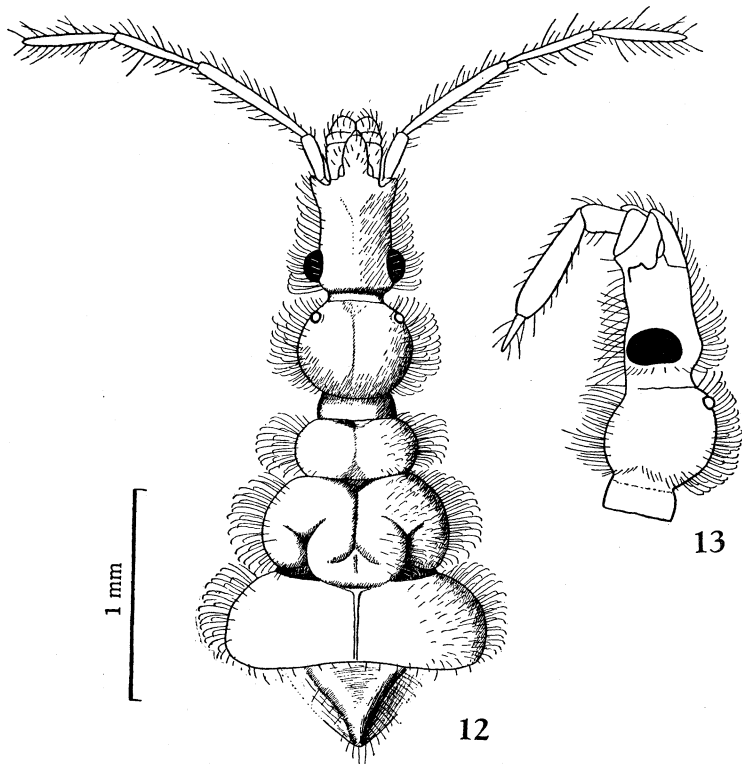
Specimens examined: 1 ♂, Niitaka (Yu-shan or Mt. Morison), C. Formosa, 18. v. 1928, K. Shibata; 2 ♂♂, Sung-kang (Tattaka), 2,000 m in height, C. Formosa, 18. v. 1965, T. Shirôzu.

This was previously known from Japan (Honshu, Shikoku & Kyushu), Tokara Is. (Nakanoshima) and Taiwan.

***Oncylocotis shirozui* Miyamoto, sp. nov.**

(Pl. 15, fig. b; Textfigs. 12—18)

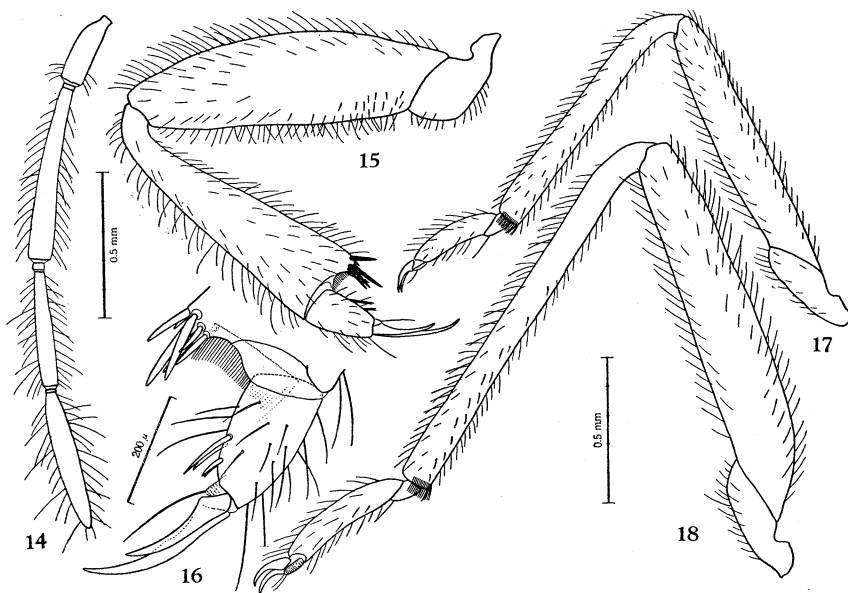
Size: For females body length 6.1—6.6 mm., pronotal width 1.25—1.42 mm. and width across fore wings 1.56—1.83 mm.



Textfigs. 12 & 13. *Oncylocotis shirozui*, ♀. 12 Head and pronotum, 13 head, lateral view.

Coloration: General colour yellowish brown. Head pale yellowish brown apically, dark brown on the rest; basal segment of antennae yellowish and the remaining segments brownish. Anterior and middle lobes of pronotum brownish, the posterior one and scutellum somewhat paler with a median longitudinal carina of posterior lobe and apex of scutellum dark. Fore wings slightly pale at base. Knees of fore legs and 2 hind pairs of legs yellowish, most parts of fore pair somewhat brownish and often tibiae at apex and tarsi red tinged. Abdominal venter pale brown or dark along median longitudinal line.

Structure: Body covered with dense long pilosity. Head (excepting neck) (Textfigs. 12 & 13) a little more than 2.5 times as much as head wide (1.34 : .52); eyes rather small, furnished with long hairs, less than one-third as wide as interocular space (.09 : .34), widely separated beneath. Postocular lobe globular, a little less than width across eyes (.52 : .55), with a shallow median longitudinal sulcus; interocular distance equal to interocular space. Antennae (Textfig. 14) rather robust; 3 basal segments narrowed toward base, apical segment fusiform and a little wider than preceding one; relative lengths of the segments from I to IV .24 : .61 : .43 : .46. Rostrum robust, 3rd segment thickened near middle.



Textfigs. 14–18. *Oncylocotis shirozui*, ♀. 14 left antenna, 15, 17 & 18 fore, middle & hind legs of left side, 16 tibial apex and tarsus of right fore leg.

Pronotum slightly shorter than head, nearly as long as wide (1.16 : 1.25); proportions of fore, middle and hind lobes .28 : .51 : .37 in lengths

and .60 : .94 : 1.25 in widths. Anterior lobe with a faint depression in middle near anterior margin; middle lobe with a median inverted Y-shaped impression and a smaller Y-shaped impression on each side; hind lobe with a longitudinal median carina. Scutellum as long as hind lobe of pronotum, shorter than wide (.38 : .60), with apex roundly produced behind. Fore wings about 2.5 times as long as wide (3.50 : 1.35), surpassing tip of abdomen; venation as in the Pl. 15, fig. b. Legs (Textfigs. 15—18) rather thick, particularly on fore pair; fore femora a little curved, thicker on basal half, not more than 4 times as long as wide; fore tibiae (Textfig. 15) widened apically, apical inner corner armed with 7 spines; fore tarsi (Textfig. 16) armed with 2 pairs of spines on inner side; claws distinctly of unequal size; proportions of leg segments from femur to tarsus 1.15 : .93 : .25. Middle legs (Textfig. 17) slender and short, proportions of segments from femur to tarsus (2 segments combined) 1.04 : .93 : .32. Hind legs (Textfig. 18) long; femora widest near base, less than 5 times as long as wide; tibiae straight; proportions of the segments from femur to tarsus (2 segments combined) 1.41 : 1.41 : .46. Abdominal wall membranous; apical ventrite slightly sclerotized.

Holotype ♀ and 50 paratypes, ♀♀, 26. vi. 1965, Penpuchi (Honbukei), C. Formosa, T. Shirôzu; the type is preserved in the collection of Entomological Laboratory, Kyushu University. This insect was collected from swarmings at 6 p.m. but it is curious that no males were captured.

This species is allied to *O. bakeri* (Bergroth) from Philippines but separated from it by paler colour, larger size, longer head than pronotum, shorter 4th antennal segment than 2nd, longer hind lobe of pronotum than half the middle lobe, longer fore wings and slenderer middle femora. From *O. gracilis* Usinger et Wygodzinsky of Kusaie I. this differs in larger and robuster body, much smaller eyes, a little shorter 3rd antennal segment than 4th, different relative lengths and widths of pronotal lobes and thicker legs.

***Stenopirates collaris* Walker, 1873**

Stenopirates collaris Walker, 1873, Cat. Heter. 7: 139.

Henicocephalus collaris: Distant, 1904, Faun. Brit. Ind. 2: 194, fig. 138.

Henicocephalus collaris: Esaki, 1922, Trans. Nat. Hist. Soc. Formosa 12: 56.

Henicocephalus collaris: Esaki, 1926, Ann. Mus. Nation. Hung. 24: 164.

Stenopirates collaris: Jeannel, 1941, Ann. Soc. Ent. France 110: 331—333, fig. 37.

Stenopirates collaris: Usinger, 1945, Ann. Ent. Soc. Amer. 38: 336.

Specimens examined: 2 ♂♂, Wu-lai (Urai), N. Formosa, 17. iv. 1965, S.-I. Uéno; 4 carded specimens, Sung-kang, 2,000 m. in height—Tsi-feng, 2,300 m., C. Formosa, 29. vi. 1965, T. Nakane; 9 ♂♂, 1 ♀, Ali-shan (Arisan), C. Formosa, 10 & 11. vii. 1964, S. Asahina; 6 ♂♂, the same locality, 2,300 m.

in height, 6. vi. 1965, S. Kimoto; 10 specimens, 5 & 6. vii, 1965, T. Nakane; 1 ♂, Fen-chi-hu (Funkiko), 1,370 m. in height, west of Ali-shan, 12. iv. 1965, T. Saigusa; 1 ♂, Chiao-li-ping (Karapin), 900 m. in height, near Fen-chi-hu, 13. iv. 1965, S.-I. Uéno; 5 ♂♂, 1 ♀, Kuo-tsu-lin (Kashirin), near Fen-chi-hu, 14. iv. 1965, S.-I. Uéno.

Stenopirates chipon (Esaki, 1935)

Henicocephalus chipon Esaki, 1935, Mushi 8: 22–23, pl. 5, fig. 2.

Henicocephalus chipon Tokunaga: Jeannel, 1941, Ann. Soc. Ent. France

110: 360 (as *sp. incert. sed.*, the author name in error).

Stenopirates chipon: Usinger, 1945, Ann. Ent. Soc. Amer. 38: 336.

Specimens examined; Type series; 1 ♂, Arisan, C. Formosa, 10. x. 1912, I. Nitobe; 1 ♂, Kuan-tzu-ling (Kanshirei), 250 m. in height, C. Formosa, 26. vii. 1936, S. Asahina.

In the original description only one sex (♀) was recorded but the specimens of type series so far as examined at random were of male.

Key to Species of Enicocephalidae in Taiwan

- 1 Small species, less than 2.5 mm., fore wings with one cross vein between Cu_1 and Cu_2 , fore coxal cavities closed behind
.....*Henschiella saigusai*
- Large species, more than 4.5 mm., fore wings with 2 cross veins between Cu_1 and Cu_2 , fore coxal cavities open behind..... 2
- 2 3rd antennal segment distinctly long, about 3 times as long as 4th, pronotum with 3 pairs of conical projections, fore tibiae roughly parallel-sided, tarsi with single claw; body 5.5 mm. long
.....*Hoplitocoris lewisi*
- 3rd antennal segment a little longer than 4th, pronotum with no conical projections, fore tibiae widened toward apex, tarsi with paired claws..... 3
- 3 Pale and robust, covered with distinct erect hairs, either lateral half of middle pronotal lobe tripartite; body 6.1–6.6 mm. long
.....*Oncylocotis shirozui*
- Blackish with red areas, somewhat slender, pilosity less distinct, lateral halves of middle pronotal lobe not tripartite..... 4
- 4 Larger species, 6–7 mm. long, 2nd antennal segment distinctly longer than 3rd, fore tibiae longer than 5 times as much as apical width ...
.....*Stenopirates collaris*
- Smaller, 4.5–5.5 mm., 2nd antennal segment subequal to 3rd, fore tibiae shorter, about 4 times as much as apical width 5

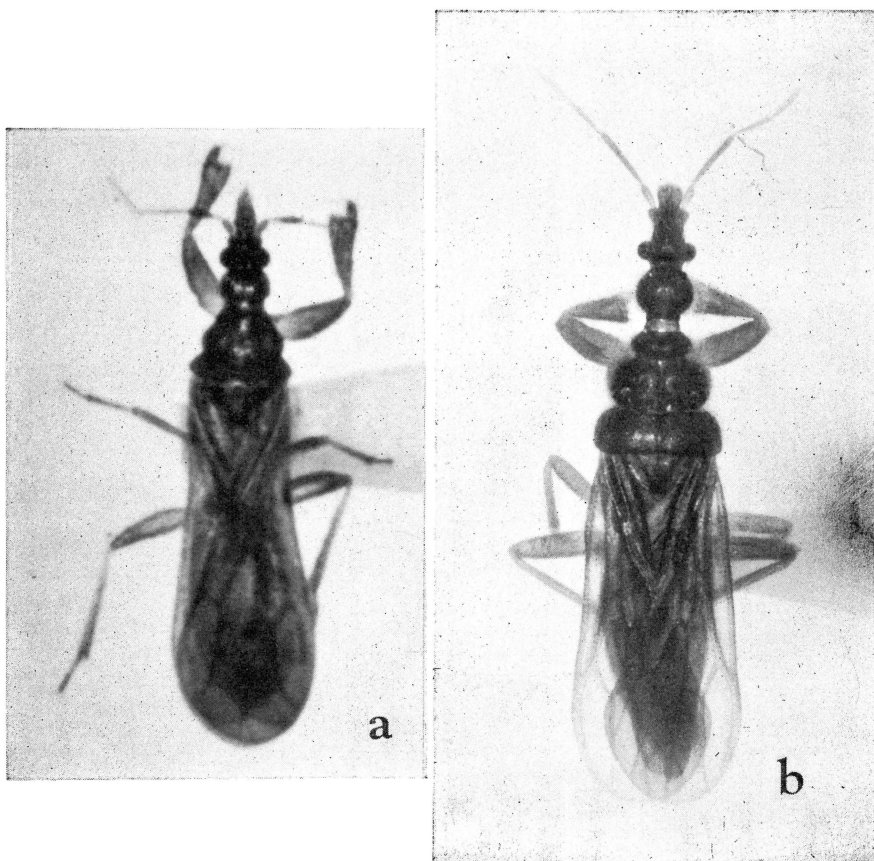
- 5 Sanguineous excepting fore wings broadly dark, middle lobe of pronotum about 1.5 times as long in middle as posterior lobe, legs somewhat robust, apex of fore tibiae more than one-fourth as wide as long, hind tarsi relatively long, about two-fifths as long as tibiae; body 5.5 mm. long *Stenopirates yami*
 Black or brownish with basal and costal areas of fore wings reddish, middle lobe of pronotum in median length subequal to posterior lobe, legs slender, apex of fore tibiae less than one-fourth as wide as long, hind tarsi about one-third as long as tibiae; body 4.5–5 mm. long *Stenopirates chipon*

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Explanation of plate 15

- a. *Henschiella saigusai* Miyamoto, ♂.
 b. *Oncylocotis shirozui* Miyamoto, ♀.



Enicocephalidae of Taiwan

