

**AIR-BORNE LYGAEIDAE (Hemiptera) TRAPPED OVER
THE ATLANTIC, INDIAN AND PACIFIC OCEANS,
WITH THE DESCRIPTION OF A NEW SPECIES
OF *APPOLONIUS* DISTANT¹**

By G. G. E. Scudder

DEPT. OF ZOOLOGY, UNIVERSITY OF BRITISH COLUMBIA
VANCOUVER 8, CANADA

Abstract: This paper describes the species of Lygaeidae taken in research on the aerial dispersal of insects. Sixteen species are recorded, one of which is new to science. *Cymoninus occidentalis* Lindberg 1958 is recorded as a synonym of *C. sechellensis* (Bergroth, 1893) and the genus *Melanotelus* Reuter 1885 is noted to be distinct from *Lygaeosoma* Spinola 1837.

The aerial dispersal of insects is now considered to be of utmost importance in the colonization of isolated land masses (see Gressitt 1954, Scudder 1963, Zimmerman 1948). To date there has been little attempt to identify the material taking part in this movement. Recent trapping research by the B. P. Bishop Museum has resulted in the accumulation of considerable numbers of insects from many Orders. This provides a unique opportunity for specialists to study their own particular groups and so obtain vital information on the dispersive habits in the various taxa. This paper considers the specimens of Lygaeidae (Hemiptera) taken to date in this research.

Material: Yoshimoto & Gressitt (1959), Yoshimoto, Gressitt & Wolff (1962) and Gressitt, Coatsworth & Yoshimoto (1962) have reported on insects taken on various trapping expeditions in the Indo-Pacific area. Eight specimens of Lygaeidae are recorded in these papers as follows: Military Sea Transport Service net captures (Yoshimoto & Gressitt 1959). 1 specimen, 1958, near Guam, 146°-157°. Galathea Expedition (Yoshimoto, Gressitt & Wolff 1962): 1 specimen, F45A, 30. XI. 1950, 16km off St. Thomas Is; 2 specimens, F368, 21. IV. 1951, 3 km off India; 2 specimens F370, 22. IV. 1951, 10km off Tranquebar; 1 specimen, F371A, 23. IV. 1951, 65 km off Tranquebar; 'Monsoon' Expedition (Gressitt, Coatsworth & Yoshimoto 1962): 1 specimen, 10. I. 1961, 42°10' S Lat, 120°21' E Long, 250 km off S Australia.

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Through the kindness of Drs P. D. Ashlock, J. L. Gressitt and C. M. Yoshimoto, I have been able to examine the specimens listed above, together with 33 other specimens of Lygaeidae taken in more recent research.

While these captures have in most cases, been taken relatively close to land and could perhaps have come from the vehicle undertaking the research, they do probably indicate a marked tendency to disperse in the species recorded. To date, no data of this sort are available for the family Lygaeidae.

Species are arranged according to Slater(1964). Full bibliographic information can also be obtained from this publication.

Identity of species captured

Subfamily LYGAEINAE

Melanotelus bipunctatus (Dallas)

Lygaeus bipunctatus Dallas, 1852, List Hem. B. M. 2 : 547.

Lygaeosoma bipunctata, Slater, 1964, Cat. Lyg. World 1 : 65.

2♀♀, F368, Ceylon-Calcutta, 21. IV. 1951, Galathea Expd., 1950-52.

This species is listed from Burma, Ceylon, India, Indo-China, Indonesia, Philippine Is. and Australia by Slater(1964). In the Slater Catalogue the species is listed under *Lygaeosoma* Spinola but I find that *Melanotelus* Reuter is a distinct genus and the correct combination is as above. The two trapped specimens are slightly different from the other specimens of *bipunctatus* that I have examined, in that they have a narrow pale crescent-shaped white mark to the apex of the membrane rather than the usual somewhat quadrate spot seen in the type specimen. However, other specimens of *bipunctatus* from India are somewhat variable in this character and so the two females listed above are probably this species. *M. bipunctatus* in India is reported from sand dunes near the sea (Lefroy, 1909).

Arocatus sericans (Stål)

Arocatus sericans Stål, 1859, Freg. Eug. Resa. 3 : 240.—Slater, 1964, Cat. Lyg. World 1 : 29.

1♀, U. S. N. S. Barrett, 21. V. 1962, nets 27.

Dr. C. M. Yoshimoto informs me (*in litt.*) that this capture was made when the wind was calm on a sailing Subic Bay, Philippines to 12°45'N, 124°19'E. The approximate distance to nearest land being 64.8 km at Samar I., Philippines, 270°.

A. sericans is listed by Slater (1964) from Ceylon, China, India and Japan. I have seen a specimen in the British Museum (Nat. Hist.) from Mindoro, Philippines.

Subfamily ORSILLINAE

Nysius ceylanicus (Motschulsky)

Heterogaster ceylanicus Motschulsky, 1863, Bull. Soc. Nat. Mosc. 36 : 78.

Nysius ceylanicus : Slater, 1964, Cat. Lyg. World 1 : 265.

1 ♀, F371, Ceylon-Calcutta, 23. IV. 1951, Galathea Expd. 1950-52, 65km, off Tranquebar. The species is recorded from Assam, Celebes, Ceylon, China, India, Java, Nepal and Sumatra (see Slater, 1964).

Other species of *Nysius* have been taken in the trapping research, but the identification of these must await further study. However, in order to provide a complete reference of the specimens captured so far, they are listed below.

1 ♂, S. S. Magga Dan, Melbourne-Macquarie I., 30. XI. 1960, 0700-1100, 39°32'-40°, 146°16'-146°50' (Gressitt); 1 ♂, B. E. Esmeralda, 31°06' N, 117°20' W, 17. V. 1963, alive in nets; 1 ♀, USS Mann, 18°13' N, 119°53'E, 15. V. 1963, nets, 1 ♂, USNS Gaffey, 32°07'N, 133°36'E, 3. X. 1963, No. 16 (J. C. Harrell); 1 ♂, USNS Gaffey, 30°50' N, 130°50'E, 3. X. 1963, No. 18 (Harrell); 1 ♂, USNS Gaffey, 34°45' N, 124°58' E, 6.X. 1963, alive (Harrell); 1 ♀, R. S. Shackleton, Atlantic Ocean, 32°50'N, 17°19' W, 18.X. 1964, trapnets sample No. 4 (H. B. Clagg); 1 ♀, 1 ♂, *id.* 11°15'-14°14' N, 26°09'-27°12' W, sample no. 14, 23.X.1964.

Subfamily CYMINAE

Cymoninus notabilis (Distant)

Ninus notabilis Distant, 1882, Biol. Centr. Amer. Het. 1 : 191.

Cymoninus notabilis: Slater, 1964, Cat. Lyg. World 1 : 422.

1 ♂, R. R. S. Shackleton, Atlantic Ocean, 32°40'-33°39' S, 51°39'-52°30' W, trapnets sample no. 1-B, 23. IV. 1964 (H. B. Clagg).

This species is widely distributed in the West Indies, South America and the extreme southeast of the United States.

Cymoninus sechellensis (Bergroth)

Ninus sechellensis Bergroth 1893, Rev. Ent. Caen 12 : 201.

Cymoninus occidentalis Lindberg, 1958, *Comment. Biol. Helsingf.* 19 (1) : 50. **New synonymy.**

Cymoninus occidentalis, *C. sechellensis*: Slater, 1964, Cat. Lyg. World 1 : 423.

1 ♂, USN Shanks, 12°45' N, 124°25' E, 8.IX.1959, Yoshimoto.

This species occurs from Africa to Fiji and is one of the most widely distributed species of Lygaeidae.

Subfamily BLISSINAE

Blissus latus (Distant)

Euhemerus latus Distant, 1909, Ann. Mag. Nat. Hist. ser. 8, 3 : 331.

Blissus latus: Slater, 1964, Cat. Lyg. World 1 : 448.

2 ♀ ♀, F370, Ceylon-Calcutta, 22.IV.1951, Galathea Expd., 1950-52, Taken 10 km off Tranquebar.

Reported to date only from India.

Subfamily RHYPAROCHROMINAE

Lipostemmata, new species

Lipostemmata Berg, 1879, Hem. Argent. : 288.—Slater, 1964, Cat. Lyg. World **2** : 835.

1 ♀, R. R. S. Shackleton, Atlantic Ocean, 34°37'–34°47' N, 53°53'–54°20' W, trapnets sample no. 26, 4. XI. 1964 (H. B. Clagg).

This species will soon be described by P. D. Ashlock of Bishop Museum.

Valtissius distinctus (Distant)

Petizius (sic) distinctus Distant, 1901, Ann. Mag. Nat. Hist. ser. 7, **8** : 501.

Valtissius distinctus : Slater, 1964, Cat. Lyg. World **2** : 841.

1 ♀, R. R. S. Shackleton, Atlantic Ocean, 32°40'–33°39' S, 51°39'–52°30' W, trapnets sample no. 1-B, 23. IV. 1964 (H. B. Clagg).

Recorded only from Grenada I. in Slater (1964), but known to occur elsewhere in the West Indies.

Antillocoris discretus Barber

Antillocoris discretus Barber, 1952, Bull. Brookl. ent. Soc. **47** : 86.—Slater, 1964, Cat. Lyg. World **2** : 843.

1 ♂, R. R. S. Shackleton, Atlantic Ocean, 32°40'–33°39' S, 51°39'–52°30' W, trapnets sample no. 1, 23. IV. 1964 (H. B. Clagg); 1 ♀, *id.*, 1-A; 1 ♀, *id.*, 1-B; 1 ♀, *id.*, 1-C; 2 ♀♀, *id.*, 1-D.

This species is recorded from Florida, Georgia, New Jersey and Texas (Slater 1964).

Appolonius errabundus Scudder, new species

♂. Relatively large species for the genus, and subshiny. Head black with apex of tylus ferruginous; 1st antennal segment dark ferruginous, rest of antennae and rostrum dark ferruginous to brown. Anterior part of pronotal disc black, posterior lobe dark ferruginous brown; lateral pronotal carinae ochraceous. Scutellum with base black and apex grading into dark ferruginous-brown. Hemelytra ochraceous to pale ferruginous with ferruginous punctures; corium with a dark brown spot in middle of anterior margin; apical 1/2 of corium and membrane suffused with ferruginous, but not distinctly marked. Venter black with posterior margin of metapleura, sternum VII and genital capsule ferruginous. Coxae, trochanters and femora dark ferruginous-brown; tibiae and tarsi ferrugino-flavescent, the hind tibiae ferruginous-brown in basal 1/2.

Head width 1.20 mm; vertex flat and distinctly punctate; eyes slightly elevated above level of vertex, slightly pedunculate and somewhat curved round anterolateral angles of pronotum; antennae relatively long, the terminal segments not subglobose, although 2nd segment thinner than 3rd and 4th; 2nd antennal segment with a decumbent, short, sericeous pubescence; 3rd and 4th antennal segments with a short, decumbent sericeous pubescence and short sericeous erect hairs of about same length; antennal measurements 0.23 : 0.53 : 0.60 : 0.67 (millimeters); rostrum reaching onto sternum III; 1st segment of rostrum attaining anterior margin of prosternum. Pronotum wider than long, with width 1.43 mm, length 1.10 mm; lateral margins with carinae distinct on anterior 1/2; anterior lobe of pronotal disc not globose, but rather flat; whole of disc distinctly punctate; anterior lobe about 1/3 longer than posterior lobe. Anterior margin of corium somewhat upturned. Fore femora markedly incrassate (at least in ♂) and with a large antero-

ventral submedian spine. Total length 4.00 mm.

Holotype ♂ (BISHOP 7603) 146°-157°, near Guam, 1958, collected from screen traps on a ship (MSTS) travelling from Hawaii to the Philippines and returning to Guam.

This species differs from *A. crassus* (Dist.) and *A. compactilis* (Bergr.) in size and in the color of the second antennal segment. In the 2 latter species the second antennal segment is ochraceous with a dark ferruginous base and a dark ferruginous subapical annulation.

An extensive search in Museums in many parts of the world has failed to turn up further specimens of this species. However, it is distinct enough to be described from the single specimen above.

Telocoris vittata (Distant)

Lamprodema vittata Distant, 1901, Ann. Mag. Nat. His. ser. 7, 8: 500.

Telocoris vittata: Slater, 1964, Cat. Lyg. World 2: 1063.

1♂, in nets aboard R. V. Argo, Scripps Institution of Oceanography, 'Monsoon Expedition'; Wind direction WNW at 12 knots; 42°10' S Lat, 123°21' E Long.; 250 km from South Australia, 10. I. 1961 (J. Coatsworth).

This species is known only from Australia.

Pachybrachius capicolus (Stål)

Pamera capicola Stål, 1874, K. Vet. Akad. Forh. 12(1): 148.

Pachybrachius capicolus: Slater, 1964, Cat. Lyg. World 2: 1117.

1♂, R. R. S. Shackleton, 16°57' N, 23°13' W, 18.X. 1962 (H. B. Clagg).

This species is common throughout Africa.

P. capicolus is very similar to *P. vincetus* (Say), but the latter has finer punctures within the pale subapical spot on the corium, and fewer punctures to the clavus.

Pachybrachius nietneri (Dohrn)

Plociomerus nietneri Dohrn, 1860, Stett. Ent. Ztg. 21: 404.

Pachybrachius nietneri: Slater, 1964, Cat. Lyg. World 2: 1133.

1♀, USNS Barrett, 21.V.1962, nets no. 27. Other data as *Arocatus sericans*.

A common and widely distributed species in the Indo-Pacific area. Reported from Ceylon in the west to Samoa in the east (see Slater 1964).

Pachybrachius vincetus (Say)

Pamera vincta Say, 1831, Het. Hem. N. Amer.: 16.

Pachybrachius vincetus: Slater, 1964, Cat. Lyg. World 2: 1144.

1♀, B. E. Esmeralda, 11°00'N. 86°12'W, 21. VI. 1963; 2♀♀, R. R. S. Shackleton, Atlantic Ocean, 32°40'-33°39' S, 51°39'-52°30' W, trapnets sample no. 1, 23. IV. 1964 (H. B. Clagg); 2♂♂, 1♀, *id.*, trapnets sample no. 1-B; 1♂, *id.*, 22°01'-23°20' N, 39°15'-40°12' W, trapnets sample no. 21, 31. X. 1964.

This species is widely distributed in South America, the West Indies and the southern part of the United States.

Paromius pallidus (Montrouzier)

Plociomerus pallidus, Montrouzier, 1865, Ann. Soc. Linn. Lyon (2) **11** : 229.

Paromius pallidus : Slater, 1964, Cat. Lyg. World **2** : 1157.

2♀♀, S. F. Baird, 16°12'S, 166°48' E, 31. V. 1962, alive in nets (E. Holzapfel).

A common species in the Pacific; occurs from Ceylon to Samoa (see Slater 1964).

Lachnethus singalensis (Dohrn)

Rhyparochromus singalensis Dohrn, 1860, Stett. Entg. Ztg. **21** : 404.

Lachnethus singalensis, Slater, 1964, Cat. Lyg. World **2** : 1237.

1♂, F45, St. Thomas - Pt. Victoria, 30. XI. 1950, Galathea Exped. 1950-52, Taken 16 km off St. Thomas I., W. Africa.

This species, originally described from Ceylon, has now been reported from Africa and India (see Slater 1964). I have seen specimens also from the Canary Is. and Slater & Lattin (1965) have recently also recorded the species from Mexico.

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