Entomologiske Meddelelser 35 (1967)

(Noona Dan Papers No. 42.)

Aquatic Hemiptera-Heteroptera of the Noona Dan Expedition to the Philippine and Bismarck Islands.

By
I. Lansbury
Hope Department of Entomology, University Museum, Oxford.

Through the courtesy of Dr. Børge Petersen of the Zoological Museum of Copenhagen, I have been permitted to study collections of water-bugs made in the Philippine and Bismarck Islands by a Danish expedition (Wolff 1966; Petersen 1966). These notes are arranged in two parts, the first deals with the Bismarck Archipelago, the second with the Philippines.

1. Bismarck Islands.

NOTONECTIDAE.

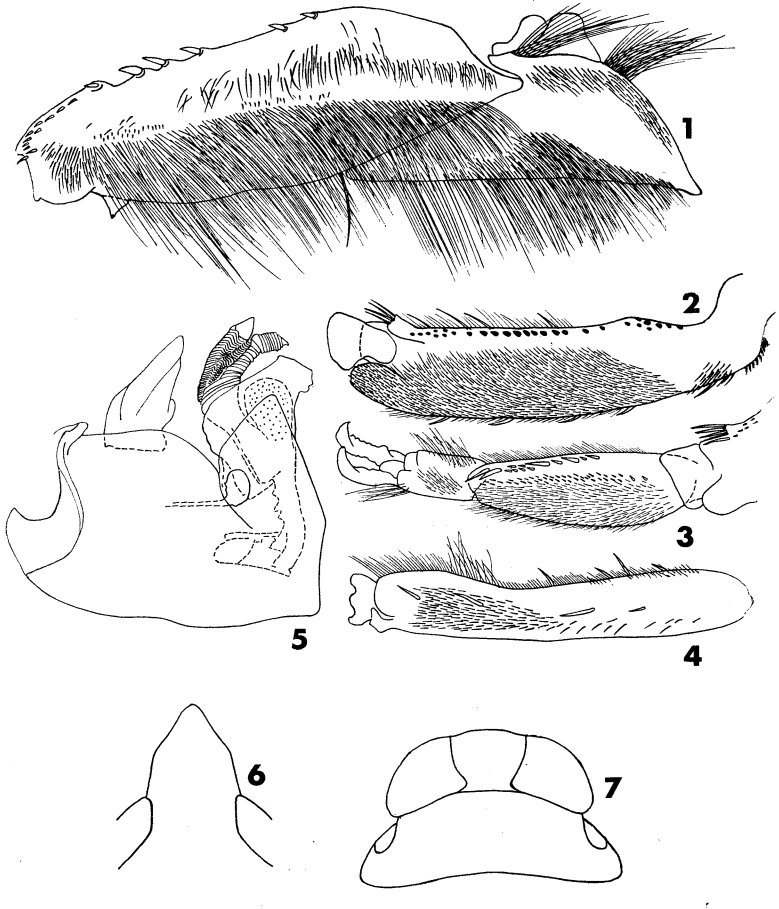
There only seems to be one record of Notonectidae from the Bismarck Archipelago, Laird (1947) recorded *Enithares bergrothi* Montandon from Palmalmal, New Britain. Laird figured the species concerned, it is quite clearly not *E. bergrothi* which is endemic to New Caledonia, but a new species. I have not been able to see any of the specimens collected by Laird, but the general appearance and shape clearly show that it is conspecific with specimens collected by the Noona Dan Expedition from New Britain, New Ireland and Manus Island. As would be expected, a proportion of the species represented are common and widely distributed. The collection also contains two species seemingly endemic to the islands. The Notonectidae of New Guinea are fairly well known (Brooks, 1951, Lansbury, 1962 for *Anisops* and Lansbury in-preparation for *Enithares).*

One species of *Enithares* was collected from various localities in the Bismarck Archipelago, it has no close affinities with any of the known species.

Enithares alexis, n. sp. Figs. 1—7.

Also refering to this species *E. bergrothi,* Laird, 1947, Trans. R. Soc. N.Z. 76(3):464—465.

Colour. Pale form; eyes reddish brown, vertex, pronotum, scutellum, elytra, membrane and legs yellowish brown, abdomen ventrally slightly darker.



Figs. 1—7, *Enithares alexis* Lansbury, n. sp., male. (1) mid-femora; (2) mid-tibia; (3) mid-tarsi; (4) fore tibiae; (5) genital capsule; (6) metaxyphus; (7) head and pronotum from above.

Dark form; Eyes variable from grey to black. Vertex pale green to reddish brown with two lateral brown stripes on frons. Pronotum, anterior ⅓—½ dark brown, medianly greyish hyaline,

posteriorly appearing black due to scutellar colour showing through. Scutellum black, sometimes with apex yellowish green, if so, scutellum dark brown. Clavus dark brown to black with outer margin greyish hyaline, sometimes with greyish area extending over most of clavus with only inner lateral margin dark. Corium with inner angle and posterior margin dark brown to black, remainder greyish hyaline. Opaque zone of membrane black, anterior and posterior lobes of membrane smoky brown. Legs and abdomen ventrally yellowish brown.

S t r u c t u r e, male and female. Viewed dorsally head rounded. Greatest width of head 5/6 pronotal humeral width, usually less than 3x anterior width of vertex, sometimes equal to or more than 3x anterior width of vertex. Synthlipsis ½ anterior width of vertex. Median head length slightly greater than anterior width of vertex. Head length to pronotal length variable; in ♂ equal to or less; ♀ head always longer than pronotum. Pronotal humeral width variable, about 3x median length. Lateral margins diverging, about ½ median length, posteriorly convex, centrally deeply emarginate. Dorsal margin of pronotal fovea curving laterad behind eyes Fig. 7. Nodal furrow curved cephalad, less than its own length removed from membranal suture. Mesotrochanter elongate with tip produced Fig. 1. Male mid-femora with a dense mat of long hairs and depressed, dorsal margin of mid-femora with several stout setae Fig. 1. Male mid-tibiae Fig. 2 with distal outer margin produced and rounded. Chaetotaxy of the ♂ mid-tarsi and claws Fig. 3. Male fore tibiae Fig. 4 with inner margin depressed. Female hind femora slightly constricted adjacent to trochanter. Genital capsule Fig. 5 posterior lobes bluntly acuminate, parameres rounded with two spine-like processess on inner margin. Metaxyphus bluntly acuminate Fig. 6.

H o l o t y p e ♀, 1 ♂ and 6 ♀ paratypes, NEW IRELAND: Lelet Plateau, Lemkamin, 900 m., 20 April. — 14 paratypes, NEW BRITAIN: Gazelle Peninsula, Yalom, 1000 m. 1 ♂, 1 ♀, 9 May; 2 ♂, 3 ♀, 12 May, Station 16, small river; 2 ♂, 2 ♀, 15 May, Station 20, ditch; 1 ♂, 23 May; 2 ♂, river west of Yalom, 900 m., 21 May, Station 23. — 2 paratypes, MANUS: Lorengau, 1 ♂, 1 ♀, 21 June, Station 52, brook in secondary forest. This series collected by the Noona Dan Expedition in 1962 is in the Zoological Museum, Copenhagen, except 6 paratypes in my collection. In addition I have seen before me a ♂ paratype NEW BRITAIN: Gazelle Pen.,

Upper Warangoi Illugi, 230 m., 8—11.xii. 1962, J. Sedlacek and a ♂ paratype, same data, 250—600 m., 28—30.xi. 1962, J. Sedlacek which will be deposited in the Bernice P. Bishop Museum, Honolulu.

The shape of the mesotrochanter and fore-tibia allies *alexis* with *E. malayensis* Brooks. *E. alexis* is however, clearly distinct, the very long mid-femoral hairs, stout setae on dorsal margin of mid femora and chaetotaxy of the mid-tibia are diagnostic.

Anisops nasuta Fieber, 1851.

MUSSAU: Lake Taletassi, 40 ♂, 120 ♀, also nymphs, 5 June; 1 ♂, 5 June, Station 29, plankton sample; 2 ♂, 6 June, bottom sample; Boliu, 1 ♀, 6 May 1962. — MANUS: Lorengau, 1 ♂, 21 June 1962, Station 52, brook in secondary forest; Lombrum, 1 ♂ 8 ♀, 29 June 1962, Station 69, damned lake; Papitalai Lagoon near Lombrum, 2 ♂, 4 ♀, 29 June 1962, Station 70, small lake.

A. nasuta is a common widespread Pacific species.

Anisops stali Kirkaldy, 1904.

MUSSAU: Talumalaus, 1 ♀, 19 Jan. 1962, mercury vapour light trap.

Widely distributed from Australia to Okinawa, not recorded from New Guinea.

Anisops occipitalis Breddin, 1905.

MUSSAU: Lake Taletassi, 140 m., 14 ♂, 25 ♀, 5 June 1962.

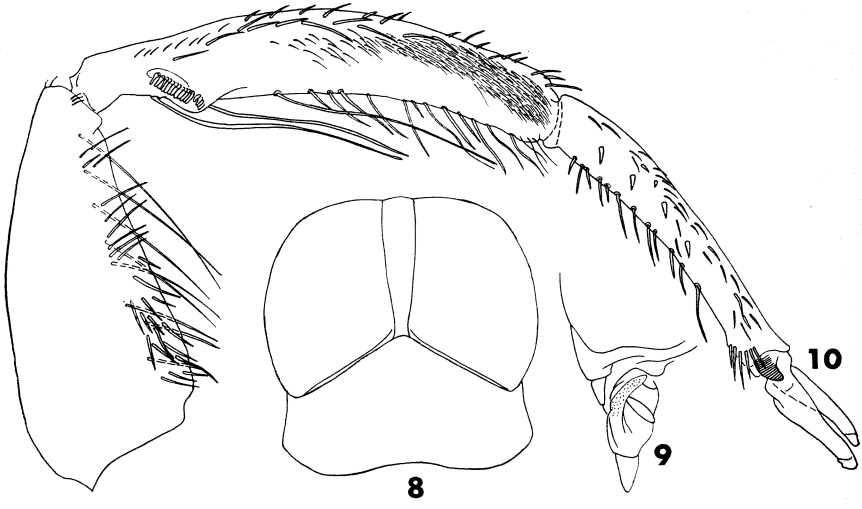
Lansbury (1965) discussed this species in some detail comparing the various forms including *E. leucothea* Esaki. The series from Mussau are most clearly allied to the New Guinea form (Lansbury, 1965:66, fig. 7d; 67, fig. 8c).

Anisops quadrispinosus, n. sp. Figs. 8—10.

Male, length 4·75 mm., maximum width 1·1 mm.

Colour. Eyes grey; vertex and most of pronotum greyish white, anterior lateral margins of pronotum blackish. Scutellum and elytra hyaline appearing dark brown due to dorsal abdominal pigmentation showing through. Legs, keel and connexival segments yellowish white, abdomen ventrally dark brown.

S t r u c t u r e. Eyes very large and voluminous Fig. 8. Greatest width of head slightly greater than the pronotal humeral width, just under 2× median head length and nearly 8× anterior width of vertex. Synthlipsis just over ¼ anterior width of vertex. Median head length 1/6 greater than pronotal length. Pronotal humeral width just over 2× median length, lateral margins divergent, posterior margin convex, centrally emarginate. Facial tubercle



Figs. 8—10, *Anisops quadrispinosus* Lansbury, n. sp., male. (8) head and pronotum from above; (9) rostrum; (10) fore leg.

very slightly raised. Labrum short, apex rounded, basal width ⅓ greater than median length. Rostral prong short and curved Fig. 9. Chaetotaxy of male fore leg Fig. 10. Stridulatory comb of about 19 pegs, inner pegs much shorter than the remainder.

H o l o t y p e ♂, MANUS: Lorengau, brook in secondary forest, 21 june 1962; in the Zoological Museum, Copenhagen.

In Brooks (1951) *quadrispinosus* keys out to couplet 95 and can be separated immediately from *A. deanei* Brooks by the shape and position of the rostral prong. Lansbury (1964:63 Figs. 82—84) also figures *A. deanei*. From *A. waltairensis* Brooks by the number of tibial stridulatory pegs, the latter having about 11—12 compared with 19 for *quadrispinosus*. See Lansbury (1964a:214—215 Fig. 6) for discussion of affinities of *A. waltairensis*.

NEPIDAE.

Laccotrophes sp.

MANUS: Papitalai Lagoon, near Lombrum, 2 nymphs, 29 June 1962, small lake near the sea (St. 40).

The two nymphs are undeterminable but belong almost certainly to this genus.

2. Philippine Islands.

BELOSTOMATIDAE.

Lethocerus insulanus (Montandon, 1898).

BALABAC: Dalawan Bay, 1 ♂, 5 Oct. 1961.

Menke (1960) gives the distribution of *insulanus* as Australia and Melanesia.

PLEIDAE.

Plea sobrina Stål, 1859.

PALAWAN: Brooke's Point, Uring Uring, 1 ex., 14 Aug. 1961. — TAWI TAWI: Tarawakan, 2 ex., 20 Oct. 1961.

According to Lundblad (1933) the nominate form of *P. sobrina* is endemic to the Philippines. A subspecies *P. s. horvathi* was described by Lundblad (l.c.) from New Guinea.

CORIXIDAE.

Micronecta quadristrigata Breddin, 1905.

PALAWAN: Brooke's Point, Uring Uring, 10 ♂, 5 ♀, 14 and 21 Aug. 1961, mercury vapour light trap.

TAWI TAWI: Tarawakan, 9 ♂, 13 ♀, 20 and 21 Oct. 1961, 12 ♂, 10 ♀, 11—15 Nov. 1961; Lapid Lapid, 4 ♂, 2 ♀, 19 Nov. 1961, all trapped by mercury vapour light.

This is a fairly widespread oriental species. Lundblad (1933) recorded it from India, Burma, Ceylon, Java, Sumatra and the Philippines.

NOTONECTIDAE.

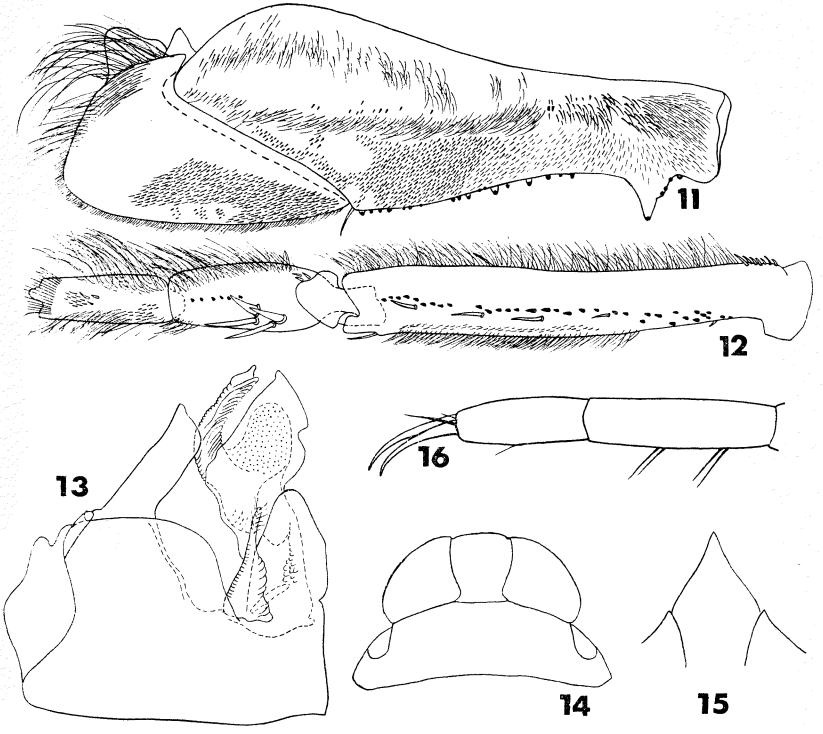
Enithares freyi quadrispinosus subsp. nov. Figs. 11—15.

Males length 9—9.75 mm., maximum width 3.5—3.75 mm. Females length 8.75—9.5 mm., maximum width 3.5—3.75 mm.

Shape, fairly large robust species, greatest width across prono-

tal humeral angles. Abdomen tapering from posterior margin of pronotum.

C o l o u r. Eyes light grey to dark brown. Vertex, anterior half of pronotum and most of scutellum yellowish brown. Anterior



Figs. 11—15, *Enithares freyi quadrispinosus* Lansbury, subsp. n. (11) mid-femora; (12) mid-tibia and tarsus; (13) genital capsule; (14) head and pronotum from above; (15) metaxyphus.
Fig. 16, *E. freyi freyi* Brooks, male mid-tarsus and claws. (Froeschner original).

half of pronotum and elytra excluding membrane hyaline shining grey appearing black due to dorsal abdominal pigmentation showing through. Membrane suffused with brown. Legs and abdomen ventrally yellowish brown.

S t r u c t u r e. Viewed dorsally head rounded. Anterior width of vertex extending beyond eyes. Greatest width of head 4/5 pronotal humeral width. Head width to anterior width of vertex variable, at most just over 3×, sometimes slightly less than 3× and

between 2¼—2½ × median head length. Synthlipsis just over ½ anterior width of vertex. Median head length slightly greater than anterior width of vertex and slightly shorter than pronotum. Pronotal humeral width variable, slightly more or less than 3× median length. Pronotal lateral margins divergent, just over ½ median length, posterior margin convex, centrally emarginate. Dorsal margin of pronotal fovea directed obliquely laterad behind eyes Fig. 14. Nodal furrow basally straight, tip inclined cephalad, less than its own length removed from the membranal suture. Mesotrochanter of male rounded Fig. 11. Male mid-femora covered with short blunt spines Fig. 11. Male mid-first tarsal segment with four very stout long spines Fig. 12 and with about six black spicules. Genital capsule Fig. 13 parameres elongate, triangular, apices rounded with numerous hairs Fig. 13. Metaxyphus Fig. 15.

Holotype ♂, 5 ♂ and 5 ♀ paratypes, PALAWAN: Mantalingajan, Pinigisan, 600 m., 14 Sept. 1961, taken in a very small shallow water hole in slow stream; 2 ♂ paratypes, ibid., 1 and 12 Sept. 1961.

Comparative notes. Most closely allied to *E. thienemanni* Lundblad by the shape of the parameres. *E. thienemanni* has a large tubercle on the inner surface of the male mid-tibia distally which is absent in *freyi freyi* and *frey quadrispinosus*. Lastly *thienemanni* appears to be endemic to Sumatra.

Brooks (1948) described *E. freyi* from Mt. Prov., P. I., Benguet, July, 15, 1946, Dr. G. Frey. I have not been able to trace this locality. The holotype male of *freyi* is in the Smithsonian Institution Washington, not in the British Museum (Natural-History) as stated by Brooks (1948). I have not been able to study the type of *freyi* Brooks. Dr. R. Froeschner (Washington) has compared material from Palawan with Brooks's type. He considers them to be extremely close, the only difference being in the chaetotaxy of the middle tarsi. Dr. Froeschner has made a sketch of the male mid-tarsus and claws of *freyi freyi* from a slightly different aspect, Fig. 16, this shows the slightly different arrangement of the large spines on the tarsus.

Two other species of *Enithares* have been recorded from the Philippines, *E. martini* Kirkaldy and *E. bakeri* Brooks. Lundblad (1933) queried the occurrence of *E. sinica* (Stål), this species is confined to the asiatic mainland and Formosa (Lansbury in preparation).

Anisops tahitiensns Lundblad, 1933.

TAWI TAWI: Lapid Lapid, 1 ♂, 19 Nov. 1961, mercury light trap. A very common widespread oriental species.

Anisops sp.

PALAWAN: Brooke's Point, Uring Uring, 1 ♀, 16 Aug. 1961, mercury light trap.

Acknowledgments.

I wish to thank Dr. R. C. Froeschner for his invalubable assistance regarding *Enithares freyi freyi* Brooks and Dr. A. Wroblewski, Poznan for checking my determination of *Micronecta quadristrigata* Breddin.

Summary.

A new species of *Enithares* and *Anisops,* respectively (Notonectidae) are described from the Bismarck Archipelago, and a new subspecies of *Enithares* is described from the Philippines. Records and distributional notes are given on a few other aquatic Heteroptera from these regions.

References.

Brooks, G. T., 1948: New Species of Enithares (Hemiptera, Notonectidae). — J. Kans. ent. Soc. 21:37—54, 2 pls.

—, 1951: A Revision of the Genus Anisops (Notonectidae, Hemiptera). — Kans. Univ. Sci. Bull. 34:301—519.

Laird, M., 1947: Some Natural Enemies of Mosquitoes in the Vicinity of Palmalmal, New Britain. — Tran. R. Soc. N. Z. 76 (3): 453—476.

Lansbury, I., 1962: Notes on the Anisops in Bishop Museum. — Pacif. Insects (I) 4:141—151.

—, 1964: The Genus Anisops in Australia (Hemiptera : Notonectidae) Part I. — J. ent. Soc. Queensland, 3:52—65.

—, 1964a: Some Observations on the Notonectidae (Hemiptera-Heteroptera) of Viet-Nam and Adjacent Regions. — Annls. zool. Warsz. 12:203—219.

—, 1965: Notes on the species of the Genus Anisops Spin. (Hemiptera-Heteroptera, Notonectidae) of Java. — Ibid, 13:57—68.

Lundblad, O., 1933: Zur Kenntnis der aquatilen und semi-aquatilen Hemipteren von Sumatra, Java und Bali. — Arch. f. Hydrobiol., Stuttgart, Suppl. 12:1—489.

Menke, S. A., 1960: A Review of the genus Lethocerus (Hemiptera: Belostomatidae) in the Eastern Hemisphere with the Description of a new species from Australia. — Aust. J. Zool. 8 (2): 285—288.

Petersen, Børge, 1966: The Noona Dan Expedition, 1961—62. Insects and other land arthropods. — Ent. Meddr. 34:283—304.

Wolff, Torben, 1966: The Noona Dan Expedition 1961—62. General Report and Lists of Stations. — Vidensk. Medd. dansk naturh. Foren. 129: 287—336.

Anmeldelse.

Victor Hansen: **Biller XXIII. Smældere og Pragtbiller.** Larverne ved K. Henriksen. Danmarks Fauna 74, Kbhv. 1966, 179 pp. Pris ib. kr. 38,25

Det foreliggende bind afløser K. Henriksen's Pragtbiller og Smeldere, Danmarks Fauna bind 14 fra 1913. Dette bind har længe været udsolgt og er iøvrigt på mange punkter ikke længere tidssvarende.

Efter indledende bemærkninger om Pragtbillernes og Smældernes ydre anatomi og levevis følger oversigtstabeller over slægtsgrupper, slægter og arter. Bestemmelsestabeller og artsbeskrivelser er fortræffelige og reducerer vanskelighederne ved bestemmelsen så selv en begynder hurtigt vil kunne komme til et sikkert resultat, ikke mindst fordi der ved beskrivelsen af de enkelte arter er lagt vægt på at fremhæve de egenskaber, der karakteriserer arterne i forhold til beslægtede arter. Teksten er ledsaget af mange udmærkede tegninger af de i oversigtstabellerne angivne detailler, og endelig er der en lang række meget smukke habitusfigurer af enkelte arter, i reglen mindst 1 art af hver slægt. Larveafsnittet er et genoptryk af Henriksens afsnit i bind 14, dog har forfatteren foretaget en del tilføjelser på grundlag af senere fremkommet litteratur; således er der medtaget en halv snes senere beskrevne larver.

Det nu foreliggende bind er samtidig afslutningen på et imponerende arbejde, der har strakt sig helt fra 1918, da Victor Hansen udgav sit første billebind i serien i Danmarks Fauna. Gennem årene har han støt arbejdet sig igennem hele billesystemet, der nu foreligger i ialt 18 bind, hvortil kommer endnu 2 bind: en almindelig del og et tillægsbind, der medtager de ændringer, der er sket i de næsten 50 år behandlingen af Danmarks biller har stået på. Larverne, der desværre kun er behandlet i knapt halvdelen af bindene, er dog med undtagelse af smælderbindet bearbejdet af andre.

At Victor Hansen som »fritidsbeskæftigelse« har kunnet overkomme dette stort anlagte og stort gennemførte værk er helt utroligt. Det er en meget stor fordel, at hele værket er skrevet af samme forfatter. Den kontinuitet, der derved er opnået i selve behandlingsformen, gør det let at arbejde med bindene. Hele værket er baseret på forfatterens indgående kendskab til den danske billefauna og er skrevet i et klart og overskueligt sprog, som overalt viser den sikreste vej til bestemmelsen, og forfatterens mange tegninger kan ikke gøres bedre. Der er således al mulig grund til at takke Victor Hansen for dette smukke arbejde, og man må håbe, at det vil kunne inspirere endnu flere og især yngre til at beskæftige sig med den danske billefauna.

F. Bangsholt.