

(Noona Dan Papers No. 96)

Some Heteroptera Nabidae (Hemiptera) from the Southern Philippines and the Bismarck Islands.

By

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Thanks to the kindness of Dr. Børge Petersen (Zoological Museum, Copenhagen) I have received for examination the Nabidae collected by the Noona Dan Expedition (Petersen, 1966), a total of 13 specimens from Philippines and 87 specimens from the Bismarck Islands.

The material from the Bismarck Islands is very interesting. Only one species of Nabidae, namely *Tropiconabis nigrolineatus* (Distant) (= *Nabis tasmanicus* Remane), has been reported previously from New Britain (Remane, 1964; Kerzhner, 1970, in press). The Noona Dan Expedition has collected 11 species, all new for the islands and 4 of them are new species. 6 species are common with New Guinea and all new species are closely related to species described from New Guinea. One species, *Arbela immista* Harris, is common with the New Hebrides, but not recorded as yet from New Guinea.

The Nabidae of the Philippines are studied relatively well. Approximately 20 species are recorded from these islands. The Noona Dan material contains 4 species; one of them (common with the Bismarck Islands) is a new species, three other species are previously known to occur in the Philippines.

The material examined, including holotypes of all new species, is deposited in the Zoological Museum, Copenhagen; a part of the material, including some paratypes of all new species, is in the Zoological Institute, Leningrad.

I wish to extend my sincere appreciation to Dr. Børge Petersen and Dr. Niels Møller Andersen (Copenhagen), for the opportunity to study this interesting material and to Dr. W. J. Knight (London), Dr. M. Meinander (Helsinki) and Dr. Á. Soós (Budapest) for help with comparative and supplementary material.

Alloeorhynchus (Psilistus) tarsalis (Walker, 1873)

Bismarck Isls., New BRITAIN: Yalom, 1000 m., 1 ♂, 21 May 1962.

This species has been known only from New Guinea (Papua: Dorey; Kokoda). The male examined agrees well with the description of a female given by Harris (1937), though the body is smaller (length 5.2 mm.; width at pronotum 1.6 mm, at abdomen 1.8 mm.), the three basal segments of the cornexivum are orange-red and the row of punctures along the inner margin of clavus is indistinct.

Alloeorhynchus (s.str.) vinulus Stål, 1864

Philippines, PALAWAN: Uring Uring, 1 ♀, 22 Sept. 1961, in Malaise trap.

Distribution: India, Burma, Indochina, Formosa, Java, Philippines (Luzon; Palawan is a new record).

Phorticus flavoscutellatus sp.n.

Bismarck Isls., NEW BRITAIN: Valoka, ♀ holotype, ♀ paratype, 13 July 1962, in rotten wood in rain forest.

Description. Very small, brachypterous, oblong-ovate, dull (except the head), clothed with short golden hairs.

Head shining dark brown, in the fore part yellow, strongly declivent. Vertex 2.1 times as wide as an eye. Eye width: depth: length ratio as 0.08 : 0.20 : 0.11 mm. Ocelli very small. Rostrum yellowish, reaching slightly behind the fore coxae, segment II nearly twice as long as III. Antennae yellow, with long setae on the distal segments, segment I slightly surpassing the apex of the head, segment II thickened to the apex, proportion of segments 0.15 : 0.21 : 0.24 : 0.30 mm.

Pronotum flattened, dark brown, the collar and triangular spot on the fore lobe attached to this yellow, the remaining part of the fore lobe and the hind lobe sometimes with a median yellowish line. The fore and hind lobes with a distinct longitudinal furrow. Pronotum 1.25 times as wide as long and two times as wide as the head, sides slightly concave in the fore and hind thirds. Scutellum light yellow. The under side of the prothorax dark brown, of the meso- and metathorax somewhat lighter. Hind margin of the metathorax nearly straight. Ostiolar canal wide, shining, directed obliquely to the hind margin of the metathorax but not attaining this by a distance approximately equal to the width of the canal.

Hemelytra abbreviated, three times as long as the scutellum, leaving nearly one third of the abdomen uncovered. Membranes relatively well developed, nearly completely overlapping, without veins. The basal third of hemelytra and sometimes all margins of clavus yellow, the remaining part of corium and clavus dark brown; the membrane blackish grey with hind margin and the inner half of the basal margin narrowly whitish.

Legs yellow. Fore femora incrassate, armed beneath near the middle with a strong tooth and denticulate from there to apex. Fore tibiae widened distally, rather abruptly cut off and provided with a fossa spongiosa at apex; inner margin with some dark teeth, of which the last is the largest. Length of the hind tibia 0.6 mm.

Length 2 mm., width at pronotum 0.68 mm., at abdomen 0.8 mm.

Male unknown.

Remarks. Closely related to *Ph. ochraceus* Reut. and *Ph. pygmaeus* Popp., described from New Guinea (Astrolabe Bay). The types of both these species are examined by me.

Holotypus (the only present specimen) of *Ph. ochraceus* Reut. is a macropterous female from Erima in the collection of the Hungarian National Museum of Natural History. It is a teneral, insufficiently pigmented specimen. Length only 2.21 mm. In all other respects it agrees well with macropterous females described in *Ph. pygmaeus* (see below).

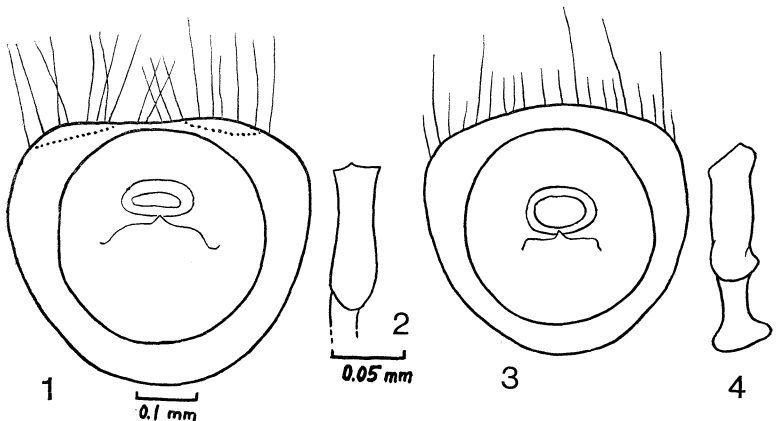
Ph. pygmaeus was described from macropterous as well as brachypterous specimens. Apparently I have examined the whole type series: two macropterous females from Erima and Stephansort and two brachypterous males from Stephansort in the Hungarian Museum and in addition one macropterous male from Erima in the Helsinki Museum. The type series is mixed, and at least brachypterous and macropterous specimens belong to different species.

In all macropterous specimens the hind pronotal lobe is without a longitudinal furrow. In the females the fore femora are entirely yellow; hemelytra not surpassing the apex of abdomen; total length 2.4—2.47 mm., width 0.93 mm.; pronotum length 0.64 mm., width 0.86 mm.; proportion of the antennal segments 0.15 : 0.3 : 0.3 : 0.33 mm.; length of the hind tibia 0.71 mm. In the male the fore femora are brownish in the middle part; heme-

lytra reaching well beyond the apex of abdomen, total length 2.2 mm.; body length (without hemelytra) 2 mm.; width of the abdomen and pronotum 0.83 mm.; length of the pronotum 0.64 mm.; proportion of the antennal segments 0.14 : 0.23 : 0.26 : 0.29 mm.; length of the hind tibia 0.66 mm.; praegenital segment with the hind margin almost straight, somewhat concave at the middle, clothed with long hairs (Fig. 1), paramere as in Fig. 2.

The macropterous females are identical with the holotype of *Ph. ochraceus* in all respects, except the colouring, which is very pale in the teneral and unpigmented holotype of *Ph. ochraceus*, and I think that they are conspecific with *Ph. ochraceus*. The macropterous male differs from the females in the darkened fore femora and shorter antennae, but may also belong to *Ph. ochraceus*.

In addition to the macropterous specimens from Astrolabe Bay discussed above there is a macropterous female from Simbang, Huon Golf (Biró leg.) in the Hungarian Museum with the label "Phorticus pygmaeus R. et P. typ" in the handwriting of Poppius (other specimens bear only a light blue label "typ" in the same handwriting. The locality Simbang is not mentioned in the original description, probably due to inadvertance or printer's error; however, I believe it is better not to include this specimen in the type-series. The female from Simbang resembles much the macropte-



Figs. 1, 2. *Phorticus ochraceus* Reut., male lectoparatype of *Ph. pygmaeus* Popp.; 1) genital and praegenital segments; 2) paramere. Figs. 3, 4. *Ph. pygmaeus* Popp., male lectotype; 3) genital and praegenital segments; 4) paramere.

rous females from Astrolabe Bay, but is somewhat larger (length 2.53 mm., width 1.03 mm., pronotum more convex, length 0.71 mm., width 0.96 mm.), hemelytra reaching slightly beyond the tip of abdomen and the fore femora are brownish at the middle. This specimen belongs probably to *A. ochraceus* or at least to a closely related species.

The two brachypterous males of the type-series differ from the macropterous specimens by the presence of a longitudinal furrow not only on the fore but also on the hind lobe of pronotum, in addition they are smaller, with shorter legs and antennae (total length 1.65—1.8 mm., width 0.7 mm., pronotum length 0.51 mm., width 0.6 mm., proportion of the antennal segments 0.15:0.2:0.21:0.29 mm., length of the hind tibia 0.57 mm.); praegenital segment with more short hairs, hind margin slightly convex (Fig. 3), and paramere differently shaped (Fig. 4).

Since the type-series is mixed and the macropterous specimens belong probably to *Ph. ochraceus*, I have designated a brachypterous male as lectotype for *Ph. pygmaeus*.

The males of *Ph. pygmaeus* (in the sense restricted here by the designation of a lectotype) differ from the females of *Ph. flavoscutellatus* n. sp. in the dark brown scutellum; in addition in *Ph. pygmaeus* the hind margin of the metasternum is angularly concave on the sides and here the ostiolar canal nearly reaches the hind margin of the thorax; membranes are somewhat narrower and in one third not overlapping one the other (it is erroneously stated in the original description "hemelytris formae brachypterae scutello paullo longioribus, membrana destitutis"; hemelytra are really 2.75 times as long as scutellum and with a distinct membrane).

Three other species described from New Guinea, namely *Ph. ochraceus* Reut., *Ph. fasciatus* Reut. and *Ph. fuliginosus* Reut. (types of all these species are examined by me) are larger than *flavoscutellatus* n. sp., with fully developed hemelytra and brown scutellum (exception: the discoloured holotype of *Ph. ochraceus*).

***Gorpis sordidus* Reuter, 1909.**

Philippines, MINDANAO: Sapamoro, 2 ♀, 16 and 21 Dec. 1961, in Malaise traps.

Distribution: Philippines (Luzon, Panay, Samar, Mindanao), New Guinea, Deslacs Isl.

Gorpis harrisi Kerzhner, 1970.

Bismarck Isls., NEW BRITAIN: Bita Paka 15 km SE of Koko, 1 ♂, 10 July 1962.

The species is described from a single male from Papua and is closely related (if not synonymous) to *G. neglectus* Harris from Queensland. The dark marking on scutellum is feebly developed in the present specimen.

Arbela telomi (Distant, 1903). (Figs. 5,6)

Nabis telomi Distant, 1903, Fasc. Malay. Zool., 1:268.

Acanthobrachys virescens Kirkaldy, 1908, Proc. Linn. Soc. N. S. Wales, 32:782.

Arbela bakeri Harris, 1938, Ann. Mag. nat. Hist. (11), 1 (6):571—572.

Arbela splendida Harris, 1938, Ann. Mag. nat. Hist. (11), 1 (6):573, fig., *syn. nov.*

Arbela hibisci Esaki and Ishihara, 1943, Mushi, 15:71, fig.

Arbela telomi Kerzhner, 1970, Acta ent. Mus. Nat. Praga, figs. (synonymy). (In press).

Bismarck Isls., NEW BRITAIN: Yalom, 1000 m., 1 ♂, 2 ♀, 14 and 22 May 1962. — NEW IRELAND: Lemkamin, 900 m., 1 ♂, 1 ♀, 11 April 1962; Namatanai, 2 ♀, 23 June 1939, G. F. Gee, British Museum (Nat. Hist.). — MUSSAU: Talumalaus, 1 nymph, 24 Jan. 1962; Boliu, 1 ♂, 4 June 1962.

Distribution: Malay Peninsula, Borneo, Philippines, Micronesia, New Guinea, Bismarck Isls. (new record), Solomon Isls., Australia (Queensland).

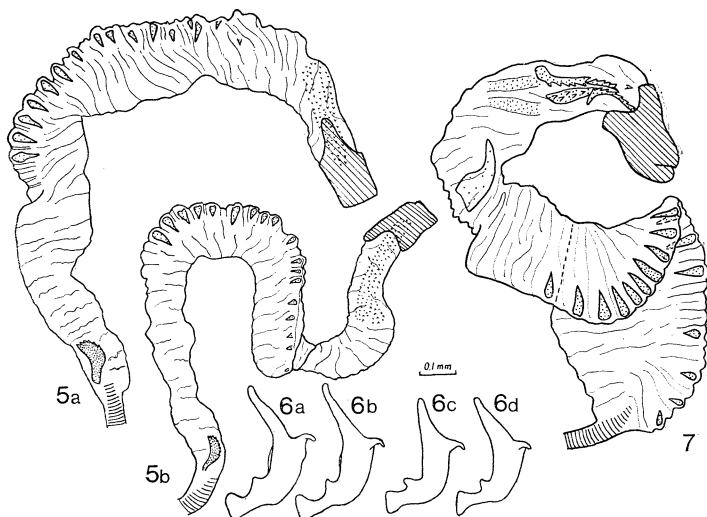
An examination of a female from the authentic series of *A. splendida* Harris with the label "Papua: Mafulu, 4000 ft., Jan. 1934, L. E. Cheesman", deposited in the British Museum (Nat. Hist.) has shown that this species is a synonym of the very variable and widely distributed *A. telomi* (Distant); *syn. nov.*

It is possible that *A. telomi* can be subdivided in some subspecies (or even closely related species), but the material at hand is insufficient for such subdivision. Measurements of some specimens are given in the Table 1.

The colouring is very variable. The male from Mussau is uniformly pale green, only scutellum and the base of hemelytra are black. In the other specimens collected by the Noona Dan Expedition the head is black with apex yellow, the collar and the fore lobe of pronotum entirely or partly black, the inner part of the hemelytra dark grey. The two females from New Ireland in

Table 1. Measurements of *Arbela telomi* (Distant). (Each unit equals 0,01 mm)

	Total length	Head length	Head width	Vertex width	Eye length	Postocular part length	Pronotum length	Pronotum width	Antennal segments length				Hind femur length
									I	II	III	IV	
♂, Ponape, paratype of <i>A. hibisci</i>	525	71	67	23	33	10	93	79	200	225	?	?	400
♂, Mussau	510	71	69	23	36	7	97	81	170	185	?	?	340
♂, New Ireland, Lemkamin	560	79	74	30	39	7	107	97	180	210	300	?	350
♂, New Britain, Yalom	630	80	79	29	39	7	120	107	200	?	?	?	375
♂, Philippines, Mindanao, Iligan	560	79	74	30	37	9	107	96	175	200	?	?	?
♀, Ponape, paratype of <i>A. hibisci</i>	675	87	76	30	36	10	114	100	225	250	300	?	400
♀, Papua: Mafulu, <i>A. splendida</i> , Harris det. . .	675	93	79	30	37	9	123	117	210	225	?	?	375
♀, New Britain, Yalom	685	87	79	30	40	7	121	107	185	200	?	?	350
♀, New Ireland, Namatanai	600	81	74	30	39	7	117	97	200	215	?	?	350
♀, Australia, Kuranda, topotype of <i>A. virescens</i>	600	79	70	27	34	7	107	96	175	200	?	?	350



Figs. 5, 6. *Arbelia telomi* (Dist.); 5) aedeagus of male from a) New Ireland, b) Mussau; 6) paramere seen from the outer side, a) Philippines, b) New Ireland, c) Mussau, and d) Ponape). Fig. 7. *A. inerma* Harris, paratype, aedeagus.

the British Museum have the ground colouring reddish, head and pronotum somewhat more pale.

In the male from Mussau and also in a male and a female from Ponape (paratypes of *A. hibisci*), which I have examined, the collar is shining and with more or less indistinct punctures, whereas in other specimens the collar is dull and distinctly punctured. Also in some measurements and in the genital structures (see Figs. 5, 6) the male from Mussau is more related to the male from Ponape, than to specimens from the main Bismarck Islands. Possibly if a splitting in subspecies or related species occurs, the Mussau specimen should be referred to *hibisci*, and specimens from other Bismarck Islands to *splendida* or to *telomi*.

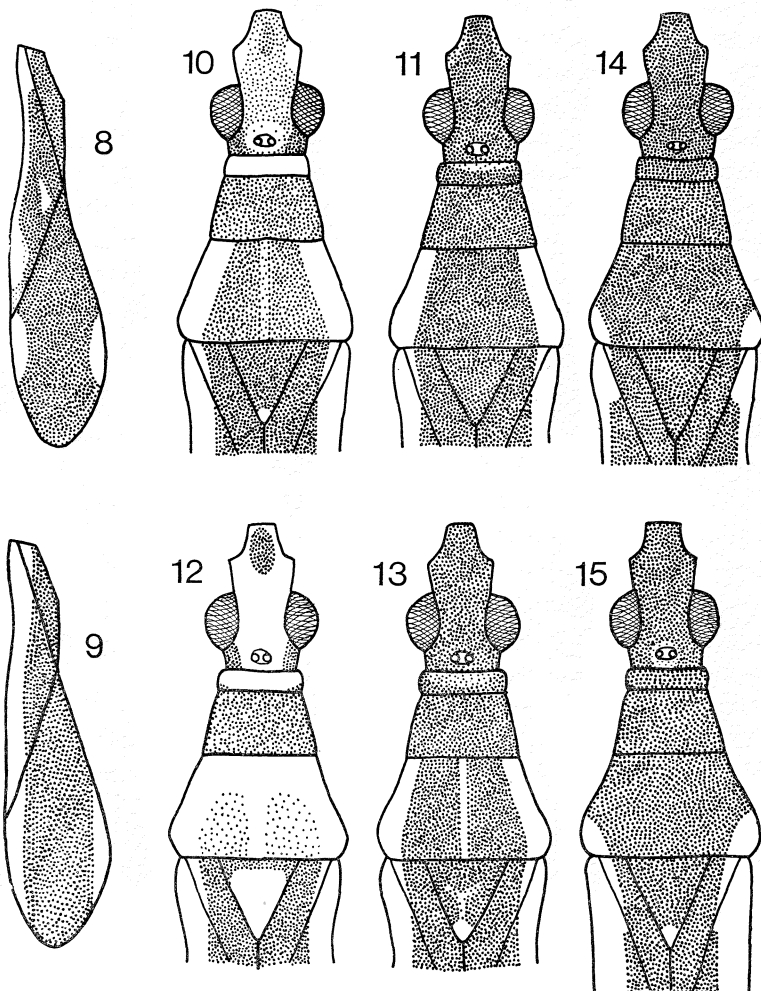
A nymph from Mussau Island, determined by the form of the claws as belonging to this species, is very remarkable in its myrmecoid appearance: venter constricted at base, hind margins of metanotum and second abdominal segment with long spine-like median projections: the colouring is yellow with large orange areas, head (except the apex) and pronotum dark brown.

***Arbela inerma* Harris, 1938. (Figs. 7, 8, 18, 21)**

Bismarck Isls., NEW BRITAIN: Yalom, 1000 m., 1 ♀, 21 May 1962.

Previously known only from Papua (Kokoda).

The determination is confirmed by comparison with two male paratypes from the British Museum (Nat. Hist.). The specimen



Figs. 8—15. *Arbela*, colour patterns; 8) *A. inerma* Harris (female from New Britain), hemelytron; 9) *A. limbata* sp.n., hemelytron; 10, 11) *A. limbata* sp.n. (light and dark extremes), fore part of the body; 12, 13) *A. peterseni*, sp.n., the same; 14) *A. lemkaensis* sp.n. the same; 15) *A. papuana* Harris, the same.

from New Britain is much darker, but the colour pattern is the same. This species is very similar in general appearance and in measurements to *A. limbata* sp. n. The following differences from the latter can be established:

- 1) lateral yellow stripe on the hemelytra is narrower, widened before the apex of the corium and on the membrane, not or feebly ranging on the clavus, more or less distinctly interrupted by brown on the apex of corium, having a convex inner margin on the membrane (Fig. 8);
- 2) corium with a pale spot near the inner angle (Fig. 8);
- 3) head yellowish even in the darkest specimen;
- 4) sides of the meso- and metathorax with longer and more outstanding hairs;
- 5) connexivum with larger and more curved teeth (Fig. 18);
- 6) apical process of the paramere (Fig. 21) with differently shaped tip and with concave lateral margin below the tip, lateral process (Fig. 21a) distinctly narrowed in the apical part; and
- 7) aedeagus (Fig. 7) with a claw-like feebly sclerotized plate in the subapical part.

***Arbela limbata*, sp. n.** (Figs. 9, 10, 11, 16, 19, 22, 26)

Types. Bismarck Isls., NEW BRITAIN: Yalom, 1000 m., holotype ♂, 17 May 1962, 4 ♂, 6 ♀, 1 nymph, 8—23 May 1962; Komgi, 1 ♂, 1 ♀, 1 nymph, 14 May 1962. — NEW IRELAND: Lemkamin, 900 m., 1 ♂, 1 ♀, 6 and 12 April 1962.

Description. Head (except the under side), collar and fore lobe of pronotum shining, hind lobe of pronotum and elytrae feebly shining or nearly dull. Mesothorax with a very narrow shining area along the coxal cavities (Fig. 26).

Head black, apex yellow, rarely nearly the whole head brownish-yellow; ocelli red. Collar black or dark brown, rarely yellow. Fore lobe of pronotum black, rarely brown, hind lobe black or brown, sides dirty yellow, sometimes medially with a narrow yellowish stripe (Figs. 10, 11). Scutellum black apex sometimes yellowish. Hemelytra black, laterally with a whitish-yellow stripe, which is subequally wide in the whole length and runs distinctly on the outer part of the clavus (Fig. 9). Under-side black or brown, fore margin of prothorax, the bordering of the fore, middle and sometimes hind coxal cavities yellowish, abdomen dirty yellow, sometimes brownish at base. Antennal segment I dirty yellow, gradually darkened to the apex, segments II—IV brown to black. Rostrum yellow; segment IV, except the

base black. Legs yellow, tibiae and tarsi apically brown, hind femora usually reddish at the apex.

Head longer than wide (65:55), gula feebly convex, vertex in both sexes 1.1 times as wide as the eye, postocular part with nearly parallel sides, eyes 2.7 times as long as the postocular part of the head. Ocelli subcontiguous. Antennae shortly pilose, attached behind the middle of the praocular part, proportion of the segments 1.57:1.70:2.55:1.85 mm. Eye length:width:depth = 28:17:30. Rostrum reaching to the middle coxae.

Collar without or with indistinct punctures. Fore lobe of pronotum distinctly raised above the level of the collar, without a longitudinal furrow; hind lobe gradually raised to the base, with regular dense but not very deep punctures. Length of the pronotum in the male equal to, in the female slightly more than its width. Proportion of the lengths of the collar:fore lobe:hind lobe = 10:27:40. Scutellum somewhat longer than wide, with a distinct Y-formed elevation.

Hemelytra with the base of the costal margin concave and pilose, membrane with feeble veins or without veins. Ostiolar canal broad. Fore and middle femora and tibiae with relatively stout brown spines; fore femur 10 times as long as thick. Hind

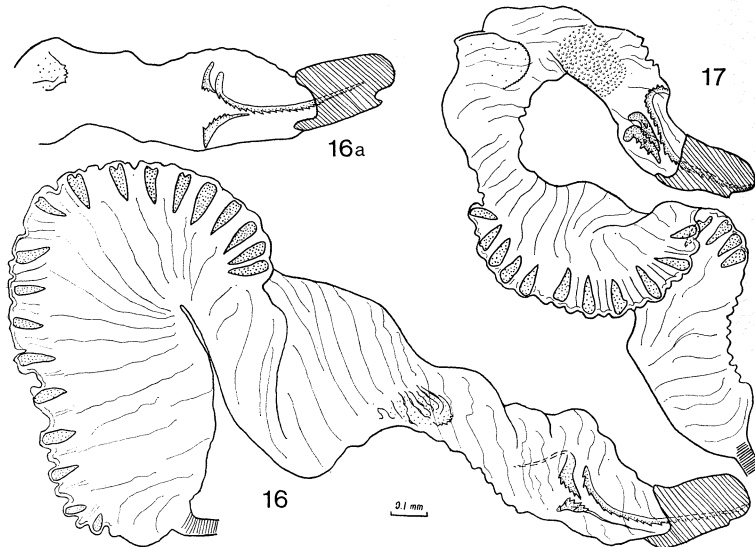


Fig. 16, 16a. *Arbela limbata*, sp.n. aedeagus of two different specimens. Fig. 17. *A. peterseni*, sp.n., aedeagus.

tibiae of the male without subbasal enlargement. Praegenital segment of the male laterally with a black tooth (Fig. 19). Paramere as in Fig. 22; aedeagus as in Fig. 16.

Length 5.5 — 6.2 mm, width of the pronotum 1.1 — 1.3 mm.

Remarks. The species stands near to *A. inerma* Harris and *A. peterseni*, sp. n., but differs in characters mentioned under these species.

***Arbela peterseni*, sp. n.** (Figs. 12, 13, 17, 20, 23, 27)

Types. Philippines, PALAWAN: Pinigisan, 600 m; 1 ♀, 1 Dec. 1961. — MINDANAO: Sapamoro, ♂ holotype, 2 ♂, 3 ♀, 1 nymph, 18 Dec. 1961.

Bismarck Isls., MANUS: Lorengau, 1 ♀, 20 June 1962.

Description and Remarks. Closely related to *A. limbata*, sp. n., but differs in the following characters:

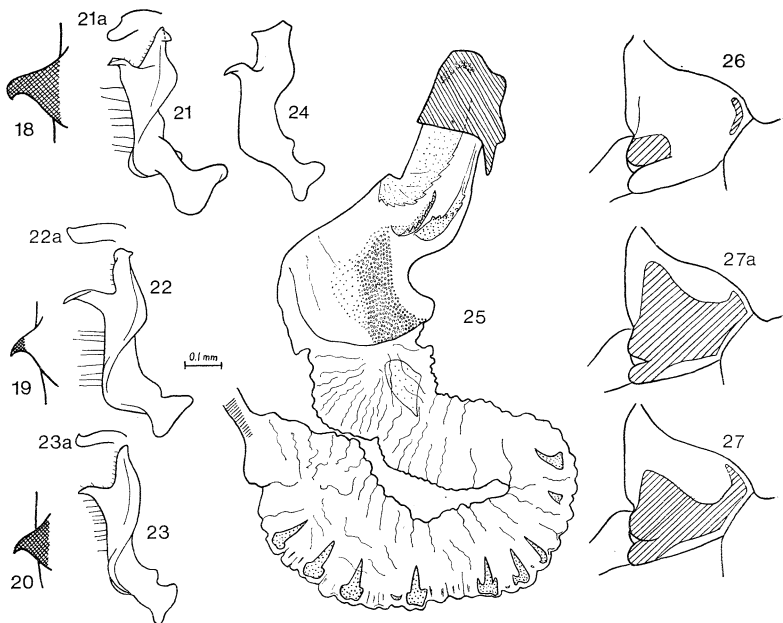


Fig. 18. *Arbela inerma* Harris, abdominal tooth. Fig. 19. *A. limbata*, sp.n. the same. Fig. 20. *A. peterseni* sp.n. the same. Fig. 21. *A. inerma* Harris, paramere from the inner side; 21a) lateral process from above. Fig. 22. *A. limbata* sp. n., the same. Fig. 23. *A. peterseni* sp.n., the same. Fig. 24. *A. lemkaninensis* sp.n., the same. Fig. 25. *A. lemkaninensis* sp.n., aedeagus. Fig. 26. *A. limbata* sp.n. mesothorax from the side (the shaded part shows the shining area). Fig. 27. *A. peterseni* sp.n., the same, female from Mussau; 27a) female from Palawan.

1) Mesothorax with a large shining area (Fig. 27); 2) teeth on the praegenital segment larger (Fig. 20); 3) colouring of the upper surface more light, hind lobe of pronotum always with a median yellow stripe, sometimes nearly the whole hind lobe dirty yellow (Figs. 12, 13); 4) colouring of the underside more dark, margins of the middle and hind coxal cavities and sometimes the base of the abdomen black; first segment of the rostrum brown or black; 5) lateral stripe on the hemelytra not so regular, somewhat resembling those of *A. inerma*; corium often with a light coloured spot in the inner hind angle; 6) paramere (Fig. 20) without a lateral projection on the end of the apical process, lateral process somewhat less wide (Fig. 20a); 7) aedeagus (Fig. 17) smaller and with differently shaped structures in the subapical and apical parts.

The new species differs from *A. inerma* Harris by the large shining area on the mesothorax and in the male genitalia.

Length of the body 5.5—6.8 mm.

***Arbela lemjaminensis*, sp. n.** (Figs. 14, 24, 25)

Bismarck Isls., NEW IRELAND: Lemkamin, 900 m; ♂ holotype, ♀ paratype, 11 and 12 April 1962.

Description. Head (except the underside), collar and fore lobe of pronotum strongly shining, hind lobe and elytrae feebly shining or nearly dull. Mesothorax shining only along the coxal cavity.

Head black, gula with a large yellow spot, ocelli red. Pronotum black with humeral angles yellow (Fig. 14). Scutellum black. Hemelytra black, lateral margin with a narrow yellow stripe, widened in the hind third of the corium and on the membrane, clavus only with a very small yellowish spot on the outer part of the base. Underside of thorax black or dark brown; two spots on the fore margin of prothorax, a spot on prothorax behind the coxal suture, and the margins of the middle and hind coxal cavities yellow. Abdomen yellow, at the base brown. Rostrum yellow, first segment and the apex of the last segment brown. Antennal segment I yellow, segments II—IV more or less brownish. Legs yellow, apex of the femora and base of the tibiae slightly reddish.

Head 1.4 times as long as wide, gula nearly straight, vertex 1.3 times as broad as an eye. Eyes small, from the side nearly round, only 1.75—1.85 times as long as the postocular part of the head, proportions of length:width:depth = 25:14:25. Postocular part

of the head with parallel sides. Ocelli subcontiguous. Antennae attached slightly behind the middle of praeocular part, pilosity longer than in *A. peterseni* (hairs of the second segment three times as long as the width of the segment V), proportion of segments = 1.38:1.34:2.30:1.70 mm. Rostrum reaching the middle coxae.

Collar smooth or with indistinct punctures. Fore lobe of pronotum slightly raised above the level of the collar and gradually raised backwards. Hind lobe convex, distinctly raised backwards, with regular and dense punctures. Pronotum 1.05 times as long as wide, proportion of the lengths of the subdivisions = 14:25:47. Scutellum slightly longer than wide, with distinct Y-formed elevation.

Hemelytra at the base of the lateral margin concave, with long (0.3 mm) hairs; membrane without distinct veins. Ostiolar canal broad. Fore and middle femora and tibiae with long slender, light brown or yellowish spines; fore femur 10 times as long as wide; the hairs on the femora and tibiae distinctly longer than in *A. limbata* and *A. peterseni*. Hind tibia of the male without a basal enlargement. Praegenital segment of the male on the sides with small pale teeth. Paramere and aedeagus as in Figs. 24, 25.

Length ♂ 6.9 mm, ♀ 7.4 mm, width of the pronotum 1.15—1.2 mm.

Remarks. Closely related to *A. papuana* Harris from New Guinea (Papua, Kokoda). A study of the allotype ♀ of *A. papuana* gives following differences from *A. lemकिनensis*: the body and particularly the head and pronotum shorter and relatively broader (see Table 2); eyes larger (length:width:depth = 28:16.5:32), ovate in lateral view; postocular part of the head distinctly shorter; pale stripe on the hemelytra broader and distinctly ranging on the clavus; underside of the thorax without light spots, only the fore coxal cavity (in the whole length) margined with yellow.

However, in spite of differences mentioned above it is not excluded, that further investigations will show that *A. lemकिनensis* is only a subspecies of *A. papuana*.

Arbela immista Harris, 1938. (Figs. 28, 29)

Bismarck Isls., LAVONGAI: Banatam, 9 ♂, 3 ♀, 22—26 March 1962. — MUSSAU: Talumalaus, 6 ♂, 6 ♀, 1 nymph, 25 Jan. and 5 Febr. 1962.

Previously only known from the New Hebrides (Malekula).

Table 2. Measurements of *Arbela lemkaensis* sp.n. and *A. papuana* Harris. (Each unit equals 0.01 mm)

	Total length	Head length	Head width	Vertex width	Eye length	Postocular part length	Pronotum length	Pronotum width	Collar length	Fore lobe length	Hind lobe length	Antennal segments length			
												I	II	III	IV
<i>A. lemkaensis</i> , ♂	690	93	69	27	34	19	120	114	19	36	66	138	138	225	173
<i>A. lemkaensis</i> , ♀	740	100	70	27	37	21	129	121	21	37	70	138	130	238	?
<i>A. papuana</i> , ♀	680	93	80	27	40	15	117	129	14	41	61	150	133	?	?

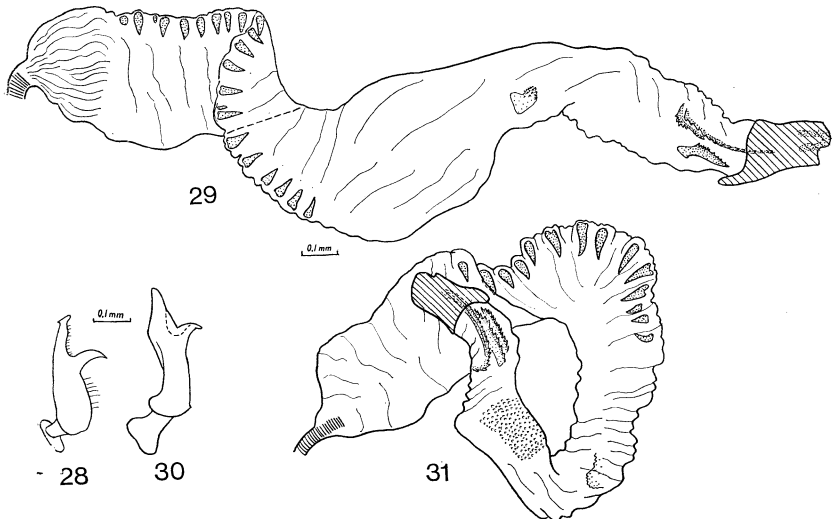
The determination is confirmed by comparison with specimens from the type-locality (Malekula) from the British Museum (Nat. Hist.) and the Copenhagen Museum (collected by the Galathea Expedition). Male genitalia are shown in Figs. 28, 29.

In the specimens from Mussau, collected together with a nymph and often distinctly immature, the pronotum is lighter than in normally coloured specimens from Lavongai and Malekula. In the light coloured specimens the sides of pronotum have a yellow spot between fore and hind lobes, sometimes the collar and the whole fore lobe are yellowish-brown or even the hind lobe has a median longitudinal light stripe.

***Arbela nitidula* (Stål, 1859).** (Figs. 30, 31)

Bismarck Isls., NEW BRITAIN: S. of Cape Hoskins Aerodrome, 1 ♂, 6 July 1962. — NEW IRELAND: Danu, Kalili Bay, 2 ♂, 1 ♀, 29 April 1962. — MUSSAU: Talumalaus 4 ♂, 4 ♀, 19 Jan. — 7 Febr. 1962; Boliu, 5 ♂, 9 ♀, 2 nymphs, 4—7 June 1962; Malakata, 1 ♀, 10 June 1962.

This widely distributed species (from India to the Solomons) is hereby recorded from the Bismarck Islands for the first time. An additional new record is the Nicobar Islands (Galathea Expedition, Zoological Museum, Copenhagen).



Figs. 28, 29. *Arbela immista* Harris, male from Bismarck Islands; 28) paramere from the outer side; 29) aedeagus. Figs. 30, 31. *A. nitidula* (Stål), male from Bismarck Islands; 30) paramere from the outer side; 31) aedeagus.

All specimens from the Bismarck Islands are very pale, with eyes relatively smaller and antennae shorter than in specimens from other regions. They belong possibly to a distinct subspecies.

Key to the *Arbela* species from the Bismarck Islands.

1. Claws strongly curved at the base. Fore pronotal lobe with a distinct median furrow. Spines on the fore and middle legs very fine, pale, hair-like. Abdomen of the male without tooth on the sides before genital segment *A. telomi* (Distant)
- Claws gradually and feebly curved. Fore pronotal lobe without a furrow. Spines on the legs more or less stout and darkened. Abdomen of the male with more or less distinct tubercle or tooth 2
2. Hind tibia of the male with a sub-basal enlargement. Hemelytra pale or tinged with brown in the inner portion, rarely black. Pronotum pale or if dark, then the fore lobe with a median pale stripe *A. nitidula* (Stål)
- Hind tibia of the male without enlargement. Hemelytra black without pale median stripe 3
- with pale sides. Fore lobe of pronotum black without pale median stripe 3
3. Hind lobe of pronotum dull, black, rarely yellowish in the fore angles. Small, 4.5—5.3 mm. *A. immista* Harris
- Hind lobe of pronotum feebly shining, brown to black, its sides or hind angles yellow, 5.5—7.3 mm. 4
4. Only humeral angles of pronotum yellow (Fig. 14). Abdomen of males with a pale tubercle before the genital segment *A. lemकिनensis* sp.n.
- Lateral sides of the hind pronotal lobe yellow. Abdomen of males with a black tooth on the sides before the genital segment 5
5. Mesothorax with a large shining area (Fig. 27) *A. peterseni* sp.n.
- Mesothorax narrowly shining only along the fore part of the coxal cavity (Fig. 26) 6
6. Pale stripe along the sides of hemelytra of approximately equal width throughout; corium near the inner angle without pale spot (Fig. 9) *A. limbata* sp.n.
- Pale stripe along the sides of hemelytra not of equal width throughout; corium with a pale spot near the inner angle (Fig. 8) *A. inerma* Harris

***Stenonabis tagalicus tagalicus* (Stål, 1860).**

Philippines, PALAWAN: Uring Uring, 2 ♀, 14 Aug. 1961, caught at Mercury light, 19.00—21.00.

Stenonabis limbatellus Kerzhner, 1970.

Bismarck Isls., MANUS: Lorengau, 1 ♂, 19 June 1962.

This species is described from New Guinea and the Solomon Islands. The specimen from Manus is very small (6.2 mm) and shows some differences in the colouring of the legs and in the structure of the male genitalia. It is probably a new subspecies, but the material is insufficient for a description.

Summary

Fourteen species of Nabidae are recorded. Four species are new: *Phorticus flavoscutellatus* from New Britain, *Arbela limbata* from New Britain and New Ireland, *A. peterseni* from Palawan, Mindanao and Manus, and *A. lemkinensis* from New Ireland. Further seven species are new to the Bismarck Archipelago. *A. splendida* Harris is synonymized with *A. telomi* (Distant). A lectotype of *Phorticus pygmaeus* Poppius is designated.

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