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INSECTS OF SAMOA  
AND OTHER SAMOAN TERRESTRIAL  
ARTHROPODA

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PART II. HEMIPTERA

FASC. 3. Pp. 81-162

HETEROPTERA

By W. E. CHINA, B.A. (Cantab.)

WITH TWENTY-EIGHT TEXT-FIGURES



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# INSECTS OF SAMOA AND OTHER SAMOAN TERRESTRIAL ARTHROPODA

Although a monograph, or series of papers, dealing comprehensively with the land arthropod fauna of any group of islands in the South Pacific may be expected to yield valuable results, in connection with distribution, modification due to isolation, and other problems, no such work is at present in existence. In order in some measure to remedy this deficiency, and in view of benefits directly accruing to the National Collections, the Trustees of the British Museum have undertaken the publication of an account of the Insects and other Terrestrial Arthropoda collected in the Samoan Islands, in 1924-1925, by Messrs. P. A. Buxton and G. H. E. Hopkins, during the Expedition of the London School of Hygiene and Tropical Medicine to the South Pacific. Advantage has been taken of the opportunity thus afforded, to make the studies as complete as possible by including in them all Samoan material of the groups concerned in both the British Museum (Natural History) and (by courtesy of the authorities of that institution) the Bishop Museum, Honolulu.

It is not intended that contributors to the text shall be confined to the Museum Staff or to any one nation, but, so far as possible, the assistance of the leading authorities on all groups to be dealt with has been obtained,

The work is divided into nine "Parts" (see p. 3 of wrapper), of which the first eight are subdivided into "Fascicles." Each of the latter, which appear as ready in any order, consists of one or more contributions. On the completion of the systematic portion of the work it is intended to issue a general survey (Part IX), summarising the whole and drawing from it such conclusions as may be warranted.

A list of Fascicles already issued will be found on pp. 3 and 4 of this wrapper.

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# INSECTS OF SAMOA

PART II. FASC. 3

HEMIPTERA—HETEROPTERA

BY W. E. CHINA, B.A. Cantab.

(With 28 Text-figures.)

THE present fascicle deals with the whole of the Heteroptera with the exception of the Miridae, which are being worked out by Dr. H. H. Knight, and the aquatic families, which have already been dealt with by Prof. Teiso Esaki in Fascicle 2.

Previous to Esaki's paper only five species of Heteroptera had been recorded from the Samoan Islands. The first of these was the Coreid *Mictis crux* described by Dallas (*List Hemipt. Het. Brit. Mus.*, II, p. 405) in 1852, when the group was known as the Navigators Islands. The second was *Noliphus discopterus*, a new Coreid species described by Stål in the third volume (p. 87) of his splendid *Enumeratio Hemipterorum*, in 1873. In the fourth volume of the same work (p. 146, 1874), Stål described still another Samoan species, the Lygaeid *Bedunia insularis*. Thirty years later Schouteden (*Wytsm. Gen. Ins.*, xxiv, p. 31, 1904) recorded, without remark, the fourth species *Calliphara bifasciata* A. White, which was already known to occur in the "South Sea Islands." In the same work Schouteden also recorded *Coleotichus excellens* Walk. as occurring in Samoa, but it is most probable that this record actually referred to the fifth species, which Schouteden (*Notes Leyden Mus.*, xxix, p. 207, 1908) later described from Samoan material under the name *Coleotichus bülowi*.

The present contribution deals with sixty species representing forty-six genera and one subgenus, so that, including the ten aquatic species recorded by Esaki, the known Samoan Heteropterous fauna (apart from Miridae), amounts to seventy species belonging to fifty-one genera. As shown in the following table, these figures are not unlike those of the known Heteropterous fauna of



the Fiji Islands, which has, fortunately, been monographed by Kirkaldy (*Proc. Linn. Soc. N.S. Wales*, xxxiii, pp. 345-381, 1908).

## COMPARISON OF FIJIAN AND SAMOAN HETEROPTEROUS FAUNAE.\*

Family.	Fiji.		Samoa.		Fiji only.		Samoa only.		Common to Fiji and Samoa.		Total.	
	gen.	sp.	gen.	sp.	gen.	sp.	gen.	sp.	gen.	sp.	gen.	sp.
Plataspidae . . . . .	1	1	1	1					1	1	1	1
Cydnidae . . . . .	1	1	1	1					1	1	1	1
Pentatomidae . . . . .	11	12	7	8	4	6		2	7	6	11	14
Coreidae . . . . .	7	7	7	8	1	3	1	2	6	6	8	11
Dysodiidae . . . . .	4	5	5	5	1	5	2	5	3		6	10
Berytidae . . . . .	1	1	1	1					1	1	1	1
Lygaeidae . . . . .	13	20	12	18	6	13	4	10	8	8	18	31
Colobathristidae . . . . .	1	1			1	1					1	1
Pyrrhocoridae . . . . .	1	2	1	2					1	2	1	2
Tingitidae . . . . .	5	5	1	1	5	5	1	1			6	6
Henicocephalidae . . . . .	1	2			1	2					1	2
Reduviidae . . . . .	10	12	7	11	4	7	1	6	6	5	11	18
Nabidae . . . . .	2	2	2	3	1	2		1	2	2	3	5
Cimicidae . . . . .	?	?	1	1			1	1	?	?	1	1
Anthocoridae . . . . .	1	1			1	1					1	1
Gerridae . . . . .	2	2	2	5	1	2	1	5	1		3	7
Veliidae . . . . .	1	1	1	1		1		1	1		1	2
Gelastocoridae . . . . .			1	1			1	1			1	1
Notonectidae . . . . .			1	3			1	3			1	3
Totals . . . . .	62	75	51	70	26	48	13	38	38	32	77	118

Of the forty-eight existing Heteropterous families, only twenty (including Miridae) have so far been recorded from Fiji and Samoa, but these include all the more important groups. The apparent absence of the Gelastocoridae, Notonectidae and Cimicidae from Fiji, and of the Anthocoridae, Henicocephalidae and Colobathristidae from Samoa, will no doubt be disproved by further collecting, although it is possible that the last two families may actually be absent from Samoa. The apparent absence of the Corixidae from both faunae is remarkable, and it is interesting to recall that this family is also represented by only two species in New Zealand, where, according to Dr. J. G. Myers, suitable aquatic conditions are not abundant.

\* Excepting Miridae.

It will be noticed from the table that although the total number of species in each fauna is approximately the same, the number of genera represented in Fiji is far superior to that in Samoa, while there are twice as many Fijian genera which do not occur in Samoa as there are Samoan which do not occur in Fiji.

It would be unwise to draw definite conclusions from scanty material accumulated during a few years of haphazard collecting, but on the whole the table tends to show that the Samoan fauna is actually an impoverished replica of that of Fiji. Specific endemism is, however, comparatively high, twenty-eight out of the total of seventy species being apparently peculiar to Samoa, while three endemic genera and one subgenus, also occur.

The following table indicates the distribution of the Samoan species dealt with in this paper :—

	Savaai.	Upolu.	Tutuila.	Manua Is.	Fiji Is.	Other localities.
Family PLATASPIDAE.						
1. <i>Brachyplatys pacificus</i> Dall. . . .	×	×	×		×	Tonga, Wallis Is., Marianne Is., and Austro-Oriental Subregion.
Family CYDNIDAE.						
2. <i>Geotomus pygmaeus</i> Dall. . . .	×	×	×		×	Tahiti, Raiatea, Hawaii, and Oriental Region.
Family PENTATOMIDAE						
3. <i>Calliphara bifasciata</i> White . . . .	×	×	×		×	
4. <i>Coleotichus bülowi</i> Schout. . . .	×	×	×		×	
5. <i>Coleotichus sordidus</i> Walk. . . .		×	×		×	Is. of Pines, Marquesas, Society Is., New Hebrides.
6. <i>Canthecomidea cyanacantha</i> Stål . . . .	×	×	×		×	
7. <i>Platynopus melacanthus</i> Boisd. . . .	×	×	×	×	×	Society Is., and Austro-Oriental Subregion.
8. <i>Pegala biguttula</i> Hagl. . . . .		×			×	
9. <i>Glaucias samoanus</i> , sp. nov. . . . .		×				
10. <i>Piezodorus rubrofasciatus</i> F. . . . .		×			×	Tahiti, Raiatea, and whole Palaeotropical Region.
Family COREIDAE.						
11. <i>Mictis profana</i> F. . . . .	×	×	×		×	Friendly Is. and Austro-Oriental Subregion.
12. <i>Leptoglossus australis</i> F. . . . .		×			×	Tahiti, Bora Bora, and Austro - Oriental Subregion.
13. <i>Leptocorisa varicornis</i> F.. . . .	×	×	×	×	×	Tonga and whole Oriental Region.



	Savaii.	Upolu.	Tutuila.	Manua Is.	Fiji Is.	Other Localities.
14. <i>Noliphus discopterus</i> Stål . . . . .		×				
15. <i>Melanacanthus margineguttatus</i> Dist.		×				New Zealand and N. Aus- tralia.
16. <i>Riptortus insularis</i> , sp. nov. . . . .	×	×			×	
<i>Riptortus insularis obscurus</i> var. nov.			×			
17. <i>Riptortus tutuilensis</i> , sp. nov. . . . .			×		×	
18. <i>Leptocoris insularis</i> Kirk. . . . .		×			×	
Family DYSODIIDAE.						
19. <i>Mezira membranacea</i> F. . . . .	×	×	×	×		Whole Oriental Subregion.
20. <i>Chiastoplonia pygmaea</i> , sp. nov. . . . .			×			
21. <i>Pictinus pacificus</i> , sp. nov. . . . .	×	×				
22. <i>Ctenoneurus samoanus</i> , sp. nov. . . . .	×	×				
23. <i>Carventus kirkaldyi</i> , sp. nov. . . . .		×				
Family BERYTIDAE.						
24. <i>Protacanthus pacificus</i> , sp. nov. . . . .		×			×	
Family LYGAEIDAE.						
25. <i>Pyrrohobaphus leucurus</i> F. . . . .		×			×	Austro-Oriental Subregion.
26. <i>Nesostethus niger</i> , sp. nov. . . . .	" Samoa "					
27. <i>Graptostethus nigriceps</i> Stål . . . . .	×	×	×		×	Guam Is., Ascension Is., and Austro-Oriental Sub- region.
28. <i>Nysius pacificus</i> , sp. nov. . . . .			×			New Hebrides.
29. <i>Germalus samoanus</i> , sp. nov. . . . .		×	×	×		
30. <i>Germalus buxtoni</i> , sp. nov. . . . .	×	×				
31. <i>Neocrompus kellersi</i> , sp. nov. . . . .			×			
32. <i>Clerada apicicornis</i> Sign. . . . .		×			×	Society Is., Hawaii, and Holotropical Region.
33. <i>Orthaea pacifica</i> Stål . . . . .	×	×	×	×	×	Tahiti, Raiatea, Bora Bora (Hawaii ?).
34. <i>Orthaea limbata</i> Stål . . . . .	×		×		×	Niue (Savage Is.).
35. <i>Orthaea nigriceps</i> Dallas . . . . .	×	×	×	×	×	Tahiti, Raiatea, Hawaii, New Zealand and N.S. Wales.
36. <i>Orthaea nietneri</i> Dohrn . . . . .		×	×		×	Oriental Region.
37. <i>Orthaea ventralis</i> , sp. nov. . . . .		×	×			
38. <i>Orthaea puberula</i> , sp. nov. . . . .	×	×				
39. <i>Bedunia insularis</i> Stål . . . . .	×	×	×			
40. <i>Bryanella longicornis</i> , sp. nov. . . . .	×	×				
41. <i>Aphanus insularis</i> Kirk. . . . .		×			×	
42. <i>Cligenes swezeyi</i> , sp. nov. . . . .	×		×			
<i>Cligenes swezeyi</i> var. <i>major</i> , nov.		×				

	Savaii.	Upolu.	Tutuila.	Manua Is.	Fiji Is.	Other Localities.
Family PYRRHOCORIDAE.						
43. <i>Dysdercus insularis</i> Stål . . . . .	×	×	×		×	Manono (Samoa).
44. <i>Dysdercus impictiventris</i> Stål . . . . .	×	×	×		×	Niue (Savage Is.).
Family TINGITIDAE.						
45. <i>Idiocysta hackeri</i> , sp. nov. . . . .		×				
Family REDUVIIDAE.						
46. <i>Gardena pacifica</i> Kirk. . . . .		×			×	
47. <i>Gardena geniculata</i> , sp. nov. . . . .		×				
48. <i>Luteva insolida</i> B. White . . . . .		×				Marquesas, Hawaii.
49. <i>Luteva subaequalis</i> M. and M. . . . .		×				Philippines.
50. <i>Empicoris rubromaculatus</i> Blackb. . . . .	×				×	Tropical and Subtropical America, Madeira, Aus- tralia, New Zealand, and Hawaii.
51. <i>Empicoris</i> , sp. . . . .		×				
52. <i>Empicoris (Dictynna) nitidicollis</i> , sp. nov. . . . .		×				
53. <i>Polytoxus similis</i> , sp. nov. . . . .		×	×		×	?
54. <i>Sastrapada hopkinsi</i> , sp. nov. . . . .		×				
55. <i>Oncocephalus pacificus</i> Kirk. . . . .		×			×	
56. <i>Peregrinator biannulipes</i> Montr. . . . .		×			×	C. America, Réunion, Rodri- guez, Philippines, New Caledonia.
Family NABIDAE.						
57. <i>Arbela costalis</i> Stål . . . . .	×	×	×	×	×	
<i>Arbela costalis</i> var. <i>flavicollis</i> , nov. . . . .	×		×			
58. <i>Reduviolus capsiformis</i> Germ. . . . .	×	×	×	×	×	Cosmopolitan.
59. <i>Reduviolus annulipes</i> , sp. nov. . . . .	×	×				
Family CIMICIDAE.						
60. <i>Cimex hemipterus</i> Fabr. . . . .		×				Ethiopian, Mascarene, Oriental, and Neotropical Regions.

An analysis of the above table shows that the Samoan fauna is composed of five main groups of species made up as follows:—

- |   |    |
|---|----|
| 1. Species of Holotropical or Palaeotropical distribution . . . . . | 6  |
| 2. Species of Oriental or Austro-Oriental distribution * . . . . .  | 10 |

\* The Austro-Oriental region as here understood includes the lesser Sunda Islands east of Wallace's line, Celebes, Gilolo, Sula Is., Bouru, Ceram, Aru, N. Guinea, N. Australia and Queens-

3. Species restricted to Fiji and Samoa . . . . .	11
4. Provisionally endemic species . . . . .	28
5. Species of general distribution in the Pacific . . . . .	4

Considering these in turn, most of the holotropical species have probably been introduced within historical times through the agency of man. *Cimex hemipterus* has been carried by man himself, and *Clerada apicicornis*, which is apparently an inquiline in the nests of various rodents, has probably been carried by rats and mice. The widely distributed Oriental and Austro-Oriental species are probably of very early origin, and have migrated from the west either over a former land connection which existed during late Mesozoic times between Papua and New Zealand, or later by the agency of winds and currents, over a long period of time. The comparative richness of the Fijian and Samoan fauna, and the number of closely allied endemic forms to which these austro-oriental species have obviously given rise, strongly favours the existence of a land connection, at least over the greater part of the distance, and migration doubtless took place by both these methods. A considerable number of those species which are restricted to Fiji and Samoa have been directly evolved from the Austro-Oriental migrants, and must have originated in the Fijian group, whence they have migrated to Samoa. That the endemic Samoan species should appear to be so numerous is probably the result of insufficient knowledge of the Fijian fauna, but it may be accounted for in part by the assumption that a number of western migrants arrived by a course to the north or to the south of Fiji. The occurrence of the common and widely distributed oriental *Mezira membranacea* in Samoa and its absence from Fiji favours this assumption.

There is, too, some evidence from the distribution of the Hemiptera that the fauna of both groups of islands received some migrants from the south, probably from New Zealand. The Dysodiidae (*Aradidae sens lat.*), which are typically forest insects, and reach their greatest development in South and Central America, also occur very abundantly in New Zealand, although the species are as yet undescribed. It is, indeed, quite probable that the New Zealand Dysodiidae have been derived from Patagonia, and the fact that this

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land, Bismarck Archipelago, Solomon Is., New Hebrides, New Caledonia, and Loyalty Is. The Philippines, except Palawan, are regarded as a distinct subregion. The Malaysian subregion includes the Malay Peninsula south of 10° N., Sumatra, Java, Bali, Borneo, Palawan, and adjacent islands. The Indo-Chinese subregion includes the southern slopes of the Himalayas, Burma, Tenasserim, Assam, Siam, Cambodia, Cochin China, Laos, Annam, Tonkin, Southern China, Hainan and Formosa.





Samoan Genera.	Australasian.					Oriental.					African.		Palaeartic.			American.		
	Hawaiian.	New Zealand.	Australian.	Polynesian.	Austro-Oriental.	Malaysian.	Philippine.	Indo-Chinese.	Indian.	Ceylonese.	Ethiopian.	Seychelles and Mascarene.	European and Siberian.	Mediterranean and Eremian.	Manchurian and Japanese.	Nearctic.	Neotropical.	Chilian.
<i>Graptostethus</i> . . . . .				<b>3</b>	3	3	1	1	5	2	11	2	1	1	1			
<i>Nysius</i> . . . . .	27	3	2	<b>3</b>	2	1	1	1	4	3	5	3	8	10	3	7	15	5
<i>Germalus</i> . . . . .			1	<b>4</b>	5		1			1		2						
<i>Neocrompus</i> . . . . .				<b>1</b>														
<i>Clerada</i> . . . . .			4	<b>1</b>	2	1		1	1	1	1						1	
<i>Orthaea</i> . . . . .	1	1	2	<b>8</b>	8	2	5	6	3	6	13	4	3	3	11	9	21	1
<i>Bedunia</i> . . . . .				<b>2</b>	1	1	2			1								
<i>Bryanella</i> . . . . .				<b>1</b>														
<i>Aphanus</i> . . . . .			3	<b>2</b>	1	3	1	6	17	1	15	3	16	25	2	2	1	
<i>Cligenes</i> . . . . .			3	<b>1</b>	1		2	1	1	2	1	1					11	
<i>Dysdercus</i> . . . . .			1	<b>2</b>	14	5	6	4	3	3	15	5			2	7	29	
<i>Idiocysta</i> . . . . .				<b>1</b>														
<i>Gardena</i> . . . . .			1	<b>2</b>	1		2	1		2	1	1		1	1	2	10	
<i>Luteva</i> . . . . .	2			<b>2</b>		11	1	1									9	
<i>Empicoris</i> . . . . .	3	4	2	<b>5</b>	1	4	3			6	3	1	4	9	2	6	3	
<i>Dictynna</i> . . . . .				<b>1</b>														
<i>Polytoxus</i> . . . . .				<b>1</b>	4	2	2	1	1	2	3	2		2				
<i>Sastrapada</i> . . . . .			1	<b>1</b>	1	6	2				4	1		2				
<i>Oncocephalus</i> . . . . .			4	<b>2</b>	4	6	6	5	8	3	24	3	2	31	1	4	3	
<i>Peregrinator</i> . . . . .				<b>1</b>	1	2	1	2		1		1					1	
<i>Arbela</i> . . . . .				<b>1</b>		2						1						
<i>Reduviolus</i> . . . . .	28	5	1	<b>2</b>	5	6	4	8	5	3	15	2	16	22	3	22	19	3
<i>Cimex</i> . . . . .	1	1	1	<b>1</b>	2	2	2	2	3	2	2	2	5	5	1	2	6	1

## Family PLATASPIDAE Dallas.

1. *Brachyplatys pacificus* Dallas.

*Brachyplatys pacifica* Dallas, *List Hemipt. Brit. Mus.*, I, p. 70, 1851.

*B. intacta* Walker, *Cat. Heteropt. Brit. Mus.*, I, p. 106, 1867.

*B. cupreata* Walker, *tom. cit.*, p. 107, 1867.

Upolu:—Apia : 15 specimens, x.1924, 1 specimen, iv.1924, and 1 specimen, xii.1924 ; 1 specimen, 26.v.1924 (Bryan) ; Malololelei : 1 specimen, 9.vi.1924 ; Lalomanu : 4 specimens, xi.1924.

Savaii:—Fagamalo : 1 specimen, xi.1925 ; Savaii, 1,000 ft., 2 specimens, 21.xi.1925 ; Safune : Rain Forest, 2,000–4,000 ft., 5 adults and 4 larvae, v.1924 (Bryan) ; Salailua : Lower Forest, 1,000–2,000 ft., 1 specimen, v.1924 (Bryan).

Tutuila :—Pago Pago : 2 specimens, 2.xii.1924 ; 1 specimen, 16.iv.1924 (Bryan) ; 4 adults and 3 larvae, 29.ix.1923 (Swezey and Wilder) ; Afono Trail : 1 adult and 1 larva, 25.ix.1923 (Swezey and Wilder) ; Amauli : 1 specimen, 3.ix.1923 (Bryan).

This species has been recorded from Fiji, Tonga, Wallis Is., the Marianne Is., and also from Gilolo and Sula Is. in the Austro-Oriental Subregion.

### Family CYDNIDAE Billberg.

#### 2. *Geotomus pygmaeus* (Dallas).

*Aethus pygmaeus* Dallas, *List. Hemipt. Brit. Mus.*, I, p. 120, 1851.

*Cydnus rarciliatus* Ellenrieder, *Nat. Tijdschr. Ned. Ind.*, XXIV, p. 139, pl. 1, fig. 7, 1862.

*Aethus nanulus*, Walker, *Cat. Heteropt. Brit. Mus.*, I, p. 162, 1867.

*Aethus platysomoides* Walker, *tom. cit.*, p. 163, 1867.

*Aethus omicron* Walker, *op. cit.*, III, p. 534, 1868.

*Cydnus pallidicornis* Vollenhoven, *Faun. Ind. Neerl.*, p. 17, 1868.

*Geotomus jucundus* Buchanan White, *Ann. Mag. Nat. Hist.*, (4), XX, p. 110, 1877.

*Geotomus subtristis* Buchanan White, *tom. cit.*, p. 111, 1877.

*Geotomus apicalis* Horváth, *Termész. Füzet.*, III, p. 143, 1879.

*Aethus palliditarsus* Scott, *Trans. Ent. Soc. Lond.*, 1880, p. 309.

*Geotomus pygmaeus* Signoret, *Ann. Soc. Ent. France*, (6), III, p. 51, t. 3, fig. 160, 1883.

*Geotomus pygmaeus* Kirkaldy, *Proc. Hawaiian Ent. Soc.*, I, p. 145, 1907.

*Geotomus pygmaeus* Cheesman, *Trans. Ent. Soc. Lond.*, p. 154, 1927.

Upolu :—Apia : 1 specimen, i.1925, 1 specimen, 10.ii.1924, 3 specimens, iii.1924, 4 specimens, iv.1924, 1 specimen, v.1924, 1 specimen, x.1924, 11 specimens, xi.1924, and 3 specimens, xii.1924 ; Malololelei : 1 specimen, iv.1924, and 1 specimen, xi.1924 (2,000 ft.).

Savaii :—Salailua : 1 specimen, 19.v.1924 (Bryan).

Tutuila :—760–900 ft., 2 specimens, iv.1918, 1,000 ft., 2 specimens, 25.viii.1918, centre of Island, 900–1,200 ft., and 1 specimen, 30.vi.1918 (Kellers) ; Pago Pago : 0–300 ft., 3 specimens, iv. 1918 (Kellers).

Recorded from India, Burma, Ceylon, Java, Sumatra, Borneo, Cochin-China, China, Japan, New Caledonia, Fiji, Tahiti, Raiatea, and Hawaii.\*

It is doubtful if all these records refer to the same species. The Cydnidae are a difficult group, and several species may have been confused. The Samoan specimens, however, have been compared with Dallas' type, labelled India, and

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\* Kirkaldy (*Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 349, 1908) states that this species was introduced into Hawaii in the soil attached to plants, and suggests that this accounts for its extensive distribution.



agree very well. The above synonymy, which is given to enable students of the Pacific fauna to trace this species in literature, is based on that of Lethierry, Severin and Distant, and is not necessarily accurate.

### Family PENTATOMIDAE.

#### Subfamily SCUTELLERINAE.

### 3. *Calliphara* (*Lamprophara*) *bifasciata* (White).

*Calliphara bifasciata* A. White, *Charlesworth's Mag. Nat. Hist.*, (2), III, p. 541, 1839.

*Callidea bifasciata* A White, *Trans. Ent. Soc. Lond.*, III, p. 85, 1842.

*Callidea quadrifera* Walker, *Cat. Heteropt. Brit. Mus.*, III, p. 514, 1868.

*Calliphara* (*Lamprophara*) *bifasciata* Stål, *Enum. Hemipt.*, III, p. 16, 1873.

*Lamprophara bifasciata* Schouteden, *Wyts. Gen. Ins.*, XXIV, p. 31, pl. 2, fig. 1, 1904.

Typical form : \*—

Upolu :—Malololelei, 2,000 ft. : 1 specimen, 10.iii.1924, 1 specimen, 18.iv.1925, 2 specimens, 14–30.vi.1924, 1 specimen, vii.1924 ; 1 specimen, 23.iv.1922, and 2 specimens, 20.vi.1924 (Armstrong).

Tutuila :—Pago Pago : 1 specimen, 30.ix.1923 (Swezey and Wilder).

Variety *quadrifera* Walker :—

Upolu :—Malololelei : 2 specimens, 18.iv.1925 ; 2,000 ft., 3 specimens, 14–30.vi.1924, 2 specimens, vii.1924, 2 specimens, 28.xi.1924 ; 3 specimens, 20.vi.1924, and 4 larvae, 23.iv.1922 (Armstrong).

Savaii :—Mulifanua : 1 specimen, 9.xi.1925 ; Safune : 1 specimen, 13.v.1924 (Bryan).

Tutuila :—Pago Pago : 1 specimen, 30.ix.1923 (Swezey and Wilder) ; 1 larva, 12.iv.1924 (Bryan). Leone Road : 1 larva, 7.ix.1923 (Swezey and Wilder) ; 760–900 ft., 1 adult and 1 larva, iv.1918 (Kellers) ; 1,200 ft., 1 larva, 21.vii.1918 (Kellers).

Recorded from Fiji and Samoa.

In the Samoan material var. *quadrifera* Walker, is represented only by females, and the typical form only by males. In the Fiji material in the British Museum only var. *quadrifera* is present, but both sexes are included. The Samoan specimens differ from the Fiji examples in the dark fuscous venter, and in the indistinctly limited fuscous spot at the middle of the scutellum, and may represent a distinct race. The original locality given by White was, South Sea Islands.

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\* This is the form figured by Schouteden and accepted by Kirkaldy as typical. In the original description, however, White does not mention the brown, median, pronotal band.

4. *Coleotichus* (*Epicoleotichus*) *bülowi* Schout.

*Coleotichus* (*Epicoleotichus*) *excellens* (Walk.) Schouteden (partim), (*Wytsm. Gen. Ins.*, XXIV, p. 6, 1904.

*Coleotichus* (*Coleotichus*) *Bülowi* Schouteden, *Notes Leyden Mus.*, XXIX, p. 207, 1908.

Upolu :—Apia : 2 specimens, vi.1924, 1 specimen, iv.1925 ; Malololelei : 1 specimen, 24.ii.1924, 2 specimens, 22.iii.1924, 2 specimens, 2,000 ft., 17.iv.1925, 1 specimen, 21.iv.1925.

Savaii :—4 specimens (W. von Bülow. Type material in Leyden Museum).

Tutuila :—Pago Pago : 1 specimen, 14.ix.1923 (Steffany).

Only recorded from Samoa, but closely resembles *C. excellens* Walk., which occurs in Australia and New Caledonia. In his original description Schouteden refers this species to his subgenus *Coleotichus*, but this was apparently a slip, since it agrees more closely with his subgenus *Epicoleotichus*, and he himself states that *C. bülowi* is most closely allied to *C. excellens* Walk., which he refers to *Epicoleotichus*. Indeed, the record of *C. excellens* as occurring in Samoa (Schouteden, *Wytsm. Gen. Ins.*, XXIV, p. 6, 1904) almost certainly refers to *C. bülowi* and is therefore not included in the present list.

5. *Coleotichus* (*Paracoleotichus*) *sordidus* (Walker).

*Coleotichus sordidus* Walker, *Cat. Heteropt. Brit. Mus.*, I, p. 1, 1867.

*Coleotichus nigrovarius* Stål (nec Walk.), *Enum. Hemipt.*, III, p. 4, 1873.

*Coleotichus* (*Paracoleotichus*) *sordidus* Schout., *Ann. Mus. Nat. Hungarici*, III, pp. 320 and 355, 1905.

*Coleotichus* (*Paracoleotichus*) *sordidus*, Schout., *Wyts. Gen. Ins.*, *Heteropt.*, fasc. XXIV, p. 6, pl. 1, fig. 1, 1904.

*Coleotichus sordidus* Cheesman, *Trans. Ent. Soc. Lond.*, 1927, p. 154.

Upolu :—Apia : 1 specimen, 18.ix.1920, and 1 larva, 14.vi.1924 (Armstrong) ; 1 specimen, v.1924, and two specimens, x.1925 ; Malololelei : 1 specimen, 2.vii.1924 (Armstrong) ; 1 specimen, 20.iv.1925.

Tutuila :—1 specimen, 30.vi.1918 (Kellers) ; Pago Pago : 1 specimen, 14.ix.1923 (Steffany) ; 1 specimen, 25.ix.1923 (Swezey and Wilder) ; Afono Trail : 1 larva, 25.ix.1923 (Swezey and Wilder).

Recorded from Isle of Pines, Fiji, Marquesas Is., Society Is., New Hebrides and doubtfully also from New Caledonia and Australia (*vide* Kirkaldy). The specimens from the Marquesas and Society Is. agree very well with the type, which is from the Isle of Pines. The Fijian specimens show slight differences

from the typical form, and more nearly approach *C. nigrovarius* Walker. It is possible that *C. nigrovarius* is merely the Fijian race of *C. sordidus*.

Subfamily ASOPINAE (AMYOTEINAE).

### 6. *Cantheconidea cyanacantha* (Stål).

*Canthecona cyanacantha* Stål, *Enum. Hemipt.*, I, p. 42, 1870.

*Cantheconidea cyanacantha* Schouteden, *Wyts. Gen. Ins., Heteropt.*, fasc. 52, p. 45, 1907.

*Canthecona cyanacantha* Kirk., *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 347, 1908.

Upolu :—Apia : 1 specimen, 7.iii.1924, 1 specimen, 28.iv.1925, and 1 specimen, x.1925, 1,000 ft. ; Malololelei : 1 specimen, 25.ii.1924, 2,000 ft. ; 1 specimen, iv.1924.

Savaii :—Safune : 1 specimen, Lower Forest, 11.v.1924 (Bryan).

Tutuila :—1 specimen, 1,000 ft., 25.viii.1918 (Kellers).

Previously only recorded from Fiji.

### 7. *Platynopus (Montrouzierellus) melacanthus* (Boisd.).

*Pentatoma melacanthum* Boisduval, *Voy. Astrolabe, Ent.*, II, p. 628, pl. 2, fig. 7, 1838.

*Pentatoma fallenii* Guérin, *Voy. Coquille, Zool.*, II, p. 165, pl. 11, fig. 8, 1838.

*Heteropus melacanthum* Montrouzier, *Ann. Soc. Ent. France*, (4), I, p. 61, 1861.

*Acanthomera melacantha* Montrouzier, *Ann. Soc. Linn. Lyon.*, (2), XI, p. 226, 1864.

*Platynopus melacanthus* Mayr, *Reise Freg. Novara, Hemipt.*, p. 32, 1866.

*Platynopus tenellus* Walker, *Cat. Heteropt. Brit. Mus.*, I, p. 127, 1867.

*Canthecona apicalis* Vollenhoven, *Faun. Ind. Neerl.*, III, p. 6, pl. 1, fig. 3, 1868.

*Canthecona biguttata* Vollenhoven, *Faun. Ind. Neerl.*, III, p. 8, pl. 1, fig. 6, 1868.

*Platynopus melacanthus* Stål., *Enum. Hemipt.*, I, p. 40, 1870.

*Platynopus (Acanthomera) melacanthus* Schouteden, *Wyts. Gen. Ins.*, fasc. 52, *Heteropt.*, p. 48, pl. 3, fig. 10, 1907.

*Platynopus melacanthus* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 347, 1908.

*Platynopus (Montrouzierellus) melacanthus* Kirkaldy, *Cat. Heteropt.*, I, p. 11, 1909.

*Platynopus melacanthus* Cheesman, *Trans. Ent. Soc. Lond.*, 1927, p. 155.

Upolu :—Apia : 3 specimens, 19.ii.1923, 8.iii., and 14.vi.1924 (Armstrong) ; 3 specimens, 14.vi.1924, x.1924, and i.1925 ; Malololelei : 4 specimens, 2,000 ft., 22.iii.1924, 15.vii.1924, and xii.1925 ; Aleipata : 1 specimen, iv.1924 ; Leulumoega : 1 specimen, 14.ix.1923 (Swezey and Wilder).

Savaii :—Safune : 1 adult and 2 larvae, 12.v.1924 (Bryan).

Tutuila :—2 specimens, 760–1,000 ft., iv. and 13.x.1918 (Kellers) ; Leone Road : 1 specimen, 7.ix.1923 (Swezey and Wilder) ; Fagasa : 1 specimen, 9.ix.1923 (Swezey and Wilder) ; Pago Pago : 2 specimens, 9 and 30.ix.1923 (Swezey and Wilder), 2 specimens, 4.xi.1925, and 2 specimens, 14.xii.1925.



Manua :—Tau : 1 specimen, 27.ix.1923 (Swezey and Wilder).

Apparently widely distributed over the S. Pacific and recorded from the Molluccas, New Guinea, New Caledonia, New Hebrides, Loyalty Is. (Lifu), Woodlark Is. (Murua), Solomon Is., Fiji and Society Is. (Tahiti and Bora Bora).

This species is known to feed on lepidopterous larvae, and on several occasions Mr. Hopkins himself has seen specimens sucking caterpillars of the butterfly *Atella exulans*.

Subfamily PENTATOMINAE.

### 8. *Pegala biguttula* Haglund.

*Pegala biguttula* Haglund, *Stettin Ent. Zeit.*, XXIX, p. 159, 1868.

*Pegala biguttula* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 349, 1908.

Upolu :—Apia : 9 specimens, 14.vi.1924 (Armstrong), 1 specimen, ix.1924 ;  
Aleipata : 1 specimen, iv.–v.1924.

Previously recorded from Fiji.

### 9. *Glaucias samoanus*, sp. n. (Text-fig. 1).

*Colour*.—More or less uniformly grass-green shading to emerald-green, eyes grey, ocelli yellowish-white, lateral margins of head immediately in front of eyes (broadly), posterior margin of eye, first segment of rostrum, the entire lateral margin of pronotum, including reflexed carina (narrowly), basal third of costal margin narrowly, and connexivum, bright yellow ; anterior lateral margins of juga brown ; antennae, apex of tylus, labrum, second, third, and fourth rostral segments, bright red ; the tarsi reddish-brown ; apical half of claws, apex of rostrum and extreme posterior lateral angles of abdominal segments black. Sternum, disc of venter, including basal tubercle, coxae and trochanters, yellow ; rims of spiracles white ; femora and tibiae yellowish-green. Membrane colourless hyaline, dorsal surface of abdomen emerald-green ; apices of tibiae and tarsi covered with reddish-brown hairs.

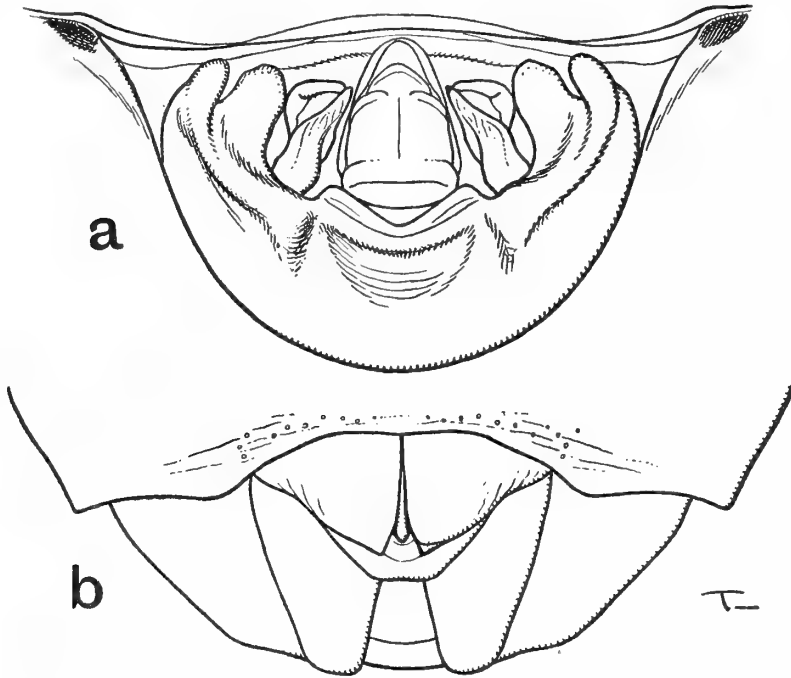
*Structure*.—Head above finely, transversally rugose, more or less punctate between the ocelli ; underside smooth and shining, ocelli more than four times as far from one another as from the eyes. Length of head compared with width including eyes 9 : 11. Relative lengths of antennal segments 25 : 50 : 65 : 78 : 75. Bucculae more than six times as long as gula, sinuate in outline, extending nearly to base of head. Rostrum extending on to third (second apparent) ventrite, relative length of segments 42 : 75 : 65 : 55. Pronotum and scutellum

distinctly but finely rugosely punctate, hemielytra finely punctate. Lateral margins of pronotum slightly convex, disc only moderately convex; mesosternal carina moderately elevated, thickened posteriorly; metasternum elevated in a broad rounded ridge; basal abdominal tubercle moderately large conical extending between posterior coxae to metasternal ridge.

Male and female genital segments figured.

Somewhat variable in size, the following are typical measurements:

Total length including membrane: ♂ 17 mm., ♀ 17.5 mm. Length of



TEXT-FIG. 1.—*Glaucias samoanus*, sp. n.: *a*, terminal view of male pygophor, showing parameres; *b*, ventral view of female genital plates.

scutellum: ♂ and ♀ 7 mm. Width of scutellum at base: ♂ and ♀ 6 mm. Width across humeral angles: ♂ and ♀ 9 mm.

Upolu:—Apia: 1 specimen, 1,000 ft., x.1925, 1 specimen, 16.xi.1925; Malololelei: 2 specimens (including ♂ type), 2.vii.1924 (Armstrong), 1 specimen, 20.iv.1925, and 1 specimen, 2,000 ft., 28.xi.1924.

Easily distinguished from all other species of the genus by the entirely bright red antennae, and the red rostrum and tarsi; also by the rather unusually pronounced rugose puncturation.

10. *Piezodorus rubrofasciatus* (F.).

*Cimex rubrofasciatus* Fabricius, *Mant. Ins.*, II, p. 293, 1787.

*Cimex hybneri* Gmelin, *Syst. Nat.* (ed. XIII), p. 2151, 1789.

*Raphigaster oceanicus* Montrouzier, *Ann. Soc. Linn. Lyon*, (2), XI, p. 224, 1864.

*Piezodorus rubrofasciatus* Stål, *Svensk. Vet.-Ak. Handl.*, VII, no. 11, p. 32, 1868.

*Piezodorus hybneri* Kirkaldy, *Cat. Hemipt. Het.*, I, p. 136, 1909, full synonymy given.

*Piezodorus rubrofasciatus* Cheesman, *Trans. Ent. Soc. London*, 1927, p. 155.

Upolu :—Apia : 1 specimen, 21.viii.1924 (Armstrong), 1 specimen, vi.1925.

Widely distributed over the Palaeotropical Region, and extending from East Africa through the Indian and Malayan Regions to Tahiti.

Kirkaldy quotes *Synanthereae* as food plants.

## Family COREIDAE.

## Subfamily COREINAE.

11. *Mictis profana* (F.) f. *cruz* Dall.

*Lygaeus profana* Fabricius, *Syst. Rhyn.*, p. 211, 1803.

*Mictis crucifera* Leach, *Zool. Misc.*, I, p. 92, pl. 40, 1814.

*Anisoscelis abdominalis* Guérin, *Voy. Coq. Zool.*, II, p. 176, 1838.

*Cerbus crucifera* H.S., *Wanzen Ins.*, VI, p. 60, fig. 622, 1842.

*Myctis profanus* Westwood, *Hope Cat. Hemipt.*, II, p. 10, 1842.

*Mictis cruz* Dallas, *List Hemipt. Het. Brit. Mus.*, II, p. 405, 1852.

*Nematopus profana* Montrouzier, *Ann. Sci. Phys. Nat. Agric. Indust. Lyon*, (2), VII, pt. 1, p. 102, 1855.

*Mictis profanus* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 352, 1908.

Upolu :—Apia : 1 specimen, 20.ix.1924 (Armstrong) ; Aleipata, Lalomanu 1 specimen, xi.1924.

Savaii :—Safune : 1 specimen, lowlands to 1,000 ft. (Bryan).

Tutuila :—Pago Pago : 1 larva, 0–300 ft. (Kellers).

Originally described by Dallas from Samoan specimens under the name *Mictis cruz* ; since regarded by Distant and Dallas as a variety of the more widely distributed *Mictis profana*, which is distributed throughout the Austro-Oriental and Australasian Regions, including New Hebrides, New Caledonia, Loyalty Is., Friendly Is., and Fiji.

12. *Leptoglossus australis* (F.).

*Cimex australis* Fabricius, *Syst. Ent.*, p. 708, 1775.

*Lygaeus australis* Fabricius, *Ent. Syst.*, VI, p. 140, 1794.

*Theognis australis* Mayr, *Reise Freg. Novara, Hemipt.*, p. 104, 1866.

*Leptoglossus australis* Stål, *Hemipt. Fabr.*, I, p. 51, 1868.

*Leptoglossus australis* Cheesman, *Trans. Ent. Soc. London*, 1927, p. 155, 1927.

Upolu :—Apia : 2 specimens, 10.xii.1921, 1 specimen, 18.v.1922, 1 specimen, 5.x.1922, 4 specimens, 7.x.1922, 2 larvae, 17.ii.1924 (Armstrong) ; 1 specimen, 27.ii.1924, 5 specimens, iv.1924, 1 specimen, viii.1924, 1 specimen, 6.ii.1925 (Pest of Cucurbits No. 723), 3 specimens, v.1925 ; Mulifanua : 1 specimen, 10.i.1923 (Armstrong).

Recorded from New Hebrides, New Caledonia, Fiji, Tahiti, and Bora Bora. Mr. Hopkins states that this species is injurious to Cucurbitaceae.

## Subfamily ALYDINAE.

13. *Leptocoris varicornis* (F.).

*Gerris varicornis* Fabricius, *Syst. Rhyng.*, p. 260, 1803.

*Leptocoris flavida* Guérin, *Voy. Coq. Ins.*, p. 178, pl. 12, fig. 12, 1830.

*Coreus (Stenocephalus) varicornis* Burmeister, *Nova. Acta. Ac. Leop.*, XVI, Suppl., p. 298, 1834.

*Myodochus varicornis* Burmeister, *Handb. Ent.*, II, p. 325, 1835.

*Leptocoris chinensis* Dallas, *List. Hemipt. Het. Brit. Mus.*, II, p. 483, 1852.

*Leptocoris varicornis* Dallas, *tom. cit.*, p. 484, 1852.

*Leptocoris acuta* Kirkaldy (*nec* Thunberg), *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 353, 1908.

*Leptocoris varicornis* China, *Bull. Ent. Research*, XIV, pt. 3, p. 237, figs. 5 and 6, 1924.

Upolu :—Apia : 1 specimen, 12.ix.1923 (Swezey and Wilder) ; 2 specimens, 10.iv.1924, 1 specimen, 4.v.1924 (Armstrong) ; 1 specimen, 13.4.1925, 7 specimens, viii.1925 (No. 763) ; Malololelei : 1 specimen, 2,000 ft., 22.iii.1924 ; Leulumoega : 1 specimen, 14.ix.1923 (Swezey and Wilder).

Savaii :—Safune : Lowlands to 1,000 ft., 1 specimen, 1.v.1924 ; Rain Forest, 2,000–4,000 ft., 4 specimens, 2 and 4.v.1924 ; Lower Forest, 1,000–2,000 ft., 8 specimens, 5.v.1924 ; 2 specimens, 4.v.1924 (Bryan). Salailua : Lower Forest, 1,000–2,000 ft. 1 specimen, 17.v.1924, 4 specimens, 22.v.1924 (Bryan).

Tutuila :—6 specimens, 760–900 ft., iv.1918, 1 specimen, 30.vi.1918, and 1 specimen, 2,141 ft., 22.ix.1918 (Kellers) ; Pago Pago : 4 specimens, 9.ix.1923 (Swezey and Wilder) ; 5 specimens, and 1 larva, 12.iv.1924 (Bryan) ; 1 specimen, 14.xii.1925 ; Fagasa : 2 specimens, 9.ix.1923 (Swezey and Wilder) ; Afono

Trail : 1 specimen, 25.ix.1923 (Swezey and Wilder) ; Leone Road : 5 specimens and 1 larva, 19.ii.1924 (Bryan).

Manua :—Tau : 4 specimens, 27.ix.1923 (Swezey and Wilder).

This is the most widely distributed species of the genus, and occurs throughout the Indian, Indo-Chinese, Malaysian, Oriental, Austro-Oriental, and Australasian Regions, extending much farther east than the closely allied species *L. acuta*, Thunb., which is apparently not found east of New Guinea. Kirkaldy's record of *L. acuta* for Fiji undoubtedly refers to *L. varicornis*, F. Both these species are well known pests of rice in the Far East.

#### 14. *Noliphus discopterus* Stål.

*Noliphus discopterus* Stål, *Enum. Hemipt.*, III, p. 87, 1873.

Upolu :—Apia : 3 specimens, 28.x.1923, 1 specimen, 9.iii.1924, and 1 specimen, 4.v.1924 (Armstrong) ; 1 specimen, 28.iv.1925, and 1 larva, vi.1924 ; Lalomanu : 1 specimen, xi.1924 ; Tuaefu : 1 specimen, 16.ix.1923 (Swezey and Wilder).

Recorded from Samoa. This species is closely allied to the Fijian *N. insularis* Stål, and is probably merely a local race of that species.

#### 15. *Melanacanthus margineguttatus* Dist.

*Melanacanthus margineguttatus* Distant, *Ann. Mag. Nat. Hist.*, (8), VII, p. 585, 1911.

*Mirperus margineguttatus* Bergroth, *Mém. Soc. Ent. Belg.*, XXII, p. 160, 1913.

Upolu :—Apia : 1 specimen, 7.x.1923, 2 specimens, 28.x.1923 ; 1 specimen, 4.v.1924 (Armstrong) ; 1 specimen, ii.1924, 1 specimen, 12.iii.1924, 3 specimens, 28.iv.1924, 2 specimens, vi.1924, 1 specimen, x.1924 ; Malololelei : 1 specimen, 2,000 ft., 23.xi.1924.

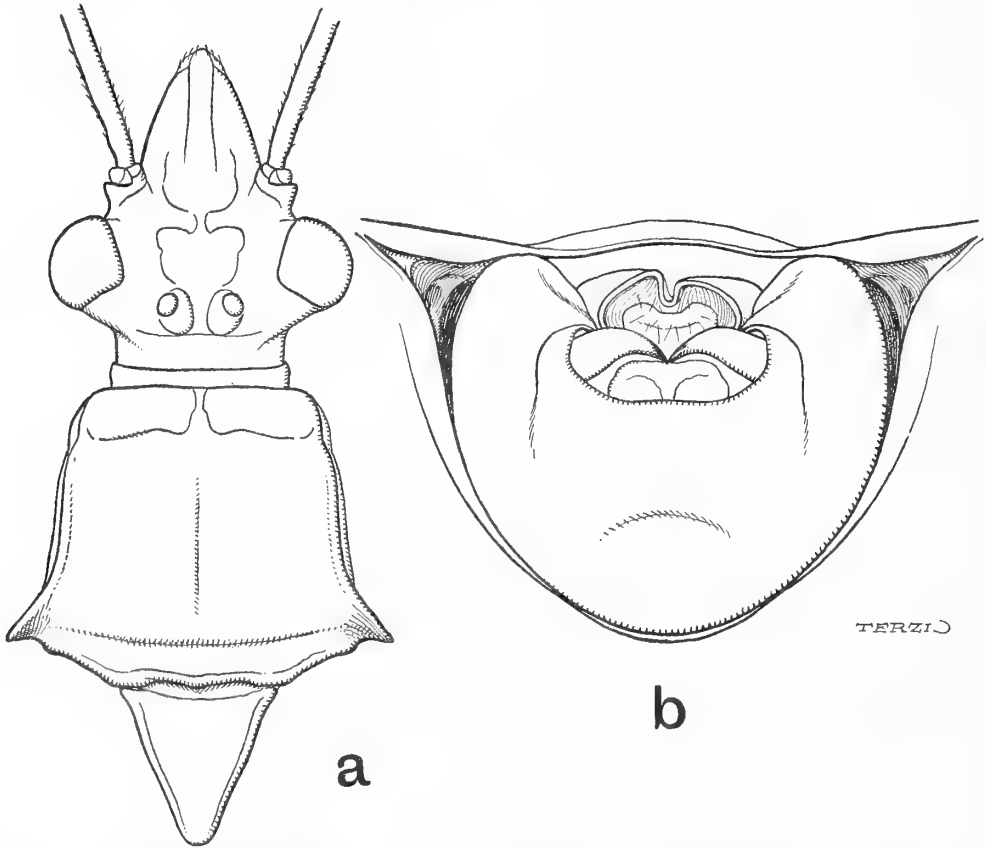
Originally recorded from N.W. Australia. The range of this species can now be extended to include Queensland, New Zealand, and Samoa. Stål's subgenus *Melanacanthus* must be elevated to generic rank, and is perfectly distinct from the African genus *Mirperus* Stål.

#### 16. *Riptortus insularis*, sp. n. (Text-figs. 2 and 3).

*Colour*.—♂ Sparsely covered with a short pale pubescence. Deep ferruginous brown, eyes, two longitudinal stripes on base of vertex behind the ocelli, first and last segments of rostrum, extreme apices of second and third antennal segments, gula, pro-, meso-, and meta-sterna, hind femoral



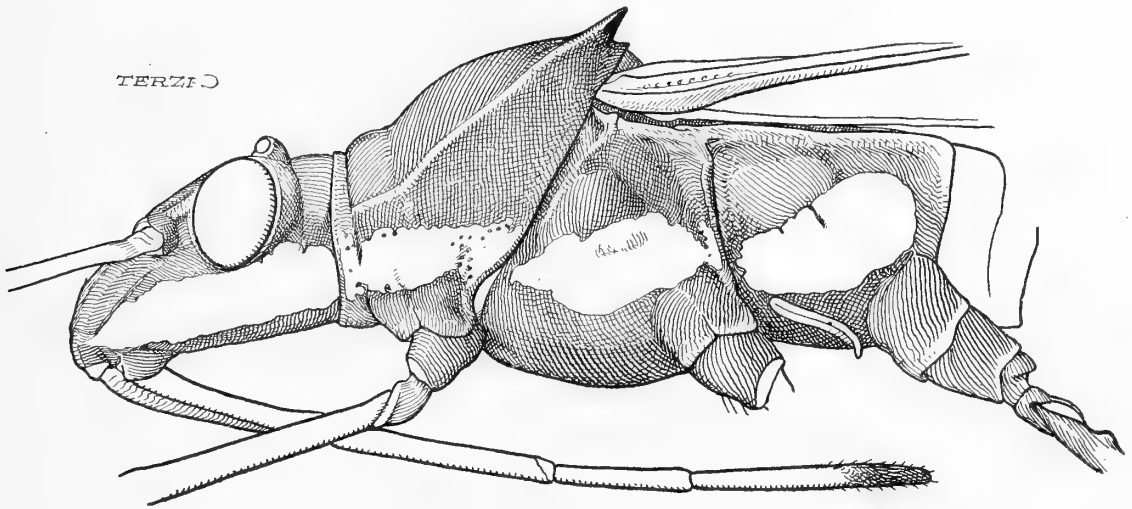
teeth, base and apex of hind tibiae and a broad longitudinal lateral stripe down side of venter, dark brown shading to black; basal fourth of fourth antennal segment, extreme apex of scutellum, a broad median stripe down middle of venter (not extending on to the seventh sternite), an irregular rather darker longitudinal fleck on each segment of venter, in the middle of the dark brown lateral stripe, and the connexivum fulvous yellow; a broad stripe down



TEXT-FIG. 2.—*Riptortus insularis*, sp. n.: *a*, dorsal view of head, pronotum and scutellum; *b*, terminal view of male pygophor.

each side of the underside of head extending on to the propleura across the proacetabula and two large oval spots on the middle of the meso- and meta-pleura respectively, bright shining yellow; the meso- and meta-pleural spots not forming a continuous line with the lateral stripe on the head and prothorax, and not margined with black; lateral margins of humeral spines shining sordid yellow; front and middle legs and middle of hind tibiae, pale ferruginous brown; dorsal surface of abdomen uniformly bright ferruginous brown.

*Structure*.—Head rather elongate, as long as wide, including eyes (68 : 66), finely punctato-rugose, ocelli prominent rather closer to one another than to eyes; relative lengths of antennal segments, 75 : 60 : 58 : 145; rostrum stretching to base of hind coxae, relative lengths of segments 45 : 50 : 30 : 50. Pronotum as long as broad, excluding humeral spines, the latter rather short and broad, only moderately acute; together with the scutellum, punctato-rugose. Corium and clavus rather sparsely but distinctly punctate, the puncturation much less dense than in *R. obscuricornis* and *R. serripes* F.; trapezoidal cell on corium long and rather narrow. Posterior margin of seventh abdominal tergite (♂) more or less rectangularly produced, the actual angle rounded. Male genitalia figured (Fig. 2, b). Total length 15 mm., breadth across humeral spines 3 mm.



TEXT-FIG. 3.—*Riptortus insularis*, sp. n. : lateral view of head and thorax.

Upolu :—Apia : 1 specimen, 12.viii.1924, and 1 specimen, 12.x.1924 (Armstrong); Aleipata, Lalomanu : 2 adults (including ♂ type), and 2 larvae, xi.1924; Vailutai : 1 specimen, 9.vi.1924; Malololelei : 1 specimen, 9.vi.1924.

Savaii :—Safune : 1 specimen, 15.v.1924 (Bryan).

Also from Fiji :—Savu Savu : 1 adult and 1 larva, iii.1922, 1 adult and 1 larva, v.1922 (H. W. Simmonds); Motariki : 1 specimen, v.1921 (Simmonds); Cuvu : 1 specimen, 1.i.1917 (A. Veitch).

Allied to *R. serripes* (= *robustus* Dall.), but a much smaller and more slender species with longer head, narrower pronotum, shorter humeral spines, less densely punctate corium, the hind tibiae fulvous yellow with base and apex

fuscous. Differs from *R. obscuricornis*, Dallas (= *abdominalis*, Westw.) in having the large yellow spots of the meso- and meta-pleura oval in shape (not parallel-sided), their margins not, as they are in *R. obscuricornis* Dall., continuous with each other and with those of the yellow stripe on side of head and propleuron; also differs by the absence of the black vitta on the disc of the venter.

*R. horvathi*, Bergr. (= *R. serripes* Horv. nec Fabr.), recorded from Thursday Is., is apparently synonymous with *R. obscuricornis* Dall., a well-known Queensland species. *R. insularis* is probably identical with the undetermined species recorded by Kirkaldy (*Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 353, 1908) as occurring on Mauritius bean (*Mucuna atropurpurea*) in Fiji.

#### *R. insularis obscurus*, var. n.

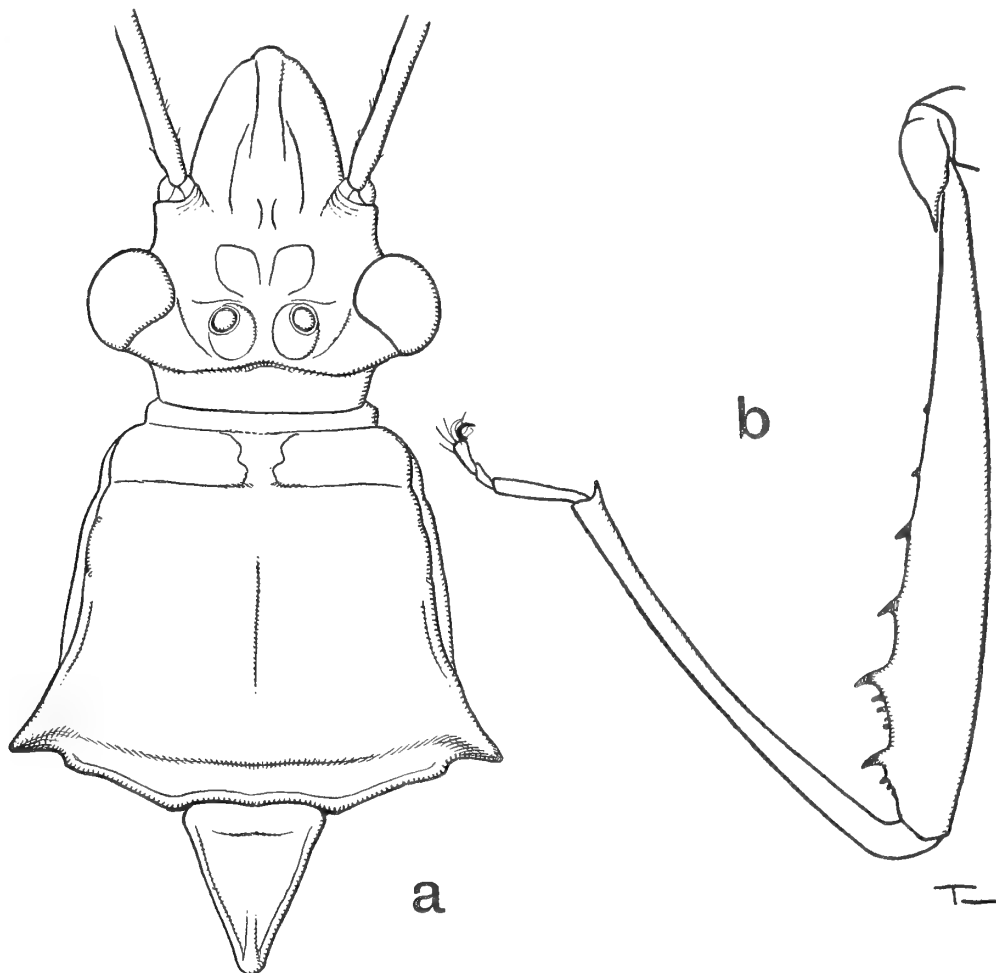
There is a female specimen from Tutuila, referable to this species, which is much darker than typical males, and which differs in having the yellow spots on the meso- and meta-pleura practically obsolete. The propleural stripe is also much reduced, and there is a trace of pale subapical annulation on the hind femur. This specimen apparently represents a distinct race.

Tutuila:—Pago Pago: 1 ♀ (**type**), 18.ix.1919 (Swezey and Wilder).

#### 17. *Riptortus tutuilensis*, sp. n. (Text-figs. 4 and 5).

*Colour*.—♀. Dark chestnut brown, densely covered with short but thick, rather tomentose pale golden pubescence, particularly dense on the pronotum, and giving the pronotum a pale yellowish colour. Apex of tylus, lateral margins of head in front of eyes, and a stripe behind each eye, obscure fulvous yellow; eyes reddish-brown, antenna fulvous, the first segment darker, apices of first, second, and third segments black, basal third of fourth segment yellow: underside of head dark brown, with a broad dull yellow stripe down each side; rostrum dark ferruginous brown with apex black. Pronotum appearing dull yellowish-white, the anterior lobe (calli) and posterior margin, dark brown, lateral margins of humeral spines glabrous shining yellow. Propleuron yellowish-grey, with short, broad dark brown stripe behind the eye, laterad of a dull yellow spot over base of acetabula, and the lateral margin brown. Scutellum deep ferruginous brown with the apex glabrous yellow. Meso- and meta-pleura pale brown, more or less variegated with deeper brown, the whole appearing yellowish-grey by reason of the pubescence; the acetabulae, posterior margins of pleurites, and rim of odoriferous orifice dirty yellow. Pro- and meso-sterna dark brown. Hemielytra chestnut brown, the puncturation as in *R. insularis*, but with a

distinct though very short golden pubescence. Legs dark brown with the coxae, trochanters, bases of femora, front and middle tarsi, hind tibiae, except bases and apices, pale brown, shading to yellow; the upper side of the hind femur obscurely mottled with dull yellow giving the superficial appearance

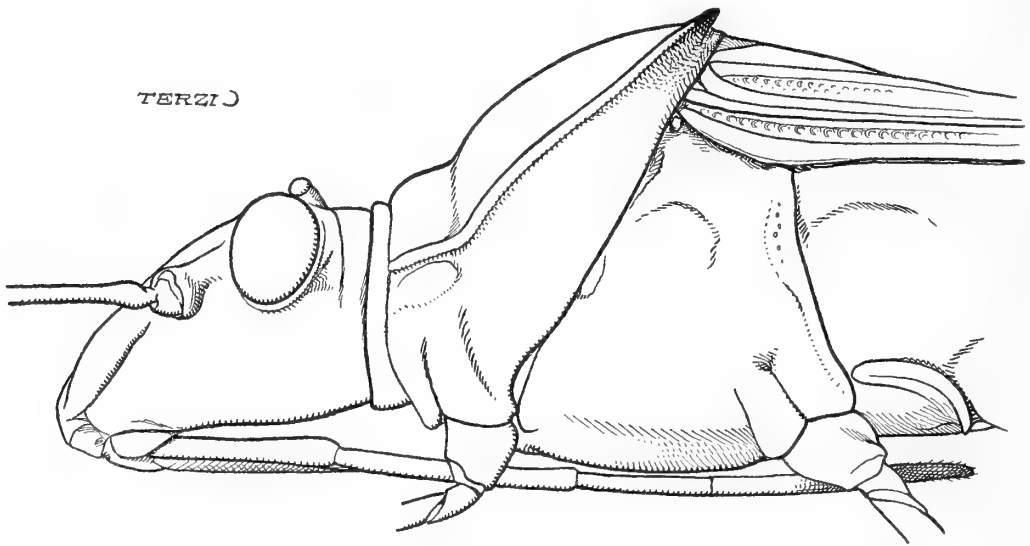


TEXT-FIG. 4.—*Riptortus tutuilensis*, sp. n.: a, dorsal view of head, pronotum and scutellum; b, hind leg.

from above of a sub-apical pale annulation. Abdomen below greyish-yellow, finely mottled with red and pale brown; connexivum unicolorous, but with base and apex of the fifth (fourth apparent) sternite towards lateral margin, obscurely fuscous. Dorsum orange-brown, the sixth, seventh, eighth, and ninth tergites darker brown; connexivum brown, the fifth tergite with an

obscure yellowish spot on apical third of its lateral margin, and with a dark fuscous spot at base, middle and apex of its lateral margin; sixth connexival tergite similarly but less definitely marked.

*Structure*.—♀. Head equilateral, robust, ocelli moderately prominent, slightly closer to the eyes than to one another; relative lengths of antennal segments 72 : 56 : 61 : 145; rostrum stretching to middle of metasternum, relative lengths of segments 47 : 55 : 30 : 50. Pronotum distinctly broader (including humeral spines) than long, the latter rather short and broad, only moderately acute; strongly rugosely punctate. Scutellum with disc moderately



TEXT-FIG. 5.—*Riptortus tutuilensis*, sp. n. : lateral view of head and thorax.

convex, indistinctly rugosely punctate. Corium and clavus, as in *R. insularis* rather sparsely but distinctly punctate; trapezoidal cell on corium less elongate than in *R. insularis*.

Total length, 16 mm.; breadth across humeral angles, 3.75 mm.

Tutuila :—Pago Pago : 1 ♀ (type), 20.ix.1923 (Swezey and Wilder).

Also recorded from Fiji.

Fiji :—Cuvu : 1 ♀, 26.vi.1915 (R. Veitch).

Allied to *Riptortus clavatus* (Thunb.) and *R. fuscus* (F.), in the absence of the bright yellow shining lateral fascia on underside of head and thorax, but easily distinguished from both by the uniformly ferruginous dorsum, without the black coloration on the *metanotum*, and on the first, second, and fourth abdominal tergites.

## Subfamily CORIZINÆ.

18. *Leptocoris insularis* Kirk.

*Leptocoris insularis* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 353, 1908.

Upolu:—Apia: 1 specimen, 18.ix.1922 (Armstrong); Malololelei: 2 specimens, 25.ii.1924.

This species has previously been recorded only from Fiji.

## Family DYSODIIDÆ Reuter.

19. *Mezira membranacea* (Fabr.)

*Acanthia membranacea* Fabricius, *Ent. Syst., Suppl.*, p. 526, 1797.

*Aradus albipennis* Fabricius, *Syst. Rhynq.*, p. 118, 1803.

*Aradus membranaceus* Fabricius, *Syst. Rhynq.*, p. 118, 1803.

*Brachyrhynchus orientalis* Laporte, *Essai Hémipt.*, p. 54, 1832.

*Aradus lugubris* Boisduval, *Voy. Astrolabe, Ent.*, II, p. 642, pl. XI, f. 24, 1835.

*Brachyrhynchus membranaceus* Stål, *Kongl. Svensk. Vet.-Ak. Handl.*, VII, no. 11, pp. 96, 1868.

Upolu:—Apia: 5 specimens and 2 larvae, 14.iv.1922 (Armstrong); 1 specimen, 10.ix.1923 and 3 specimens, 12.ix.1923 (Swezey and Wilder); 10 specimens, ii.1924, 4 specimens, iv.1924, 8 specimens, x.1924, 1 specimen, xii.1924; Malololelei: 8 specimens, 24.ii.1924, 1 specimen, 22.iii.1924, 4 specimens, 2,000 ft., 12.iii.1924; Lalomanu: 3 specimens, xi.1924; Aleipata: 1 specimen, iv.1924; Vailima: 1 specimen, vi.1924.

Savaii:—Safune: 4 specimens, 1, 10, and 12.v.1924 (Bryan); Fagamalo: 1 specimen, viii.1924.

Tutuila:—Pago Pago: 3 specimens, 9.ix.1923, and 1 specimen, 30.ix.1923 (Swezey and Wilder); 2 specimens, 16 and 19.iv.1924 (Bryan); 1 specimen, iv.1928 (Kellers); Leone Road: 1 specimen, 7.ix.1923 (Swezey and Wilder); 2 specimens, 29.iii.1926 (Judd); Fagasa: 12 specimens, 9.ix.1923 (Swezey and Wilder).

Manua Is.:—Tau: 1 specimen, 20.ii.1926 (Judd).

Widely distributed over the Indian, Indo-Chinese, Malaysian and Philippine subregions.

It is rather surprising that this species should occur so commonly in Samoa, where one would rather expect to find the Austro-Oriental *Mezira thoracoceras* Montr., which has been recorded from Papua, New Caledonia, N. Australia, and Fiji. *M. membranacea*, however, is easily distinguished from *M. thoracoceras* by the equally long second and third antennal segments, the third segment being distinctly longer than the second in the latter species.



**Chiastoplonia**, gen. n.

Allied to *Mezira*, Am. et Serv., but differs in the following characters: Tylus very short, extending scarcely beyond the insertion of the antennae and not at all beyond the antenniferous teeth. Scutellum with percurrent longitudinal and transverse ridges in the form of a cross. Corium very short, scarcely extending beyond the apex of scutellum, the clavus extending distinctly beyond the adjoining region of the corium. Membrane large and smooth without distinct veins. Spiracles of second and third (actual) abdominal segments on lateral edge of connexivum instead of placed ventrally.

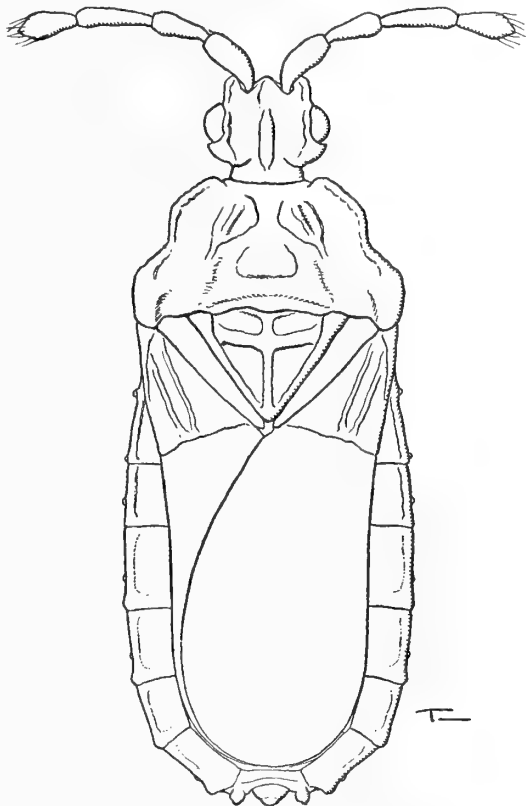
Genotype:—*Chiastoplonia pygmaea*, sp. nov.

20. *Chiastoplonia pygmaea*, sp. n. (Text-fig. 6).

*Colour*.—♂. Head, pronotum, and scutellum dark ferruginous brown, antennae, sternum, venter, connexivum, and legs ferruginous brown. Membrane greyish, paler towards apex of clavus, shading to black towards the costal margin.

*Structure*.—Head much broader than long (28 : 19), tylus indistinctly delimited from jugs, not at all produced anteriorly its apex level with the apices of antenniferous tubercles which are short and broad and form rectangular teeth with the posterior side parallel to the axis of the head; postocular spines obtuse but not obsolete; vertex with broad, distinct, longitudinal ridge; antennae about as long as head and pronotum together, the first segment strongly incrassate, much thicker than others, about twice as long as wide, nearly equal in width to the length of eye; second segment less strongly incrassate but much wider at apex than at base; third segment longest, gradually widening towards apex; fourth robustly fusiform the widest part nearer the apex, apical fourth covered with long white hairs; relative lengths of segments 12 : 10 : 15 : 12; rostrum scarcely extending beyond buccal groove, in which it lies, the bucculae moderately well elevated, parallel. Pronotum twice as broad at the base as long (60 : 29) equally broad anteriorly as long; lateral margins carinate anterior to humeral angles; those of posterior lobe straight, strongly converging anteriorly; those of anterior lobe, at first parallel then converging, at same angle as those of posterior lobe, to anterior lateral angles; anterior margin straight; posterior margin moderately emarginate above base of scutellum; humeral angles rounded; disc of anterior lobe with a pair of large circular

rather obscure, flattened tubercles; disc of posterior lobe with an obscure central raised area surrounded by a depressed area. Scutellum about as long as broad, lateral margins at base subparallel, strongly elevated; apex depressed, lateral margins ridged; disc with a broad median longitudinal percurrent ridge and a less elevated, transverse percurrent ridge, the two forming the conventional cross. Hemielytra long, extending to the eighth (sub-apical) abdominal tergite; corium very short, feebly thickened, veins not well marked except along costal margin at apex, basal costal lobe more or less obsolete, its lateral margin straight, parallel to axis of body and not extending beyond humeral angle of pronotum; membrane long and broad, completely filling dorsal surface of abdomen within the connexival regions, entirely without veins, more or less distinctly transversely wrinkled. Abdomen more or less parallel sided, very slightly widening towards apex; posterior lateral angles of segments of connexivum very slightly prominent, the lateral margins more or less percurrent; spiracles of second and third abdominal segments placed on lateral edge of connexivum near posterior angles of segment, remaining spiracles placed ventrally on connexivum but close to its lateral margin; venter convex, pygophor (ninth segment) and lateral processes of eighth segment feebly prominent.



TEXT-FIG. 6.—*Chistoplonia pygmaea*, gen. et. sp. n. : dorsal view (legs omitted).

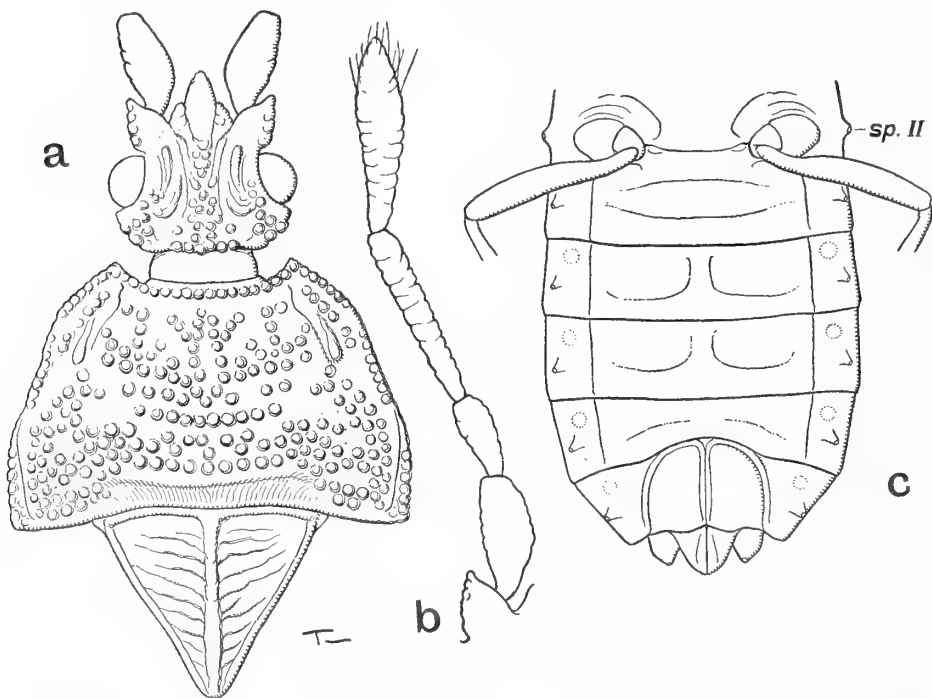
Length, 2.5 mm. Breadth across humeral angles, 1.0 mm.

Tutuila :—Pago Pago : 1 ♂ (type), in rotten Hau bark (*Hibiscus tiliaceus*), 22.ix.1923 (Swezey and Wilder).

21. *Pictinus pacificus*, sp. n. (Text-fig. 7).

*Colour*.—Variable in colouring, more or less uniformly dull ferruginous brown, the antennae legs and connexivum somewhat paler. Membrane smoky hyaline, paler at apex of corium. In the female the basal third of the connexival segments especially laterally are pale sordid yellow while the anterior half of the lateral margins is fuscous.

*Structure*.—Small, rather elongate. Head as long as broad across eyes, somewhat flattened above, apex conical not bifid, tylus not constricted at the



TEXT-FIG. 7.—*Pictinus pacificus*, sp. nov.: a, dorsal view of head, pronotum and scutellum; b, antenna; c, ventral view of abdomen, showing position of spiracles.

base, extending well beyond the jugs to nearly the middle of the first antennal segment; antenniferous spines oblique, moderately prominent and acute; antennae more than twice as long as head, first segment incrassate nearly half as wide in middle as long, second segment oval, third linear gradually thickening towards the apex, fourth fusiform thickest towards the apex, its apical two thirds grey with pale hairs: relative lengths of segments, ♂ 18 : 11 : 21 : 19, ♀ 17 : 10 : 23 : 19; post ocular spines absent; rostrum more or less slender extending almost to the anterior margin of prosternum, that is just beyond

the tuberculate surface of the gula; the bucculae thin carinate, feebly elevated and widely separated, the rostral groove consequently shallow but very broad, and not at all completely filled by the rostrum. Pronotum (♂) about one and three-fourths wider than long in the middle (65 : 37), lateral margin sinuate, the posterior third convex, the centre concave and the anterior third convex; the anterior lateral angles distinctly but obtusely produced anteriorly in front of the anterior margin which is slightly emarginate and much narrower than the posterior margin (30 : 62) which is also broadly emarginate; lateral margins anteriorly more or less reflexed, disc tuberculate especially the posterior lobe, calli slightly elevated, a short longitudinal ridge on each side of the anterior lobe between the calli and the reflexed lateral margin. Scutellum triangular the sides almost straight, slightly concave towards apex and equal in length to the base; lateral margins slightly reflexed or carinate; surface transversely rugose with a median longitudinal carina. Hemielytra scarcely reaching genital segment (♂), the inner angle of corium and apex of clavus reaching the apex of scutellum; claval suture and corial veins obscurely granulate; membrane with some almost obsolete irregular reticulations but no longitudinal veins, about twice as long as the corium. Legs simple, femora unarmed. Abdomen not dilated but connexivum broad, venter distinctly convex, lateral margins of sixth and seventh segments distinctly concave; spiracle of second segment (first apparent) on the lateral edge of connexivum, remaining spiracles on its ventral surface, the fifth and sixth spiracles somewhat closer to the lateral margin than the others.

Total length: ♂ 3.4 mm., ♀ 3.7 mm. Breadth across humeral angles: ♂ 1 mm., ♀ 1.1 mm.

Upolu:—Malololelei, 2,000 ft., 1 ♂ (type) and 1 ♀ (paratype), 22.iii.1924; 1 ♀, 16.iii.1924.

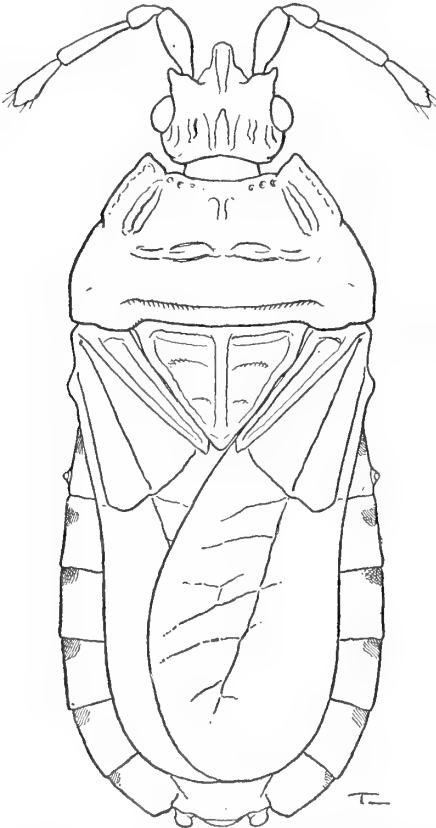
Savaii:—Salailua: 1 ♂, 21.v.1924 (Bryan); Safune: Rain Forest, 2,000–4,000 ft., 1 ♀ (paratype with head missing), 2.v.1924 (Bryan).

This species has been provisionally referred to the genus *Pictinus* Stål., owing to its general resemblance to *Pictinus invalidus* Bergr. (Seychelles), from which it differs however in the more slender and shorter antennae, absence of constriction of the tylus before the apex; absence of post ocular processes, more prominent antenniferous spines, flatter head, emargination of posterior margin of pronotum and in the position of the first visible spiracle (second abdominal) on the lateral edge of the connexivum. It is very probable that

*P. invalidus* Bergr. is generically distinct from the American genus *Pictinus* Stål., but this point cannot be decided without a revision of the group, which is, of course, out of the question in the preparation of a faunistic paper of this nature. Two males from Malololelei (Upolu) and Salailua (Savaii) respectively, differ from the typical species in the relatively longer third antennal segment, slightly larger size, and less acute anterior lateral angles of pronotum. Consequently these specimens have not been regarded as paratypes.

22. *Ctenoneurus samoanus*, sp. n. (Text-fig. 8).

*Colour*.—♂. Dark ferruginous brown, vertex of head, posterior margin of pronotum, scutellum, corium, and clavus and a spot at the anterior lateral margin of each segment of connexivum (more or less obscure on seventh and eighth segments), brownish-black; antennae, rostrum, connexivum, apices of femora, tibiae and tarsi, pale ferruginous brown; membrane smoky hyaline, with a large irregular obscure infuscation in middle of its costal margin, and the area just beyond the apex of corium paler.



TEXT-FIG. 8.—*Ctenoneurus samoanus*, sp. n.: dorsal view (legs omitted).

*Structure*.—Head slightly wider than long (21 : 18), apical process (tylus) parallel sided, scarcely reaching middle of first antennal segment, its apex obtuse, slightly bifid; antenniferous spines rectangular, very short, directed laterally not extending anteriorly beyond insertion of antennae; postocular processes obsolete; rostrum extending slightly beyond buccal groove, to anterior margin of prosternum; antenna much longer than head, first segment incrassate nearly half as wide as long, second segment short and thickened apically, third longest, linear gradually thickening towards apex, fourth fusiform its apex pale; relative length of segments 10 : 5 : 12 : 10.

Pronotum slightly longer than head, about twice as wide at base as long (45 : 22) and about as wide as long anteriorly (22 : 22); anterior margin concave, the

anterior lateral angles obtuse but slightly prominent, basal margin in front of scutellum truncate; lateral margins more or less straight, somewhat indented in middle between anterior and posterior lobes; posterior angles broadly rounded not wider than costal margins of hemielytra; disc of anterior lobe with a pair of flattened strongly rugose circular prominences and a short longitudinal rugose ridge on each side, lateral margins carinate. Scutellum triangular, with margins slightly concave, slightly shorter than broad at base (20 : 23), lateral margins and base, narrowly ridged, disc with a broad distinct, percurrent median ridge. Hemielytra extending to eighth abdominal segment; corium reaching distinctly beyond the apex of the scutellum, its apical margin convex; basal costal lobe, narrow, extending slightly beyond connexivum in an obtuse tooth level with the middle of the scutellum; membrane with obscure semi-obsolete reticulations. Second abdominal spiracle on lateral edge of connexivum, the rest ventral, that of the seventh placed close to lateral margin; posterior margin of sixth ventrite deeply emarginate in the form of a parabola; seventh ventrite very long; processes of eighth and the ninth ventrite (pygophor) little prominent.

Length, 4 mm. Breadth across humeral angles, 1.5 mm.

Upolu :—Malololelei : 1 ♂ (type), 25.iv.1924.

Savaii :—Safune : Rain Forest, 2,000–4,000 ft., 1 ♂, 8.v.1924 (Bryan).

Readily distinguished from *C. hochstetteri* Mayr. (New Zealand), *C. lifuanus* Montr. (N. Caledonia) and *C. bergrothianus* Kirk. (Fiji), by its much smaller size. Apparently closely related to *C. fungicola* Kirk. (Fiji), from which it differs by relative lengths of the antennal segments.

### 23. *Carventus kirkaldyi*,\* sp. n. (Text-fig. 9).

*Carventus* sp. ? Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 351, 1908.

*Colour*.—♀. Pale ferruginous brown, somewhat darker over the head, anterior lobe of pronotum, and scutellum; eyes reddish, antennae (first and second segments), anterior processes of head and lateral processes of pronotum, fulvous-yellow; legs pale fulvous-yellow, apices of femora and the tarsi fuscous; apex of second antennal segment moderately infuscate.

*Structure*.—Head about as long as broad (26 : 27), apical processes long, extending slightly beyond middle of first antennal segment; consisting of two

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\* This species is dedicated to the memory of G. W. Kirkaldy, in recognition of his work on the Fijian Heteroptera.



elongate widely separated lobes somewhat convergent towards their apices; antenniferous spines long, directed anteriorly, parallel to apical processes, extending to slightly more than one-third the length of the first antennal segment; post ocular processes prominent, directed slightly posteriorly, not extending laterally beyond the eyes; antennae with first segment long and slender but much thicker than second segment which is linear; relative length



TEXT - FIG. 9. — *Carventus kirkaldyi*, sp. n. : dorsal view (legs omitted).

of segments (16 : 11, third and fourth segments missing in type specimen); rostrum very short, not extending beyond middle of eyes. Pronotum distinctly broader than long (56 : 40), strongly narrowed anteriorly with a distinct collar, anterior margin concave; median lateral process of anterior lobe broad, flattened, spatulate; anterior lateral process of posterior lobe also spatulate but narrower and slightly longer than the former; posterior margin in front of scutellum convex, two lateral posteriorly directed lobes on each side of scutellum. Scutellum twice as wide at base as long (30 : 16), sides straight, widely ridged, disc without a median carina, apex obtusely rounded. Hemelytra extending to base of seventh abdominal sternite; corium broad, its apex extending almost to the middle of abdomen, feebly elevated above membrane, from which, however, it is well delimited; basal costal lobe almost obsolete, feebly prominent; membrane very long and moderately broad, shining with moderately distinct longitudinal veins forming several

irregular cells. Abdomen distinctly widened posteriorly each segment of connexivum distinctly widening posteriorly so that it overlaps the base of lateral margin of the succeeding segment in a more or less obtuse angle, the apical angle of the seventh (sixth apparent) segment scarcely reaching the apex of genital segment (ninth); spiracle of second segment placed ventrally, those of remaining segments on lateral margin.

Length, 6.2 mm. Breadth across humeral angles, 1.9 mm.

Upolu :—Vailima : 1 ♀ (type), 25.x.1924.

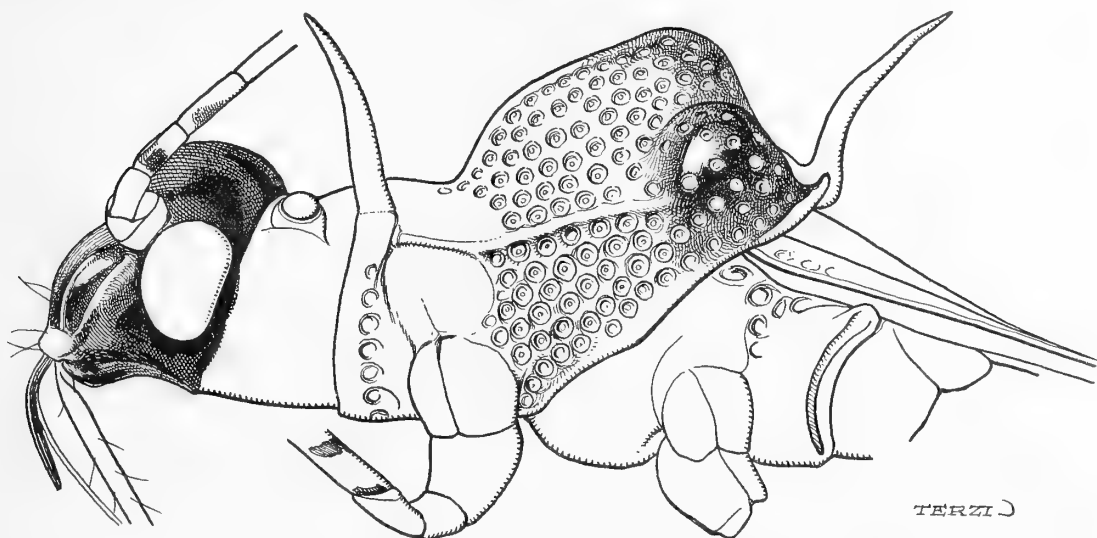
Allied to *C. denticollis* Stål. (Mysol) but much more robust, head wider, apical processes not contiguous, lateral processes of pronotum wider and spatulate,

basal costal lobe of corium much less prominent. This is probably the species recorded from Fiji without a name by Kirkaldy in 1908.

Family NEIDIDAE (BERYTIDAE).

24. *Protacanthus* \* *pacificus*, sp. n. (Text-fig. 10).

*Colour*.—♂ and ♀. Anterior lobe of head (in front of ocelli) including eyes, black, intensely shining, posterior lobe fulvous flecked with brown behind ocelli and at sides of neck; rostrum yellowish-white, the labrum, extreme base of



TEXT-FIG. 10.—*Protacanthus pacificus*, sp. n.: lateral view of head and thorax, showing median pronotal keel.

second and third and apex of fourth segments dark brown; antennae translucent yellowish-white multiannulate with dark brown, apical three-fourths of fourth segment dark brown, base of first segment and antenniferous tubercle opaque white. Pronotum fulvous anteriorly, gradually shading through dark brown

\* Bergroth (*Mem. Soc. Ent. Belg.*, XXII, p. 179, 1913), on the strength of Distant's description and figure, erected a new genus *Auchenoplus* for *Metacanthus bihamatus* Dist., recorded from Ceylon. Bergroth's description, apparently based on Distant's inaccurate figure (*Entomologist*, xlv, p. 105, 1911), is misleading. The first rostral segment does not extend beyond the base of the head. *Auchenoplus* is, in fact, synonymous with *Protacanthus* Uhler, Distant's species being generically identical with the type of *Protacanthus decorus* Uhler, now preserved in the British Museum Collection.

to black posteriorly, the extreme reflexed basal margin on each side white, ventral sides brown. The anterior collar at the sides (narrowly), and the spines on each side of the dorsal surface of the anterior collar, white. Scutellar spine white, pro-, meso-, and meta-sterna pale yellowish-brown. Hemielytra colourless hyaline. Legs yellowish-white, the femora and tibiae multi-annulate with brown, the femoral annulations incomplete on the under side; apical halves of tibiae brown. Abdomen pale green.

*Structure.*—♀. Head seen from above slightly longer than wide across the eyes (33 : 31), three-fourths the length of the pronotum, intensely shining with a few scattered, short, erect hairs, especially at apex; rostrum extending beyond the hind coxae almost to second abdominal segment, relative length of segments 35 : 17 : 20 : 22; antennae longer than body, relative length of segments 130 : 66 : 48 : 42. Pronotum about as long as broad across humeral angles (45 : 46), deeply and more or less regularly punctate, humeral angles subglobose swollen (much more so than in *P. decorus* Uhl.), the median longitudinal carina on disc very distinct, posteriorly strongly elevated between the tumescent humeral lobes, and dilated to form an elongate, lobe-like protrusion; spines of anterior collar long and robust, about as long as head is wide between eyes, almost erect with a slight anterior-lateral inclination. Scutellar spine erect with a distinct posterior inclination on apical two-thirds; about one-fourth longer than pronotal spines. Rostrum and venter sparsely covered with short and (venter) long erect hairs. Hemielytra extending well beyond the apex of abdomen.

Total length including hemielytra, 4 mm. Breadth across humeral angles, 0.72 mm.

Samoa :—Apia : 1 larva and 2 adults, 13.ix.1923 (Swezey and Wilder); 1 specimen, 20.xi.1924.

Fiji :—Nausori : 1 specimen, x.1926 (R. Veitch); Lautoka : 1 ♀ specimen (type), 9.vii.1921 (W. Greenwood); 2 specimens, 22.xi.1921 (R. Veitch).

Easily distinguished from *Protacanthus decorus* Uhl., and *P. bihamatus* Distant, by the strongly elevated median lobe in the middle of the entirely black posterior third of the pronotum.

## Family LYGAEIDAE.

## Subfamily LYGAEINAE.

25. *Pyrrhobaphus leucurus* (F.).

*Cimex leucurus* Fabricius, *Mant. Ins.*, II, p. 299, 1787.

*Pyrrhobaphus leucurus* Stål, *Hemipt. Fabr.*, I, p. 73, 1868.

Upolu :—Apia : 1 specimen, 11.iv.1922, 1 specimen, 30.vii.1922, and 1 specimen, 14.x.1922 (Armstrong); Malololelei : 4 specimens, 2,000 ft., 14–30.vi.1924; Lalomanu : 1 specimen, xi.1924.

Recorded from Ceylon, the Philippines, Woodlark Is., and Fiji. There are also specimens in the British Museum from Queensland (A. J. Turner), Celebes (J. C. van Hasselt), and New Hebrides (J. J. Walker).

26. *Nesostethus niger*, sp. n. (Text-fig. 11).

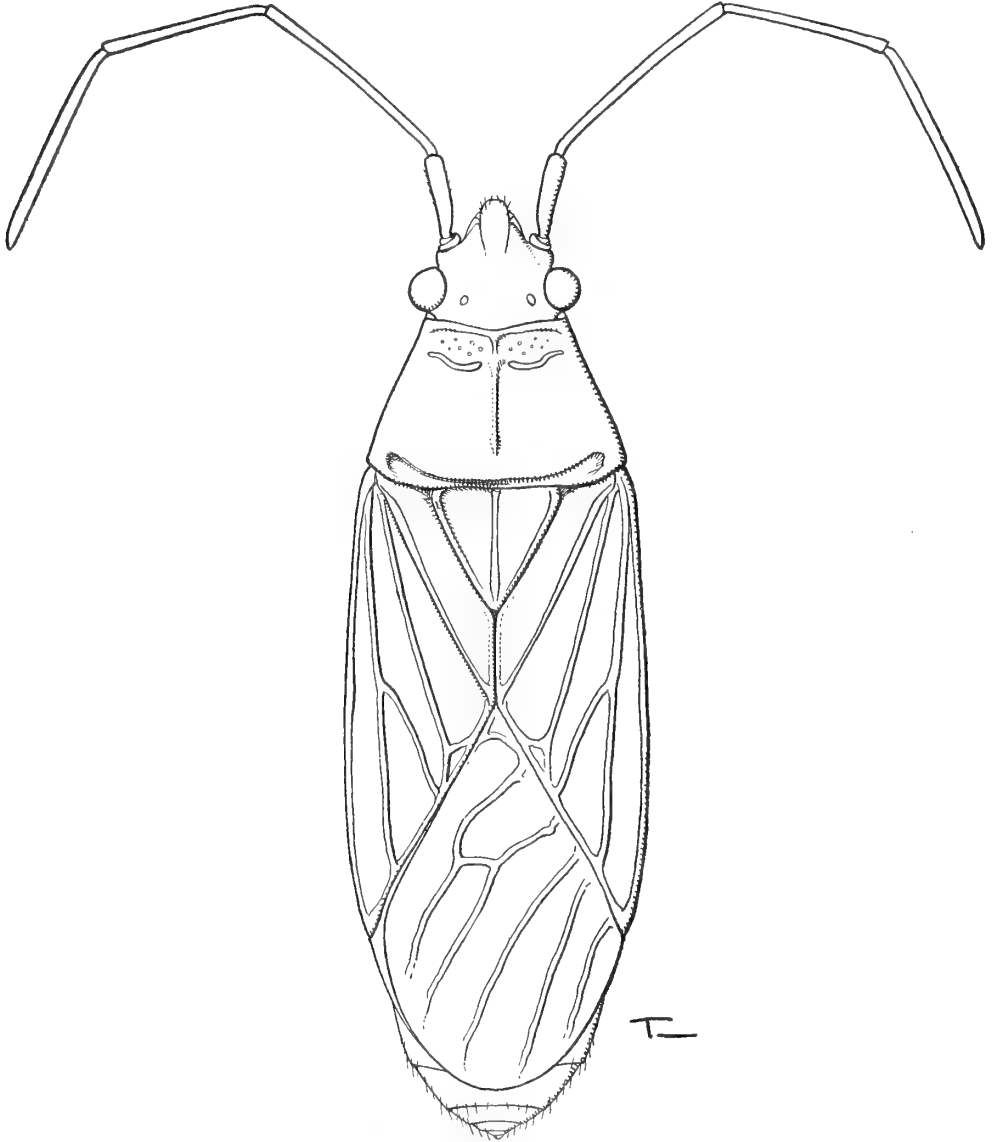
*Colour*.—♀. Entirely black except for abdomen which is orange-red with an obscure median dorsal stripe, and some obscure ventral lateral markings brown. Inner margins of acetabulae, posterior and lateral margins of metapleura and rim of metasternal orifice, blackish-brown. Head, rostrum, antennae, and legs shining, the head intensely so, with a faint bluish sheen; ocelli reddish-brown. Pubescence sparse and extremely short, giving a glabrous effect, except on the two apical antennal joints, apices of tibiae, and the tarsi where pubescence is longer, more dense and paler. Pronotum, scutellum and hemielytra dull black.

*Structure*.—♀. Head almost as long as broad across the eyes (45 : 48); eyes rather prominent, ocelli about three times as far from one another as from the eyes; first antennal segment extending about half its length beyond the apex of head, relative length of segments 27 : 70 : 50 : 65; rostrum extending to posterior coxae, relative length of segments 30 : 34 : 25 : 25; bucculae feebly elevated. Pronotum rather elongate, length is to posterior width as 55 : 75, strongly narrowed anteriorly, anterior width is to posterior width as 42 : 75; lateral margins practically straight, anterior margin strongly emarginate; anterior disc around scars sparsely, very obscurely punctate. Scutellum equilateral, with a T-shaped ridge. Hemielytra not reaching apex of abdomen; veins very prominent. Posterior margin of metapleuron straight, perpendicular to the lateral margin. Legs comparatively long, the femora unarmed almost as long as the tibiae, the tarsi long. Disc of venter sparsely covered with rather long very fine hairs becoming shorter and denser over genital plates.

Total length, 9.5 mm. Breadth across humeral angles, 2.7 mm.

1 ♀ (type), Samoa, iii.-viii.1921 (O'Connor).

General appearance of a black *Leptocoris* with a shining blue-black head,



TEXT-FIG. 11.—*Nesostethus niger*, sp. n.: dorsal view (legs omitted).

but ocelli and venation of membrane indicate its position in the Lygaeidae. The generic position of this species is a matter of some doubt. Stål has split up the old genus *Lygaeus* into numerous genera and subgenera, based mainly

on colour characters, so that without a revision of these genera it is impossible to place entirely black species such as the present.

In his catalogue of the Hemiptera of Fiji, Kirkaldy wrongly referred two species to the genus *Stalagmostethus* Stål. The first, *Lygaeus mactans* Stål., is the genotype of the perfectly distinct *Melanerythrus* Stål. The second, *S. ornatus*, described by Kirkaldy as a new Fijian species, differs (with the exception of the relative length of the second and fourth antennal segments), in almost every respect from the genotypical species *Stalagmostethus furcatus* F. *Stalagmostethus* Stål., is in fact an African genus. Kirkaldy apparently suspecting his own generic determination, pointed out certain differences and suggested a new subgeneric name *Nesostethus* (type *S. ornatus* Kirk.). This is evidently a perfectly good genus, and judging by Kirkaldy's description, and having regard to the similarity of the Fijian and Samoan faunae, the present Samoan species has been referred to it, in spite of the fact that there are certain differences which Stål and Kirkaldy have regarded as of subgeneric importance. This course seems to be preferable (for the time being at any rate) to that of creating still another genus.

### 27. *Graptostethus nigriceps* Stål.

*Graptostethus servus* (F.) var. *nigriceps*, Stål, *Enum. Hemipt.*, IV, p. 117, 1874.

*Graptostethus servus* Kirk., *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 354, 1908.

Upolu:—Apia: 1 specimen, 10.v.1922 (Armstrong).

Savaii:—Safune: Rain Forest, 2,000–4,000 ft., 1 specimen, 4.v.1924 (Bryan).

Tutuila:—1,000 ft., 1 specimen, 13.x.1918 (Kellers).

Originally recorded by Stål from the Pacific Islands, Guam, Ascension and Fiji. In the British Museum are specimens from New Hebrides (J. J. Walker) and New Caledonia (J. J. Walker), which appear to represent this species.

In spite of a certain amount of variation exhibited amongst themselves, the Samoan specimens have all been referred to *G. servus* var. *nigriceps* Stål. The chief distinctive character of this variety is the entirely black head (except the bucculae, which are pallid), and since Kirkaldy's *G. vitiensis* also differs from typical *G. servus* F. in the black head (including the bucculae, *vide* Kirk.), it is quite possible that *vitiensis* Kirk. is synonymous with *nigriceps* Stål. There are, however, certain characters in which Kirkaldy's species appears to differ. He distinguishes *vitiensis* from *servus* mainly by the length of the



rostrum which extends beyond the hind coxae, but all the Samoan specimens agree in this character which, however, is not mentioned by Stål. The specimens from Savaii and Tutuila have the clavus and corium partly infuscate, more or less as in typical *G. servus* F., but the specimen from Upolu has both clavus and corium free of infuscation. Stål states that sometimes in this variety the posterior lobe of the pronotum and the hemielytra are free of black markings and this is the form which occurs in the New Hebrides and New Caledonia. Such specimens approach *G. inornatus* Dist. (Andai, Malay Arch.) in which, however, the head is red with the tylus only black. The specimen from Savaii has the head red more or less suffused with brown but differs from *G. servus* in having the tylus red not black and in the long rostrum which extends well beyond the hind coxae. *G. nigriceps* Stål. also differs from *G. servus* in the following specific characters.—The two small black spots on pronotum fused with anterior transverse black band. Posterior lobe of pronotum without a transverse brown band. Basal angle of membrane, below apex of clavus, black not white. Red lateral margin of venter equally wide throughout, not distinctly widening towards base of abdomen.

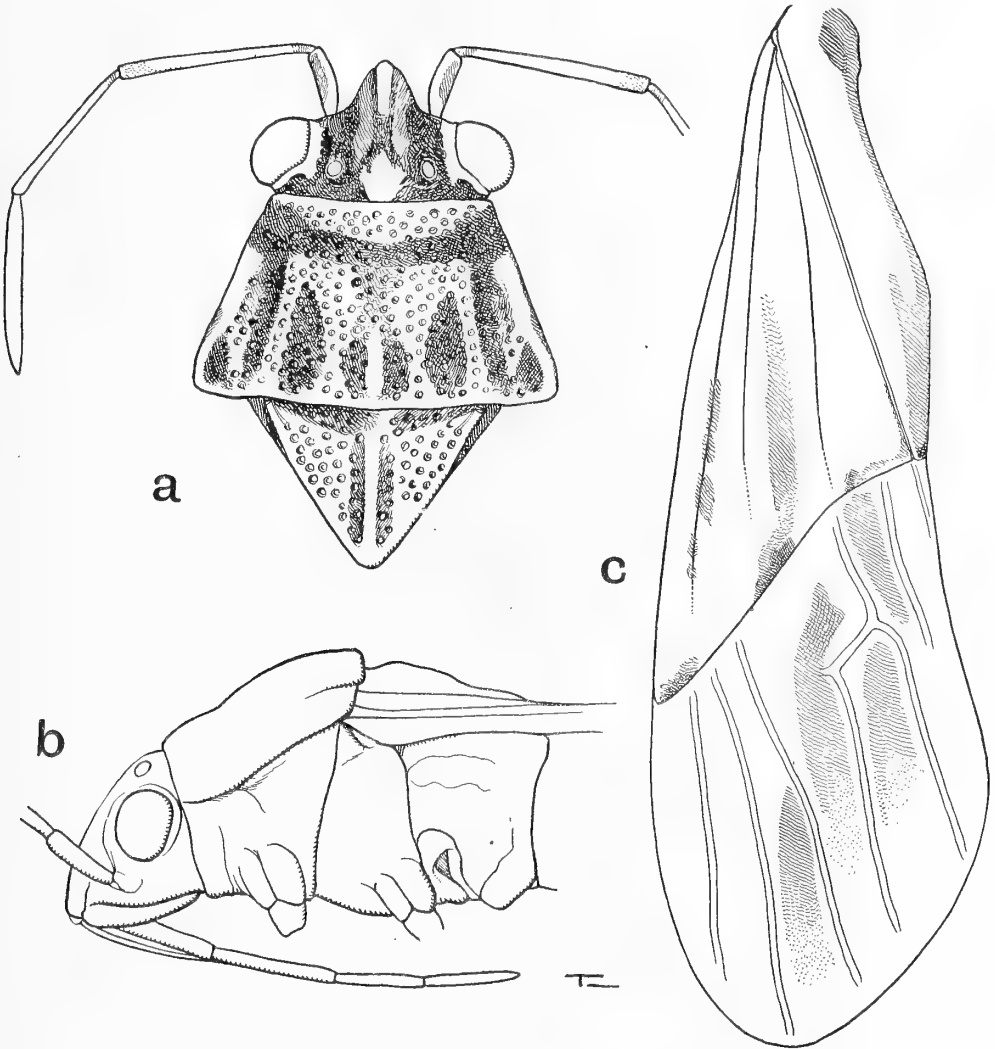
The true *G. servus* F., apparently does not occur in Fiji, Kirkaldy's record being based on Stål's var. *nigriceps*, which, as has been shown, is a distinct species.

### 28. *Nysius* (*Nysius*) *pacificus*, sp. n. (Text-fig. 12).

? *Nysius*, sp. Kirk., *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 355, 1908.

*Colour and Structure*.—♀. Head strongly deflexed, long, about three-fourths as long as wide across eyes (26 : 34), with the ocelli twice as far from one another as from the eyes, strongly rugosely punctate; black with the eyes, a spot at base of vertex between the ocelli, a longitudinal stripe down the tylus, the bucculae and the gula on each side below the antenniferous tubercle, pale yellow; an irregular stripe extending from the apex of each of the juga to the sides of the yellow spot at the base of the vertex, and the base of the tylus, ferruginous; basal joint of antennae yellow with apical annulation, a stripe on the dorsal side, and a few spots on the ventral side, dark fuscous; second and third joints pale ferruginous somewhat darker towards the apices, fourth joint fusiform, ferruginous; relative lengths, 22 : 55 : 47 : 58 (62 divisions = 1 mm.); rostrum extending to apices of hind coxae, ochraceous, shading to ferruginous apically, the ultimate joint black; bucculae extending almost to anterior margin of prosternum. Pronotum anteriorly as wide as long in the middle, posteriorly

one- and two-thirds as wide as at the anterior margin; strongly punctate, dull yellow with a transverse fascia across the anterior disc extending on each side to the anterior lateral angles, a spot just within each of the humeral angles,



TEXT-FIG. 12.—*Nysius pacificus*, sp. n.: *a*, dorsal view of head, pronotum and scutellum  
*b*, lateral view of head and thorax; *c*, hemielytron.

and six longitudinal fasciae extending from the posterior margin to the anterior transverse band, the two central ones much thinner than the others and converging anteriorly (Text-fig. 12, *a*). Scutellum strongly punctate, except for a median longitudinal laevigate ridge; dull yellow, with the base (narrowly) and

a broad median longitudinal fascia, black. Pleura moderately strongly punctate, black; the anterior margin and the outer posterior angle (except for a small brown spot just within the angle), of the propleuron, all the acetabular areas, the auriculate metasternal orifice and the surrounding area (mostly), dull yellow; posterior margin of metasternum pallid, laminate and broadly emarginate, but with the outer angles rounded and not prominently angular. Hemielytra pale yellowish-grey, the inner angle of the clavus, the claval commissure, three elongate spots along apical margin of corium, one at each end, and one in the middle, dark brown, the outer sector and a spot on the inner sector of the corium obscurely fuscous; rather less than the basal third of the total length of the costal margin of corium (20 : 70) parallel with axis of body and provided with fringe of grey hairs; thence costal margin gradually dilated; membrane hyaline more or less obscurely marked with brown.

Abdomen below impunctate, yellow with the usual double, more or less interrupted fascia down each side, the disc at the base and a narrow stripe over the basal two-thirds of the ovipositor brownish-black. Legs yellow; the coxae and basal parts of the femora much brighter: femora spotted with brownish-black; the apex of the first tarsal joint and the whole of the third fuscous. The whole insect more or less covered with shaggy grey pubescence.

Total length, 4.7 mm. Breadth across humeral angles, 1.6 mm.

New Hebrides:—Efate Is., Havannah Harbour, 1 ♀ (**type**), 13.vi.1900 (J. J. Walker).

Samoa:—Tutuila: 1,100–1,200 ft., 20 specimens, iv.1918; centre of Is., 900–1,200 ft., 1 specimen, 30.vi.1918; 1,000 ft., 3 specimens, 25.viii.1918; 1,000–1,200 ft., 4 specimens, xii.1918 (Kellers); Fagasa: 1 specimen, 9.ix.1923 (Swezey and Wilder).

This very distinct species is allied to *N. caledoniae* Dist. (New Caledonia), but is a larger insect with different colour markings, and the antennal segments of different relative lengths.

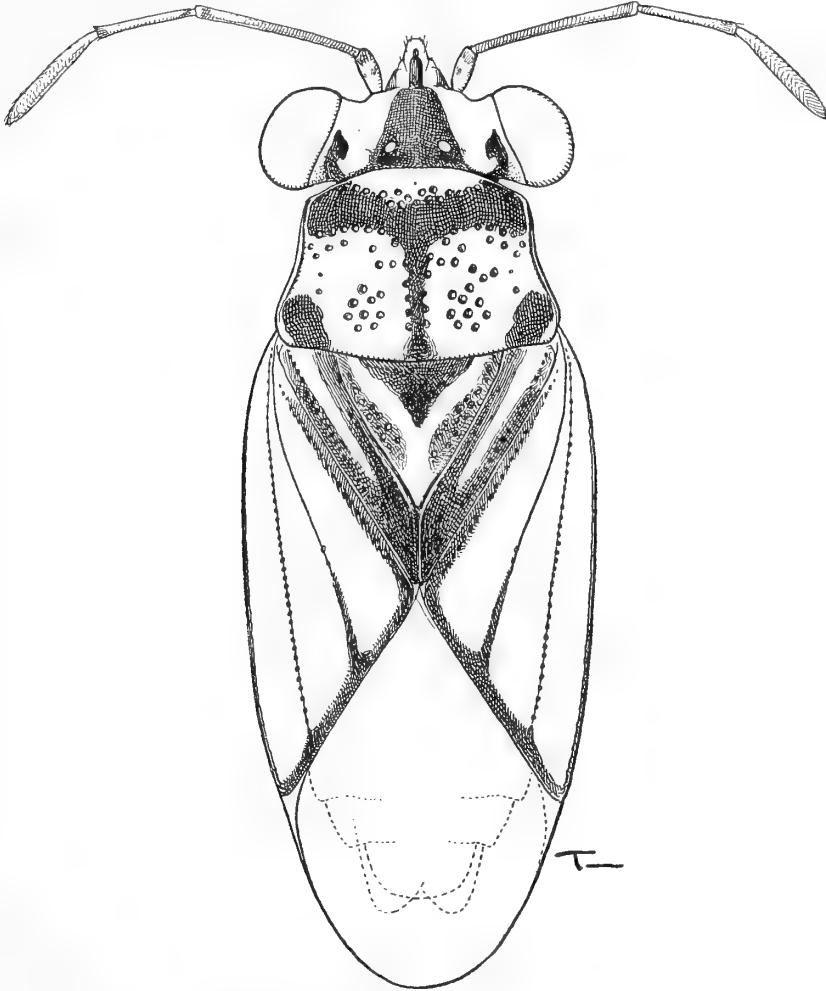
Its absence from Upolu and Savaii is remarkable.

#### Subfamily GEOCORINAE.

### 29. *Germalus samoanus*, sp. n. (Text-figs. 13, 14, and 16).

*Colour*.—♂ and ♀. Head bright yellow shading to orange towards apex, an elongate triangular mark extending from near the apex of tylus to the base of the vertex and widening to include the ocelli, a short broad stripe along posterior

half of inner margin of eye, a short stripe extending from insertion of antenna almost to the base of the tylus, a narrow median stripe on under side of head between bucculae and the labrum, black (in fresh specimens the dorsal triangular mark is covered with white powder and appears blue grey): eyes red; basal



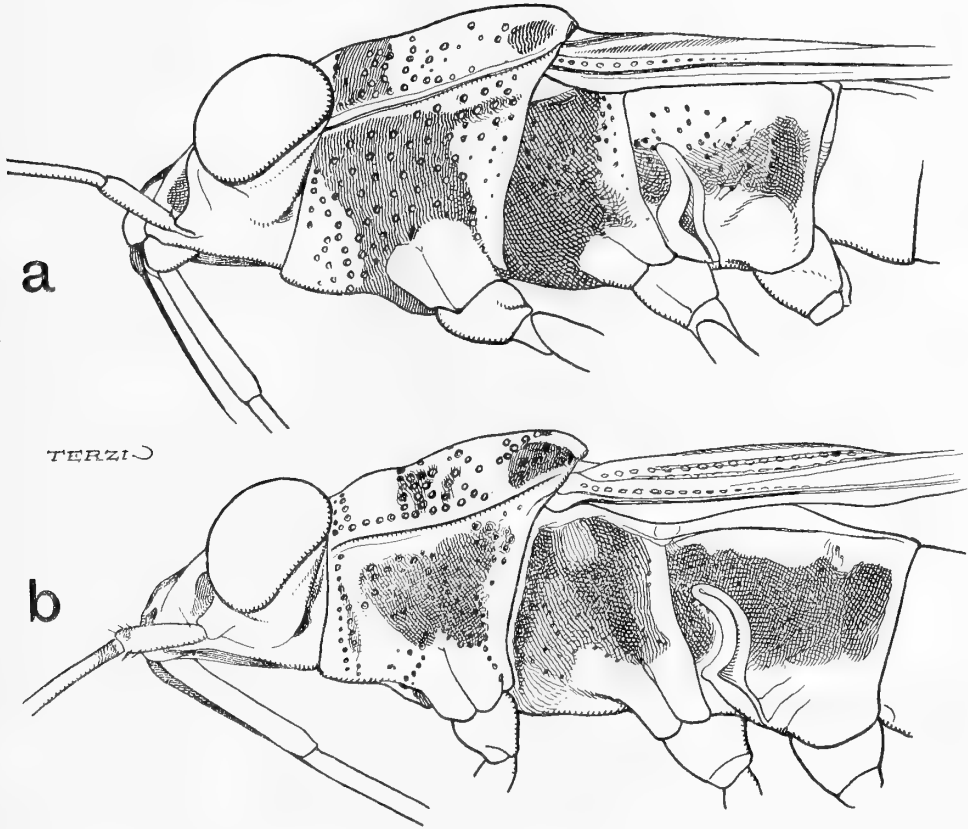
TEXT-FIG. 13.—*Germalus samoanus*, sp. nov.: dorsal view (legs omitted).

segment of antenna yellow, with a fuscous dorsal stripe and several small fuscous spots on ventral side, second segment fuscous with a subapical annulation and extreme apex pallid, third segment fuscous with a broad obscure pallid subapical annulation, fourth segment fuscous; bucculae and rostrum pale yellow; dorsal surface of second, third, and fourth rostral segments ferruginous, apical half of

fourth black. Pronotum anteriorly bright yellow posteriorly yellowish-grey, a broad transverse band anteriorly across the pronotal scars, extending posteriorly in a median narrow stripe, blue-grey or black; a pair of irregular spots one at each humeral angle but not reaching the extreme angle, a small spot in middle of posterior margin more or less fusing with end of median longitudinal stripe, and a small spot on each side of the lower half of the median stripe, black or brownish-black; scattered punctures dark brown, lateral carina pale yellow. Scutellum bluish-grey or black with a bright yellow Y-shaped laevigate area extending to apex of scutellum. Propleura and sternum blue-grey or black, the sternum anteriorly yellowish-white, the acetabulae (ambulacra) and posterior margins of pleura broadly, pale yellow; mesopleura blue-grey or black, the ambulacra pale yellow, the posterior margins of the pleura narrowly dull yellow, mesosternum shining black; metapleura, dull blackish-brown, the inner angle below orifice and a longitudinal lateral stripe fulvous, auriculate lobes of orifices yellow, ambulacra and posterior lateral angles of pleura, yellowish-white. Hemielytra hyaline, tinted cinereous, clavus black or blue-grey with an obscure fulvous median stripe on basal half; costal margin very narrowly, a row of punctures along outer vein, apical half of inner vein and apical margin of corium dark brown; membrane hyaline with an obscure fuscous median stripe. Legs pale yellow; femora sparsely covered with brown spots, apices of tibiae and tarsal segments infuscate. Abdominal tergites yellow tinted with red, with a few irregular brown flecks; whole of apical tergite overlying pygophor, and the posterior lateral angles of the connexival segments, black. Venter yellow, with a broad lateral reddish suffusion, with its inner margin infuscate, especially posteriorly where the infuscation develops into several brown marks on the fifth, sixth, and seventh ventrites; ovipositor sheath in ♀ black; eighth ventrite in ♂ with a median brown spot; pygophor in ♂ yellow with a brown spot on each side towards its base.

*Structure*.—Head porrect, tylus not strongly deflexed, as in *G. pacificus* Kirk (Fiji), about three-fourths the length of pronotum (24 : 33) and about as long as half the width across eyes (24 : 50); eyes larger than in *G. pacificus* about equally broad but much longer, less convergent anteriorly and much less pedunculate. Relative length of antennal segments 10 : 29 : 18 : 19 (♂). Rostrum extending to hind coxae. Pronotum about two-thirds as long as wide across humeral angles (33 : 47) and slightly longer than wide anteriorly (33 : 27); anterior and posterior lobes rather more distinctly separated than in *G. pacificus* by an obscure

transverse depression behind the pronotal scars, lateral margins more distinctly concave; disc less regularly punctate. Scutellum more flat than in *G. pacificus* the yellow laevigate area much less elevated. Apical abdominal tergite overlapping pygophor, more strongly narrowed apically than in *G. pacificus*, not at all truncate apically. Pilosity of venter in male much shorter and less dense than in *G. pacificus*.



TEXT-FIG. 14.—Lateral view of head and thorax of: *a*, *Germalus samoanus*, sp. n.;  
*b*, *Germalus buxtoni*, sp. n.

Total length: ♂ 5.4 mm., ♀ 5.7 mm. Breadth across humeral angles: ♂ 1.6 mm., ♀ 1.7 mm.

Upolu:—Apia: 1 specimen, 13.ix.1923 (Swezey and Wilder); 2 specimens, ii.1924, 1 specimen, xii.1924, 1 specimen, i.1925, 1 specimen, 28.iv.1925, 1 specimen, v.1925; Malololelei: 1 larva, 24.ii.1924, 1 specimen, iv.1924, 2 specimens, 25.iv.1924, 1 specimen, 2,000 ft., 17.vi.1924, 1 specimen, 2,000 ft., 14–30.vi.1924, 1 specimen, 2,000 ft., 23.xi.1924, 3 specimens, 18.iv.1925, 1 specimen, 2,000 ft.,

xii.1925 (type); 2 specimens, 20.vi.1924 (Armstrong); Vailima: 1 specimen, 25.x.1924; Mulifanua: 1 specimen, 16.vii.1925 (Wilder); 1 specimen, 760–900 ft., iv.1918.

Tutuila:—Centre of Island: 900–1,200 ft., 30.vi.1918, 1 specimen, 21.vii.1918, 1 specimen, 1,000 ft., 25.viii.1918 (Kellers); Pago Pago: 1 specimen, 18.iv.1924 (Bryan); 1 specimen, 13.ix.1922 (Swezey and Wilder).

Manua:—Tau, 1 larva, 20.ii.1926 (Judd).

Allied to the Fijian *G. pacificus* Kirk. but differs in the longer more porrect head, larger eyes, less transverse pronotum, less convex scutellum, narrower eighth tergite in the male, shorter and less dense pilosity on venter of male, absence of two black longitudinal stripes on dorsum of abdomen, presence of dark spot on each side of median stripe of pronotum, etc.

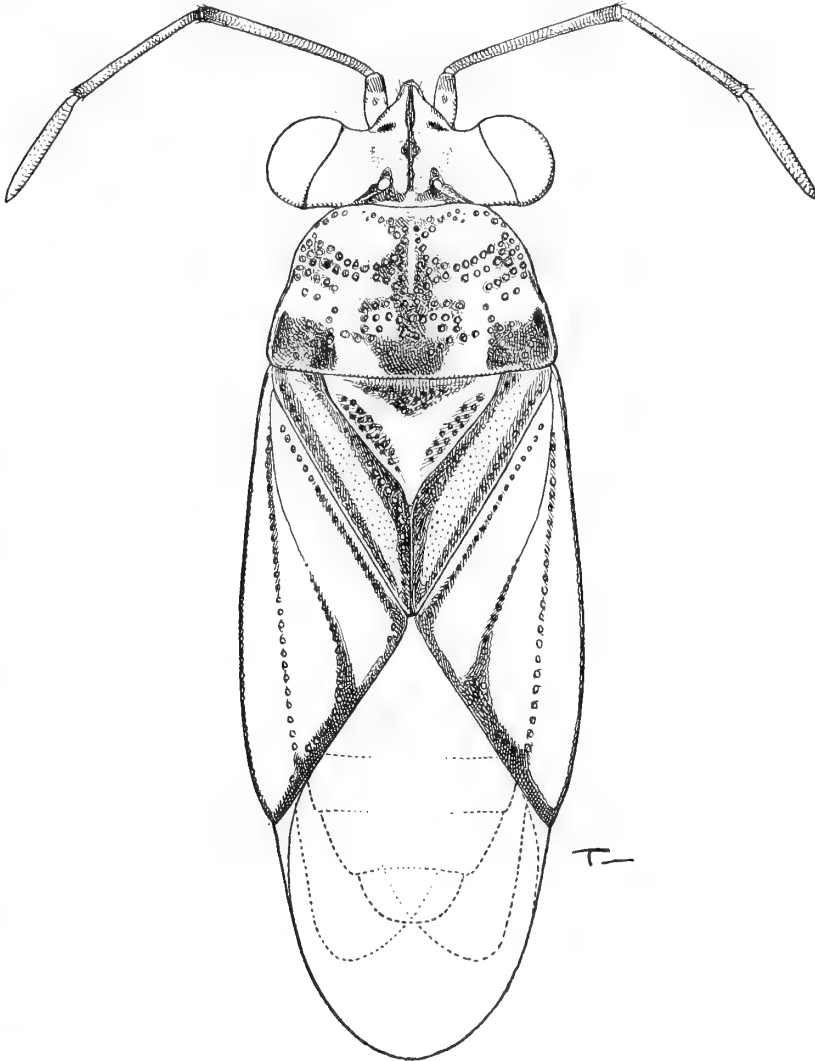
### 30. *Germalus buxtoni*,\* sp. n. (Text-figs. 14, 15, and 16).

*Colour*.—Head pale yellow, a narrow longitudinal percurrent stripe down middle (sometimes dilated in middle to form a fuscous cross band), a small spot on each side of apex of tylus, a variable short oblique spot on each side of head extending inwards from base of antenna, and a triangular spot on each side of base of head, each with its apex surrounding ocellus (these last two spots usually fusing with the median stripe along the basal margin), black; eyes red, first antennal segment pale yellow apical third fuscous dorsally, remaining segments infuscate, the apical third of second segment sometimes pallid; rostrum pale yellow, its apex infuscate. Pronotum pale sordid yellow, an obscure median percurrent longitudinal stripe, dilated into a distinct spot at the anterior and posterior margins and sometimes in middle, a pair of irregular spots at each humeral angle enclosing an irregular pallid spot on the posterior margin adjoining the actual angle, dark brown; punctures fuscous causing a more or less fuscous suffusion around pronotal scars and in middle of disc of posterior lobe; lateral carina pale yellow except at base where it is suffused by the fuscous humeral spot. Scutellum fuscous with the usual yellow Y-shaped laevigate area extending to apex of scutellum. Pro-, meso- and meta-pleura pale fulvous suffused with black; punctures fuscous; the ambulacral areas, the posterior margins of pleura and the posterior lateral angle of meta-pleuron whitish-yellow; meso-sternum pale sordid yellow. Hemielytra including membrane similar to those in *G. samoanus* but infuscation of clavus restricted to anal margin, claval commissure and punctures

\* Dedicated to Mr. P. A. Buxton the senior collector.



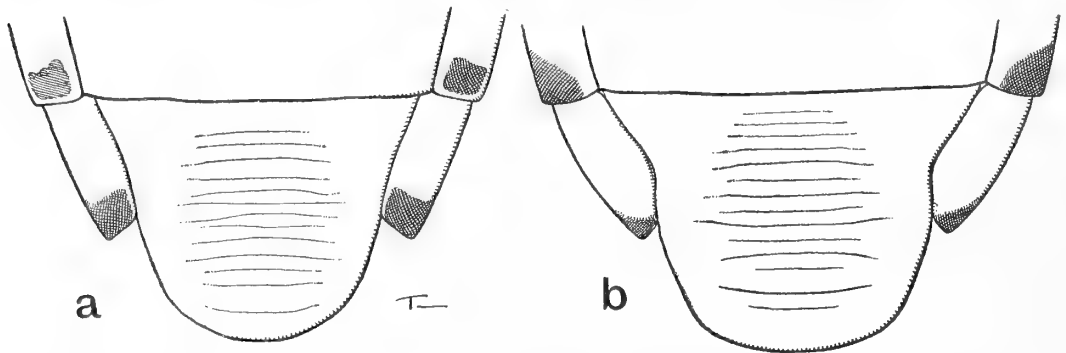
along claval suture. Legs as in *G. samoanus*. Abdominal tergites orange-yellow with a large anteriorly narrowed black spot at apex of abdomen covering the whole of apical tergite ; connexivum yellow with a black spot at the posterior lateral angles of each segment ; venter yellow, fulvous at base and down middle



TEXT-FIG. 15.—*Germalus buxtoni*, sp. n. : dorsal view (legs omitted).

of sides, sometimes with an obscure blackish mark on each segment in middle of fulvous suffusion ; posterior lateral angles of connexival segments usually blackish at least posteriorly. Male pygophor entirely black ; ovipositor sheath, in female, brown at base.

*Structure*.—Head as in *G. samoanus* but even more porrect, about three-fourths the length of pronotum (23 : 33) and about as long as half the width across eyes (23 : 47); eyes distinctly smaller than in *G. samoanus* but larger than in *G. pacificus*. Relative lengths of antennal segments 11 : 32 : 23 : 21 (♂); rostrum scarcely extending beyond the middle coxae. Pronotum about two-thirds as long as wide across humeral angles (33 : 48) and slightly longer than wide anteriorly (33 : 28); lateral margins much more distinctly concavely sinuate than in *G. samoanus*, the lateral carina much narrower anteriorly; the anterior angles less suddenly rounded; transverse impression between anterior and posterior lobes much more distinct especially laterally; puncturation slightly more coarse, less scattered, punctures more dense around scars and on middle



TEXT-FIG. 16.—Dorsal view of apical abdominal tergite overlapping male pygophor: *a*, *Germalus samoanus*, sp. n.; *b*, *Germalus buxtoni*, sp. n.

of disc of posterior lobe. Scutellum and hemielytra as in *G. samoanus*. Apical abdominal tergite overlapping pygophor in ♂, much broader even than in *G. pacificus*. Pilosity of venter in ♂ much longer and more dense than in *G. samoanus* but not so pronounced as in *G. pacificus*.

Total length: ♂ 5.7 mm., ♀ 6.3 mm. Breadth across humeral angles: ♂ 1.6 mm., ♀ 1.8 mm.

Upolu:—Malololelei: 2,000 ft., 1 larva, 10.iii.1924, 1 specimen (teneral), iv.1924, 2 specimens, 20.vi.1924, 1 specimen, 25.vi.1924, 1 specimen, 14–30.vi.1924, 1 specimen, 23.xi.1924, 12 specimens (including type ♂), xii.1925.

Savaii:—1 specimen, 1,000 ft., 21.xi.1925; Safune: 1 specimen, 15.v.1924 (Bryan); Salailua: 1 larva, Rain Forest, 2,000–4,000 ft., 17.v.1924 (Bryan).

Allied to *G. samoanus* but differing in the slightly larger size, different colour markings of head and pronotum, shape and puncturation of pronotum longer antennae (third segment longer than fourth), shorter rostrum, etc.

## Subfamily CYMINAE.

*Neocrompus*, gen. n.

Head short, strongly punctate, distinctly deflexed, about two-thirds as long as wide across eyes (13 : 20), much shorter and more deflexed than in *Ischnorhynchus* and *Crompus*; eyes prominent, extending laterally about half their diameter beyond anterior angles of pronotum; bucculae moderately elevated more or less triangular, short not extending posteriorly beyond insertion of antennae; rostrum extending beyond coxae to base of abdomen, the first segment long extending beyond gula on to disc of prosternum; antennae comparatively short about as long as head pronotum and scutellum together; basal segment extending slightly beyond apex of head; ocelli as in *Ischnorhynchus*. Pronotum densely coarsely punctate, relatively short, slightly more than half as long in middle as wide across humeral angles (47 : 81) and slightly less than half as wide anteriorly as posteriorly (35 : 81); lateral margins straight with a feebly elevated lateral ridge or carina, much less prominent than in *Crompus*; anterior margin concave, posterior margin convex, humeral angles rounded; disc distinctly convex, anterior region in front of cicatricial depression, somewhat swollen. Scutellum triangular, equilateral, strongly punctate; lobe of metasternal orifice moderately prominent as in *Crompus* but much less so than in *Ischnorhynchus*. Corium extending to apex of abdomen (♂), costal margin strongly dilated and along basal half reflexed; clavus with three rows of punctures, the two nearest the scutellum rather irregular; corium with a row of large deep punctures along the basal half of the inner edge of the dilated costal area, two rows of fine punctures along the claval suture and cubital vein and scattered punctures on the area between M and Rs. Anterior femora only moderately incrassate (scarcely more so than the intermediate and posterior femora), armed with a single short spine placed about one-fifth of the length of femur from apex; basal segment of posterior tarsus slightly shorter than second and third segments together. Seventh ventrite in male long, laminately produced to cover pygophor as in *Crompus*.

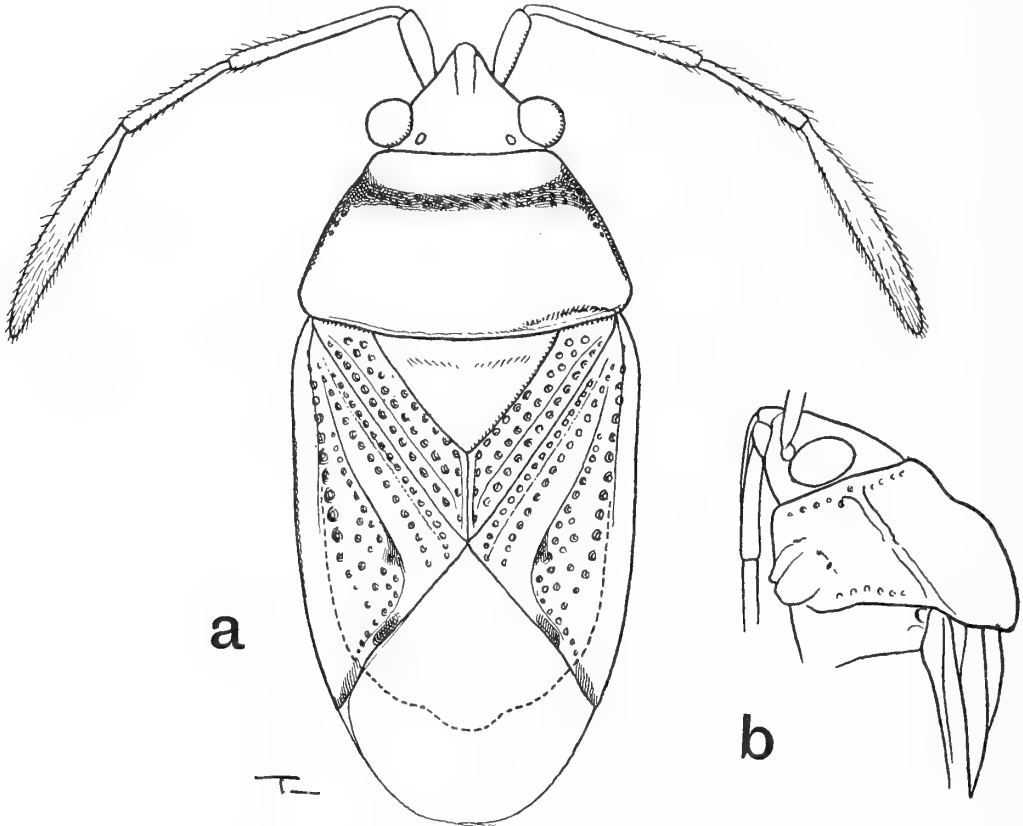
Genotype :—*Neocrompus kellersi*, sp. n.

Allied to *Crompus* Stål and *Ischnorhynchus* Fieber, but differs from both in the shorter more deflexed head, short triangular bucculae, long first rostral segment, shorter more transverse pronotum with straight lateral margins with

percurrent but very feebly elevated lateral carinae, in the presence of a single tooth on underside of front femur and in the much stronger and denser puncturation of the head pronotum and scutellum.

31. *Neocrompus kellersi*,\* sp. n. (Text-fig. 17).

*Colour*.—Head black covered dorsally with depressed, golden hairs arising from the punctures; apex of tylus and bucculae brown, eyes dark ferruginous



TEXT-FIG. 17.—*Neocrompus kellersi*, sp. n.: a, dorsal view (legs omitted); b, lateral view of head and prothorax.

brown; rostrum ochraceous with apex black; antennae ochraceous covered with rather long pale hairs, apex of second segment, base and apex of third and whole of fourth, ferruginous brown. Pronotum ferruginous brown, covered with strong depressed golden hairs arising from punctures, the cicatricial depression covered by a black band thin in middle but widening laterally. Prosternum,

\* This species is dedicated to the collector, Lt. H. C. Kellers, U.S. Navy.

acetabulae and lateral angle of propleuron ferruginous, disc of propleuron black. Scutellum ferruginous shading to blackish towards base, pilosity as on pronotum but with a few long erect hairs. Meso- and meta-pleura black, acetabulae ferruginous; posterior lateral angular lobe of metapleuron, white. Hemielytra greyish-white, semi-hyaline, with a few scattered erect hairs especially on clavus, punctures brown; membrane hyaline. Venter dark, shining ferruginous brown with short depressed silvery hairs more or less scattered on disc, but in distinct patches along lateral margins of segments; hairs much longer and more dense along posterior margin of seventh ventrite, the posterior lateral angles of which are greyish and more or less hyaline. Legs bright yellow apices of tarsi and claws brown.

First segment of antenna slightly incrassate, second and third segments linear but thickest at apices, fourth segment fusiform; relative lengths of segments: 16 : 29 : 20 : 36.

Total length: ♂ 2.8 mm., ♀ 3.0 mm. Breadth across humeral angles: ♂ 1.2 mm., ♀ 1.4 mm.

Tutuila:—2,141 ft., 2 ♂♂ (including type), and 1 ♀, 22.ix.1918 (Kellers); 1,000 ft., 1 ♀, 13.x.1918 (Kellers).

Subfamily RHYPAROCHROMINAE.

32. *Clerada* \* *apicicornis* Sign.

*Clerada apicicornis* Signoret in Maillard's *Notes sur l'île de la Réunion, Ins. (Annexe J, Hémiptères)*, p. 28, 1862.

*Clerada apicicornis* Kirkaldy, *Proc. Haw. Ent. Soc.*, I, p. 151, 1907.

Upolu:—Apia: 1 specimen, 17.vii.1924, 1 specimen, xii.1924, and 1 specimen, x.1925.

Apparently Holotropical in distribution. Recorded from Venezuela, Mexico, Cuba, Jamaica, St. Vincent, Seychelles, Réunion, Bengal, Ceylon, Siamese Malay States, Indo-China, Celebes, Queensland, Hawaii, Samoa, and Society Is. (Raiatea), but strangely enough not from Fiji. Species of the genus *Clerada* are known to inhabit the nests of rodents and other small mammals.

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\* *Clerada minuta* China (*Ann. Mag. Nat. Hist.*, (9), XIV, p. 435, 1924), described from a specimen taken in Rodriguez, in the Mascarene region, is apparently identical with *Reclada moesta* B. White (*Ann. Nat. Hist.*, (5), I, p. 370, 1878), a Hawaiian species, the type of which has now been examined. This is a most extraordinary case of discontinuous distribution.

33. *Orthaea pacifica* (Stål).

*Pamera pacifica* Stål, *Enum. Hemipt.*, IV, p. 149, 1874.

*Orthaea pacifica* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 358, 1908.

? *Orthaea vincta* Kirkaldy (nec Say), *tom. cit.*, p. 357, pl. 4, figs. 1 and 2, 1908.

*Pamera pacifica* Cheesman, *Trans. Ent. Soc. Lond.*, 1927, p. 157, 1927.

Upolu :—Apia : 2 larvae, 12.ix.1923, on Bermuda grass (Swezey and Wilder) ; 1 specimen, i.1924, 18 specimens and 4 larvae, ii.1924, 9 specimens, iii.1924, 2 specimens, v.1924, and 1 larva, vi.1924 ; Aleipata : 3 specimens, iv.1924, 1 larva (Lalomanu), xi.1924 ; Afiamalu : 1 specimen, 11.vii.1923 (Wilder) ; Malololelei : 2,000 ft., 2 specimens, 12.iii.1924, 3 specimens, 22.iii.1924, 2 specimens, iv.1924, 5 specimens, vi.1924.

Savaii :—Safune : Lowlands to 1,000 ft., 1 larva, 30.iv.1924, 1 specimen, 1.v.1924, 1 specimen, 4.v.1924 (Bryan) ; Lower Forest 1,000–2,000 ft., 2 specimens, 5.v.1924, 1 specimen, 9.v.1924, 1 specimen, 15.v.1924 (Bryan) ; Salailua : Rain Forest, 2,000–4,000 ft., 1 specimen, 17.v.1924, 1 specimen and 2 larvae, 19.v.1924, 1 specimen, 22.v.1924 (Bryan).

Tutuila : 1,100–1,200 ft., 1 specimen, iv.1918, 760–900 ft., 24 specimens, iv.1918, 900–1,200 ft., centre of island, 3 specimens, 30.vi.1918, 1,200 ft., 2 specimens, xii.1918 (Kellers) ; Leone Road : 1 specimen, 18.ix.1923, 1 specimen and 1 larva, 7.ix.1923 (Swezey and Wilder) ; 2 specimens and 1 larva, 19.ii.1924 (Bryan) ; Pago Pago : 2 specimens, 0–300 ft., iv.1918 (Kellers) ; 2 specimens, 9.ix.1923, and 4 specimens, 20.ix.1923 (Swezey and Wilder) ; 4 specimens, 12.iv.1924, 2 specimens, 16.iv.1924, 1 larva, 18.iv.1924 (Bryan) ;

Manua Is. :—Tau : 1 larva, 27.ix.1923 (Swezey and Wilder).

This species has been recorded under the name *pacifica* Stål from Fiji, Tahiti, Raiatea and Bora Bora. Considerable confusion, however, exists with regard to the closely allied and so-called cosmopolitan species *Orthaea vincta* Say. It is fairly certain that the existing synonymy of the eight or nine species under *O. vincta*, is inaccurate, and it seems very probable that all the Pacific Island records belong to *O. pacifica* Stål. Kirkaldy (*loc. cit.*) records *O. vincta* as occurring in Fiji and synonymises with it his Hawaiian *O. periplanios*, but does not state on what grounds he relinquishes his former identification (*Proc. Haw. Ent. Soc.*, I, pp. 150–151, 1907) as *O. pacifica* Stål. If *Orthaea parvula* Dallas has been correctly synonymised with *O. vincta* then, judging by Dallas' N. American type specimen, the Pacific Island species (*O. pacifica*) is perfectly distinct from *O. vincta*.

34. *Orthaea limbata* (Stål).

*Pamera limbata* Stål, *Enum. Hemipt.*, IV, p. 149, 1874.

*Orthaea limbata* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 357, 1908.

Savaii:—Salailua: Lowlands to 1,000 ft., 5 specimens, 16.v.1924; Lower Forest 1,000–2,000 ft., 4 specimens, 17.v.1924, 1 specimen, 20.v.1924, 1 specimen, 21.v.1924 (Bryan); Safune: Lowlands to 1,000 ft., 1 specimen, 30.iv.1924 (Bryan); Rain Forest, 2,000–4,000 ft., 1 specimen, 3.v.1924, 4 specimens, 4.v.1924 (Bryan); Lower Forest, 1,000–2,000 ft., 1 specimen, 5.v.1924, 1 specimen, 11.v.1924 (Bryan); 1,000 ft., 1 specimen, 21.xi.1925.

Tutuila:—1,000–1,200 ft., 1 specimen, xii.1918 (Kellers).

Previously recorded from Fiji and Samoa and also occurs in Savage Is. (Niue), 16.viii.1918, Kellers.

Apparently absent from Upolu.

35. *Orthaea nigriceps* (Dallas).

*Rhyparochromus nigriceps* Dallas, *List Hemipt. Brit. Mus.*, II, p. 577, 1852.

*Orthaea nigriceps* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 358, 1908.

*Pamera nigriceps* Cheesman, *Trans. Ent. Soc. Lond.*, 1927, p. 157, 1927.

Upolu:—Apia: 1 specimen, 10.ix.1922 (Armstrong); 1 specimen, xii.1924, 1 specimen, i.1925; Aleipata: 1 specimen, iv.1924; Malololelei: 2 specimens, 5.i.1924 (Armstrong); 1 specimen, vii.1925 (Wilder); Mulifanua: 2 specimens, 16.vii.1925 (Wilder).

Savaii:—Fagamalo: 2 specimens, xi.1925.

Tutuila:—Pago Pago: 0–300 ft., 1 specimen, iv.1918 (Kellers).

Manua Is:—Tau: 1 specimen, 27.ix.1923, “grass” (Swezey).

Previously recorded from Philippines (?), Fiji, Tahiti, Raiatea, Hawaii, New Zealand and N.S. Wales.

Judging by material in the British Museum collection, this species is somewhat variable and is probably composite. The type specimen is from the Sandwich Is. (Hawaii) and differs considerably from the Southern Pacific specimens collected in Fiji, Samoa, and Tahiti which more nearly approach *O. andrewsi* Dist. occurring on Christmas I.

36. *Orthaea nietneri* (Dohrn).

*Plociomerus nietneri* Dohrn, *Stett. Ent. Zeit.*, XXI, p. 404, 1860.

*Pamera nietneri* Stål, *Enum. Hemipt.* IV, p. 151, 1874.

*Orthaea nietneri* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 358, 1908.

Upolu :—Malololelei : 2,000 ft., 1 specimen, 12.iii.1924, 1 specimen, 14–30.vi.1924, 1 specimen, 28.vi.1924.

Tutuila :—760–900 ft., 1 specimen, iv.1918 (Kellers); Pago Pago : 1 specimen, 24.ix.1923 (Swezey and Wilder).

Previously recorded from Ceylon, Burma, Java, Philippines, and Fiji. The Queensland species *O. (Pamera) tricolorata* Distant is closely allied to *O. nietneri* and is possibly merely a subspecies.

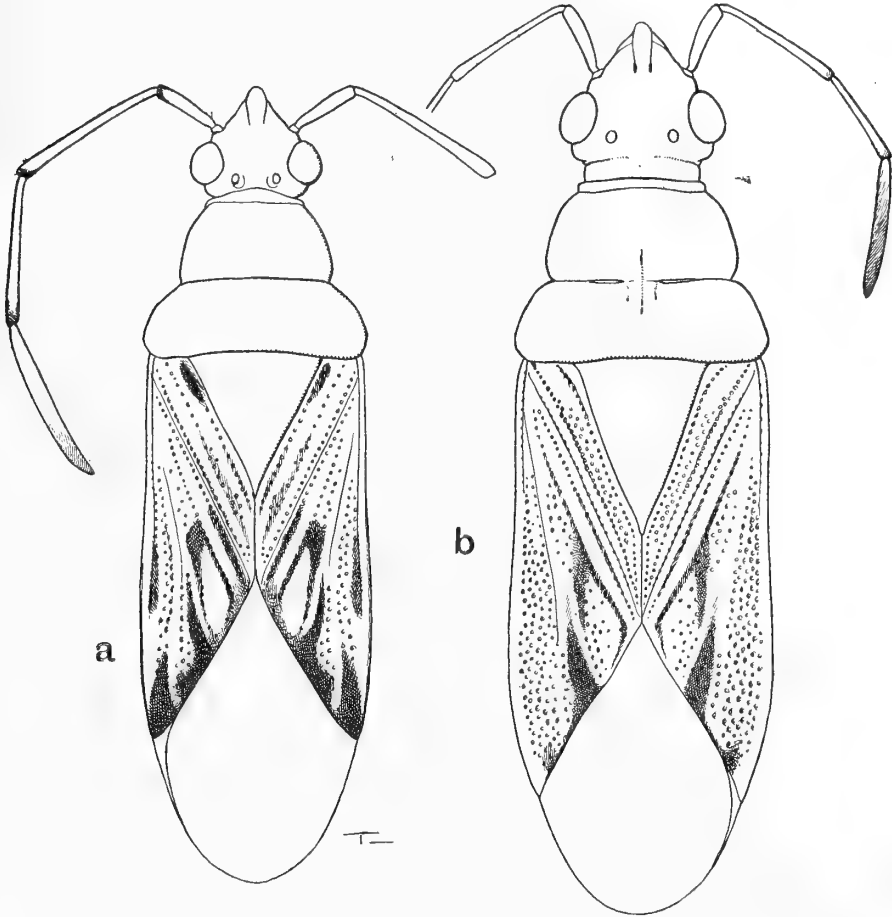
37. *Orthaea ventralis*, sp. n. (Text-figs. 18 and 19).

*Colour*.—Head black, moderately shining with patches of short delicate depressed silvery hairs towards apex and around ocelli and with a few scattered long erect hairs; eyes red with a few short erect hairs; antennae fulvous yellow, apex of first and second segments and apical third of third segment, slightly infusate; base and apical fourth of fourth segment black, the region between pale yellow; rostrum fulvous yellow, its apex black. Pronotum sparsely covered with short depressed hairs and a few long erect hairs; anterior lobe dark ferruginous brown, anterior collar and posterior lobe ferruginous; humeral angles dull yellow crossed by an obscure oblique dark brown mark, the interior margin of the yellow spot, dark brown; posterior margin with some obscure dark brown suffusion. Propleura black, the acetabulae and the posterior margin ferruginous brown. Scutellum ferruginous brown, basal third and apex dark brown; sparsely covered with short depressed hairs and with a few long and erect hairs. Meso- and meta-pleura black, acetabulae and posterior lateral angle of metapleuron, ferruginous brown. Hemielytra dull greyish-yellow with longitudinal brown markings as shown in figure; membrane dark brown with veins at base, basal disc, and apex, greyish-yellow. Legs yellow, last tarsal segment and claws, fuscous. Venter black, a large parallel-sided area on disc extending to base of ovipositor, the connexivum, and some obscure more or less longitudinal markings in the region of the spiracles, fulvous yellow.

*Structure*.—Head about four-fifths as long as wide across eyes (21 : 26); rostrum extending to middle of mesosternum, the basal segment scarcely reaching to posterior margin of eye; first antennal segment extending by



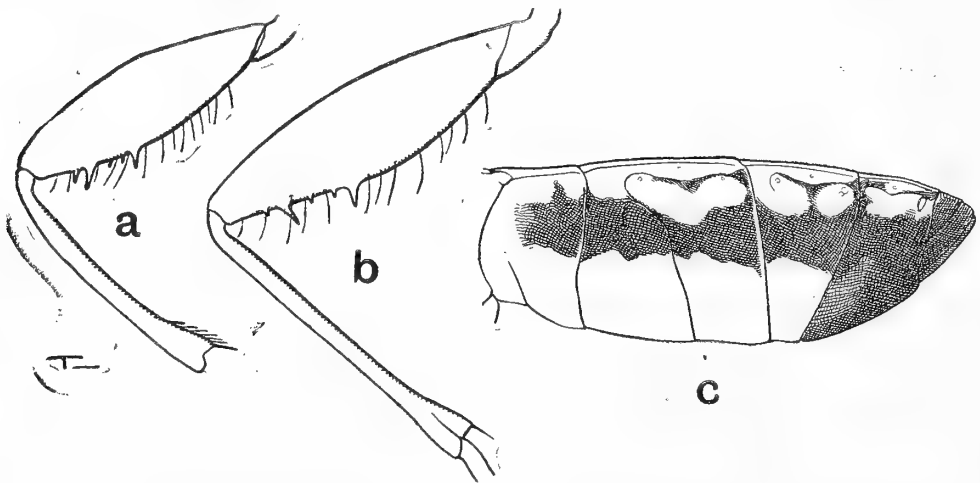
nearly half its length beyond apex of head; relative lengths of antennal segments 15 : 29 : 23 : 29; eyes moderately large and prominent, width of vertex between their inner margins exactly one-half the total width of head across eyes (13 : 26); ocelli three times as far from one another as from the eyes (9 : 3). Anterior lobe of pronotum about two-thirds as long in middle as wide at its posterior margin



TEXT-FIG. 18.—Dorsal view (legs omitted) of : a, *Orthaea ventralis*, sp. n.;  
b, *Orthaea puberula*, sp. n.

(17 : 26), and about three-fourths as wide at its anterior margin as at its posterior margin (20 : 26); sides convex, widest part a little below the middle; posterior lobe of pronotum very obscurely and sparsely punctate not quite three times as wide across humeral angles as long in the middle (41 : 14); posterior margin broadly emarginate, humeral angles rounded but distinctly projecting beyond costal margins of hemelytra. Scutellum about four-fifths as wide at base as

long, a distinct row of punctures down each side and a few irregular punctures within the outer row towards the apex; a distinct depression towards base of disc. Hemielytra almost parallel sided; clavus with three distinct rows of punctures, the inner and outer rows running along the extreme inner and outer margins; a few irregular punctures between the middle row and the row nearest the scutellum; the hemielytral punctures giving rise to very short depressed hairs, otherwise glabrous. Anterior femora armed on posterior side with five spines, a moderately large one near the middle of femur, another equally large one towards the apex, two small spines between the two large ones and one



TEXT-FIG. 19.—*Orthaea puberula*, sp. n.: *a*, fore femur and tibia, ♂. *Orthaea ventralis*, sp. n.: *b*, fore femur and tibia, ♀; *c*, lateral view of abdomen, showing shape of ventral pallid spot.

small spine between apical large spine and apex of femur; anterior tibiae in male with a short posteriorly directed spur placed in the middle of the tibia.

Total length: ♂ 4.9 mm., ♀ 5.0 mm. Width across humeral angles: ♂ 1.3 mm., ♀ 1.4 mm.

Upolu:—Apia: 1 ♀ specimen (type), xi.1924; Malololelei: 1 specimen, vii.1925 (Wilder).

Tutuila:—Pago Pago: 4 specimens, 1.x.1923, 1 specimen, 20.ix.1923 (Swezey and Wilder); Fagasa: 2 specimens, 9.ix.1923 (Swezey and Wilder); Leone Road: 1 specimen, 7.ix.1923 (Swezey and Wilder); Afono Trail: 1 specimen, 25.ix.1923 (Swezey and Wilder).

Belongs to the *nietneri*—*nigriceps* group but readily distinguished from other species by its narrow rather elongate form and by the large yellow spot on the venter.

38. *Orthaea puberula*, sp. n. (Text-figs. 18 and 19).

*Colour.*—Head black, shining, with a rather scanty, short pale tomentose pubescence at apex and at base around ocelli and a few scattered erect hairs; rostrum fulvous yellow, its apex black and basal segment infusate, covered with moderately long erect hairs; antennae fulvous yellow, fourth segment more or less infusate, sparsely covered with moderately long erect hairs. Anterior lobe of pronotum dull black covered with a sparse tomentose silvery pubescence which becomes much more dense along the middle line and along lateral margins; anterior collar ferruginous; posterior lobe dull ferruginous brown, more or less evenly covered with the silvery pubescence; humeral angles dull yellow. Propleura dull black, posterior margin and posterior lateral angles ferruginous. Scutellum dull black sparsely covered with short silvery hairs and moderately long erect hairs the lateral margins of the apical half dark ferruginous brown. Meso- and meta-pleura dull black, acetabulae and posterior margins and posterior lateral angle of metapleuron, ferruginous. Hemielytra fulvous yellow the costal margin rather paler, an obscure dark brown stripe down clavus and a pair of longitudinal dark brown stripes on apical half of corium, the outer one widening posteriorly and reaching the apical margin of the corium; hemielytra covered with short erect hairs arising from dark brown punctures. Membrane pallid with some obscure pale fuscous longitudinal stripes between the veins. Legs fulvous yellow, the coxae, bases of anterior femora and claws, ferruginous brown. Venter dark ferruginous brown, shading to black in an obscure broad longitudinal lateral stripe down each side and in a longitudinal stripe down the ovipositor.

*Structure.*—Head about five-sixths as long as broad across eyes (26 : 30); rostrum extending to middle of mesosternum, the basal segment reaching to middle of eye; first antennal segment extending by about one-third its length beyond apex of head; relative lengths of antennal segments, 14 : 24 : 18 : 26; vertex relatively broad and distinctly concave; eyes rather small not prominent, width of vertex between their inner margins exactly three-fifths of the total width of head across eyes (18 : 30); ocelli three times as far from one another as from the eyes (12 : 4). Anterior lobe of pronotum less than two-thirds as long in middle as wide at its posterior margin (20 : 34), and about five-sevenths as wide at the well-developed anterior collar as at its posterior margin; sides convex, widest part well below the middle; posterior lobe of pronotum rather

more than three times as wide across humeral angles as long in middle (48 : 15) ; surface rather obscurely and sparsely punctate ; posterior margin broadly emarginate above scutellum ; humeral angles rounded projecting only slightly beyond the costal margins of hemielytra. Scutellum about five-sevenths as wide at base as long ; somewhat irregularly punctate along lateral margins of apical half ; disc sparsely and obscurely punctate. Hemielytra much more densely and irregularly punctate than in *O. ventralis* ; the clavus with three distinct rows of punctures, the inner and outer rows running along the extreme inner and outer margins ; a fourth short irregular row running between the median row and that nearest the scutellum is almost contiguous with the median row ; corium with two distinct rows, one along the margin by the claval suture, the other along  $Cu_1$  ; the rest of the corium except the costal border and narrow strips along the R+M row, and between the cubital and sutural rows, more or less regularly punctate ; all punctures giving rise to moderately long semi-erect hairs. Anterior femora armed on posterior side with five spines, one moderately large one near the middle of femur, another rather longer placed towards the apex and slightly curved in that direction, two small ones placed between the larger spines and one small one between apical large spine and apex of femur ; anterior tibia in male unarmed.

Total length : ♂ 4.8 mm., ♀ 5.7 mm. Width across humeral angles : ♂ 1.4 mm., ♀ 1.6 mm.

Upolu :—Malololelei : 2,000 ft., 1 specimen, 24.ii.1924, 2 specimens, (including **type**), 22.iii.1924, 2 specimens, vi.1924, 1 specimen, 18.iv.1925, 2 specimens, 21.iv.1925.

Savaii :—Fagamalo : 1 specimen, xi.1925.

Belongs to the *nietneri-nigriceps* group, and distinguished by the rather broad head, small eyes, broad pronotum and comparatively dense semi-erect pubescence. Apparently allied to the Cingalese *O. (Pamera) flavipes* (Motsch.) Distant.

### 39. *Bedunia insularis* Stål.

*Bedunia insularis* Stål, *Enum. Hemipt.*, IV, p. 146, 1874.

Upolu :—Malololelei : 7 specimens, 24.ii.1924 ; 2,000 ft., 1 specimen, 23.xi.1924 ; 2 specimens, xii.1925.

Savaii :—Salailua : Rain Forest, 2,000–4,000 ft., 1 specimen, 17.v.1924 (Bryan).

*Tutuila*:—1,100–1,200 ft., 1 specimen, iv.1918 (Kellers); Afono Trail: 1 specimen, 25.ix.1923 (Swezey and Wilder); Pago Pago: 1 specimen, 2.xii.1924.

Only known to occur in Samoa. The genus is based on a Philippine species and Kirkaldy has described a third species native to Fiji.

*Bryanella*,\* gen. n.

Head and pronotum strongly deflexed, head slightly exerted, a little shorter than wide across eyes (22 : 25); eyes prominent but not stylate; vertex three times as wide as diameter of an eye (33 : 11); ocelli placed posterior to a line drawn between posterior margins of eyes, further from one another than from eyes (8 : 5); base of vertex between the ocelli with a short longitudinal, rather deep pit or depression; lateral margins of juga distinctly carinate forming definite supra-antennal ridges; antenniferous tubercles moderately prominent (seen from above), bucculae very short semicircular, not extending as far as level of insertion of antennae; rostrum extending to hind coxae, first segment reaching level of posterior margin of eyes; antennae very long and slender about as long as the total length of insect including membrane, fourth segment distinctly thickened. Pronotum with the anterior collar very distinct somewhat swollen in middle, rather less than one-half as long as the anterior lobe (6 : 14) which is indistinctly separated from posterior lobe; anterior lobe two-fifths the length of posterior lobe (14 : 35), its lateral margins convex not carinate; posterior lobe more than twice as wide posteriorly as anterior collar (94 : 40) with its lateral margins straight, not carinate except posteriorly just above rounded humeral angle where there is a short very distinct ridge abruptly terminated posteriorly to form a distinct angle or tooth; posterior margin almost straight. Scutellum longer than broad at base. Hemielytra with apical three-quarters of costal margin distinctly reflexed, and rather sinuate. Legs slender, femora not incrassate, unarmed; posterior tibiae with external row of distinct bristles.

Genotype:—*Bryanella longicornis*, sp. n.

This genus seems to be more or less intermediate between the Myodochini and Rhyparochromini. In the short bucculae, short indistinctly delimited anterior pronotal lobe, long antennae and bristled hind femora the genus approaches the Rhyparochromini, but in the well-developed anterior collar and

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\* Dedicated to Mr. E. H. Bryan, junior, in recognition of his field work in the Samoan Islands.

non-carinate lateral margins of pronotum, it resembles the *Myodochini*. The short tooth-like ridge on lateral margin of posterior lobe above humeral angle and the carinate lateral margins of the juga distinguish it at once from all other genera of both these groups. It has been temporarily referred to the *Rhyparochrominae*, near *Ozophora* Uhl.

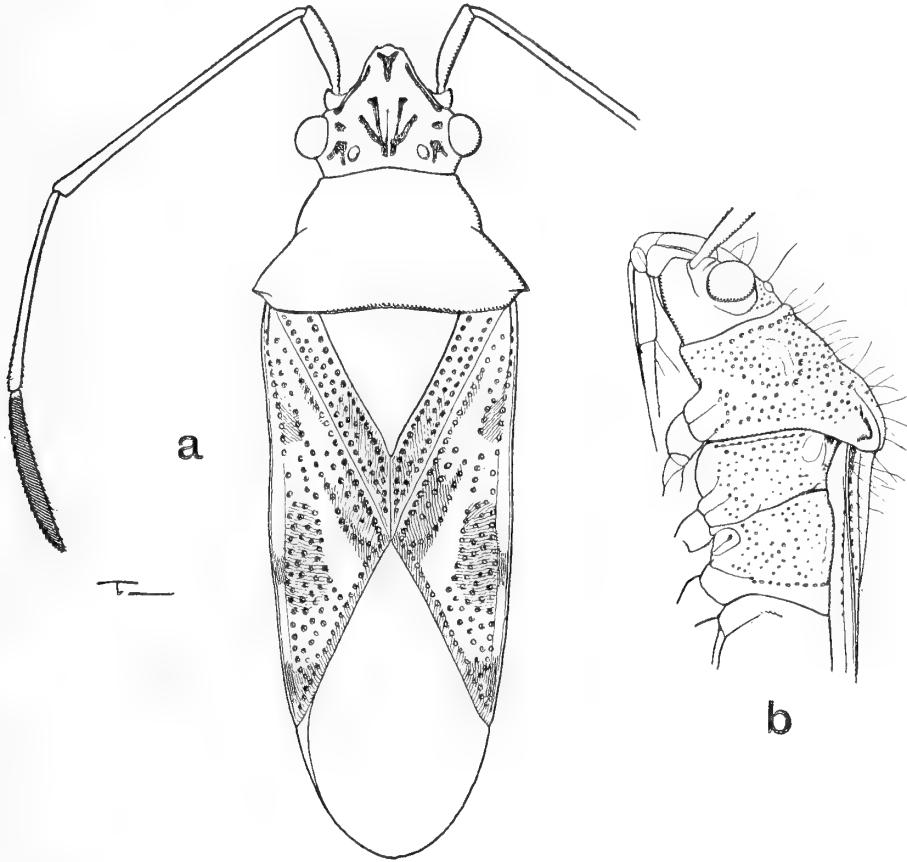
#### 40. *Bryanella longicornis*, sp. n. (Text-fig. 20).

*Colour*.—Head fuscous, eyes ferruginous, ocelli red; antennae yellow, fourth segment ferruginous brown; rostrum yellow with its apex black. Anterior pronotal collar fulvous yellow, anterior lobe fuscous, posterior lobe fulvous yellow with posterior lateral ridges and punctures fuscous. Scutellum fuscous with a median longitudinal stripe on posterior third, fulvous shading to yellow at apex. Pro- meso- and meta-pleura, fuscous, the acetabulae and the posterior margins of the metapleura, fulvous. Hemielytra pallid yellow more or less suffused or dappled with fulvous brown, the costal margin pallid with a dark fulvous brown spot on a level with apex of clavus and another at apex of corium; apical third of clavus in some specimens also brown. Membrane opaque infumate, a longitudinal spot below the apex of corium a spot at apex of clavus and the apical area pallid and semi-hyaline. Legs bright yellow; coxae ferruginous; apical halves of femora slightly fulvous, apices of tarsi and claws brown. Venter shining ferruginous brown.

*Structure*.—Vertex finely but distinctly punctate, a V-shaped area with its base at the inter-ocellar pit and an area on each side between ocellus and eye, smooth impunctate; upper surface of head rather sparsely covered with pale depressed hairs and very sparsely with long erect dark hairs; relative lengths of antennal segments, 18 : 44 : 33 : 30; last segment fusiform. Anterior lobe of pronotum finely punctate around the smooth dull cicatricial areas, with a certain amount of white pruinosity; posterior lobe more coarsely punctate; whole pronotum covered sparsely with long erect dark hairs. Scutellum more or less regularly punctate, the median longitudinal fulvous stripe on apical third, laevigate; disc with several long erect dark hairs, sometimes with definite patches of white pruinosity. Pro-, meso- and meta-pleura finely and more or less regularly punctate; posterior margin of metapleuron impunctate, separated from rest of pleuron by a deep transverse strongly punctate linear impression. Hemielytra sparsely covered with long erect hairs; clavus with two distinct lines of punctures, the area between irregularly punctate; corium with a dis-

tinct row of punctures down claval suture and a more or less continuous row of finer punctures along apical margin. Femora with scattered fine brown points (tubercles?), tibiae with definite longitudinal rows of similar fine brown points. Venter covered with moderately long depressed pale hairs.

Total length: ♂ 4 mm., ♀ 4.3 mm. Breadth across humeral angles: ♂ 1.4 mm., ♀ 1.7 mm.



TEXT-FIG. 20.—*Bryanella longicornis*, gen. et sp. n.: *a*, dorsal view (legs omitted); *b*, lateral view of head and thorax.

Upolu:—Malololelei: 1 specimen, 24.ii.1924, 1 specimen, 25.ii.1924; 2,000 ft., 1 specimen (type), 12.iii.1924, 1 specimen, vi.1924.

Savaii:—Safune: Lowlands to 1,000 ft., 1 specimen, 1.v.1924; Rain Forest, 2,000–4,000 ft., 3 specimens, 9.v.1924 (Bryan); Salailua: 1 specimen, 21.v.1924, 1 specimen, 22.v.1924 (Bryan).

41. *Aphanus* (*Elasmolomus*) *insularis* (Kirk.).

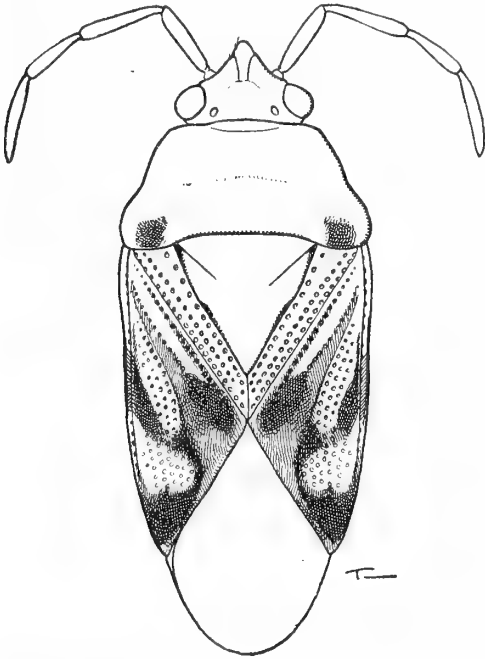
*Elasmolomus insularis* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 360, 1908.

Upolu :—Apia : 1 specimen, 9.iii.1924 (Armstrong).

Previously recorded only from Fiji, but allied to the Philippine species *Aphanus* (*Elasmolomus*) *v-album* Stål.

42. *Cligenes swezeyi*,\* sp. n. (Text-fig. 21).

*Colour*.—Head bright ferruginous brown with a very sparse whitish pubescence which is longer and more dense apically; tylus rather paler in colour, eyes dark brown, ocelli yellow very bright and prominent; antennae more or less uniformly fuscous brown covered with a dense moderately long pubescence, the three apical segments also with a few longer erect hairs; rostrum yellow. Pronotum semi-shining, bright coppery red-brown with a fuscous suffusion on each side of the base of posterior lobe above base of corium; posterior lobe regularly covered with very short silvery hairs arising from punctures; anterior lobe with a fine regular pubescence rather denser than that on the posterior lobe; propleuron bright velvety red-brown. Scutellum uniformly ferruginous brown and sparsely covered with short hairs arising from the punctures; meso- and meta-pleura shining ferruginous brown, the evaporative area dark grey brown. Hemelytra whitish-yellow with



TEXT-FIG. 21.—*Cligenes swezeyi*, sp. n.: dorsal view (legs omitted).

a broad oblique stripe extending inwards and posteriorly from the middle of costal margin and a large brown spot at apical angle of corium which extends along apical margin to another larger brown spot occupying the whole of the inner angle of the corium; the costal oblique stripe tends to fuse with the

\* This species is dedicated to Mr. O. H. Swezey, in recognition of his field work in Samoa.



brown area of the inner angle; clavus and corium covered with very short pale hairs which arise from the punctures; membrane hyaline, uniformly infumate. Legs yellow, bases of femora more or less infusate. Venter shining ferruginous brown covered with a regular fine pubescence, the lateral trichobothria giving rise to four very long upwardly curved pale hairs on each side and visible from above.

*Structure*.—♀. Head about two-thirds as long as wide across eyes (23 : 32); vertex more than three times as wide as the width of an eye (20 : 6), except at base, finely rugosely wrinkled; first segment of antenna extending about half its length beyond the apex of head; relative lengths of segments 20 : 25 : 20 : 24; rostrum extending to intermediate coxae, the first segment reaching the level of posterior margin of eye. Pronotum about twice as wide across humeral angles as long in the middle (62 : 32) and more than three-fourths as wide anteriorly as long in the middle (26 : 32); anterior margin broadly emarginate, lateral margins moderately sinuate, posterior margin strongly emarginate above base of scutellum; anterior lobe impunctate except along middle of anterior margin, posterior lobe regularly but finely punctate. Scutellum as long as wide at base and nearly three times as long as claval commissure (33 : 12); sparsely punctate. Clavus with three distinct rows of punctures; corium with a row along claval suture, another along  $Cu_1$  and the whole of the area between  $R+M$  and the costal margin, regularly punctate; area between  $R+M$  and  $Cu_1$  semi-hyaline; apical margin sinuate towards inner angle. Legs unarmed.

Total length, ♀ 2.3 mm. Breadth across humeral angles, ♀ 1 mm.

Savaii :—Safune : Rain Forest 2,000–4,000 ft., 1 ♀ (type), 9.v.1924 (Bryan); Salailua : 1 specimen, 21.v.1924 (Bryan).

Tutuila :—Pago Pago : 1 specimen, 24.ix.1923 (Swezey and Wilder).

Readily distinguished from all other species by uniformly red-brown pronotum and scutellum.

### *Cligeues swezeyi major*, subsp. n.

*Colour*.—Similar to *C. swezeyi* but much more sombre the browns less reddish and the hemielytral markings much less contrasted and more obscure, the brown oblique costal stripe practically obsolete; rostrum ferruginous, legs brownish-yellow.

*Structure*.—Larger, broader and more robust than *C. swezeyi* with the head and pronotum less deflexed. Head about four-fifths as long as broad across

eyes (27 : 35), vertex about three times as wide as width of an eye (22 : 7) ; disc of vertex distinctly but finely sparsely punctate ; first segment of antenna extending rather more than half its length beyond apex of head ; relative lengths of segments, 21 : 28 : 20 : 24 ; rostrum with first segment extending to middle of eye. Pronotum rather less than twice as wide across humeral angles as long in middle (71 : 37), and about three-fourths as wide anteriorly as long in the middle (28 : 37) ; puncturation stronger than in *C. swezeyi*. Scutellum about three times as long as claval commissure (38 : 13).

Total length, ♀ 2·7 mm. Breadth across humeral angles, ♀ 1·1 mm.

Upolu :—Malololelei : 1 ♀ (type), 18.iv.1925.

#### Family PYRRHOCORIDAE.

#### 43. *Dysdercus insularis* Stål.

*Dysdercus insularis* Stål, *Enum. Hemipt.*, I, p. 120, 1870.

*Dysdercus insularis* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 354, 1908.

Upolu :—Apia : 1 specimen, 11.iv.1922, 11 specimens and 2 larvae, 24.xii.1922 (Armstrong) ; 1 specimen, iii.1924, 1 specimen, x.1924, and 1 specimen, i.1925 ; Siumu : 4 specimens, 24.xi.1923 (Armstrong) ; Aleipata : 2 specimens, iv.1924 ; Lalomanu : 5 specimens, xi.1924.

Manono :—9 specimens, and 1 larva, 10.vi.1924.

Savaii :—Lealatele : 2 specimens, xi.1925.

Tutuila :—Amauli : 13 specimens, 5.ix.1923 (Bryan) ; 5 specimens, 5.ix.1923 (Swezey and Wilder) ; Leone Road : 1 specimen, 18.ix.1923 (Swezey and Wilder).

Manua Is. :—Tau : 1 specimen, 22.iii.1926 (Judd).

Previously recorded only from Fiji, where it is exceedingly common on land recently under cotton (Knowles), but allied to the Austro-Oriental *D. sidae* Montr. and the Malayan *D. poecilus* H. S.

#### 44. *Dysdercus impictiventris* Stål.

*Dysdercus impictiventris* Stål, *Enum. Hemipt.*, I, p. 120, 1870.

*Dysdercus albescens* Walker, *Cat. Heteropt. Brit. Mus.*, V, p. 190, 1872.

*Dysdercus impictiventris* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 354, 1908.

Upolu :—Apia : 1 specimen, 1913 (Doane) ; 1 larva, 24.xii.1922 (Armstrong) ; 1 specimen, 13.ix.1923 (Bryan) ; 4 specimens, i.1924, 1 specimen, 27.ii.1924, 1 specimen, 1.iii.1924 (Armstrong) ; 2 specimens, 27.v.1924 (Bryan) ; 2 specimens,

18.iv.1924, 3 specimens, x.1924, 2 specimens and 2 larvae, 2.xi.1924 (Armstrong); Vailima : 3 specimens, vi.1924 (Bryan).

Savaii :—Safune : 1 specimen, 15.v.1924 (Bryan).

Tutuila :—1,100–1,200 ft., 1 specimen, iv.1918, 2 specimens, xii.1918 (Kellers); Pago Pago : 0–300 ft., 4 specimens, iv.1918 (Kellers); 13 specimens and 1 larva, 30.ix.1923 (Swezey and Wilder).

Previously recorded only from Fiji, but allied to the Austro-Oriental species *D. argillaceus* Bergr.

### Family TINGITIDAE.

#### *Idiocysta*, gen. n.

Head above unarmed; bucculae scarcely extending anteriorly, suddenly convergent and contiguous so that rostral furrow is closed apically; antennae moderately long, two basal segments slightly incrassate, short, the first segment distinctly longer than second; third segment longest, slender, linear; fourth fusiform becoming gradually slender towards base; rostrum extending to middle of mesosternum, not reaching middle coxae. Pronotum tricarinate but only the median carina visible; anterior collar extending laterally to bucculae, only moderately tectiformly elevated dorsally, not globosely dilated, its anterior margin lightly convexly sinuate; paranota originating just beyond lateral carinae, strongly dilated and reflexed over disc of pronotum to form two elongate coarsely reticulate, semi-globose hoods which almost meet over median carina completely hiding whole of the pronotum except median carina and apex of pronotum; disc between carinae and below globose paranota covered with long tomentose pale hairs. Propleuron broad evenly rounded. Hemelytra complete, extending well beyond apex of abdomen; in repose their costal margins sub-parallel feebly sinuate in middle; slightly wider across bases than across membranes, but very little wider than pronotum at base; discoidal area flat, scarcely reaching middle of hemelytron; sub-costal area very narrow, more or less vertical; costal area distinctly widened in middle, base reflexed, with a single row of cells; broad medial region with two rows of cells. Metasternal orifice with a distinct auriculate lobe. Legs moderately short and slender.

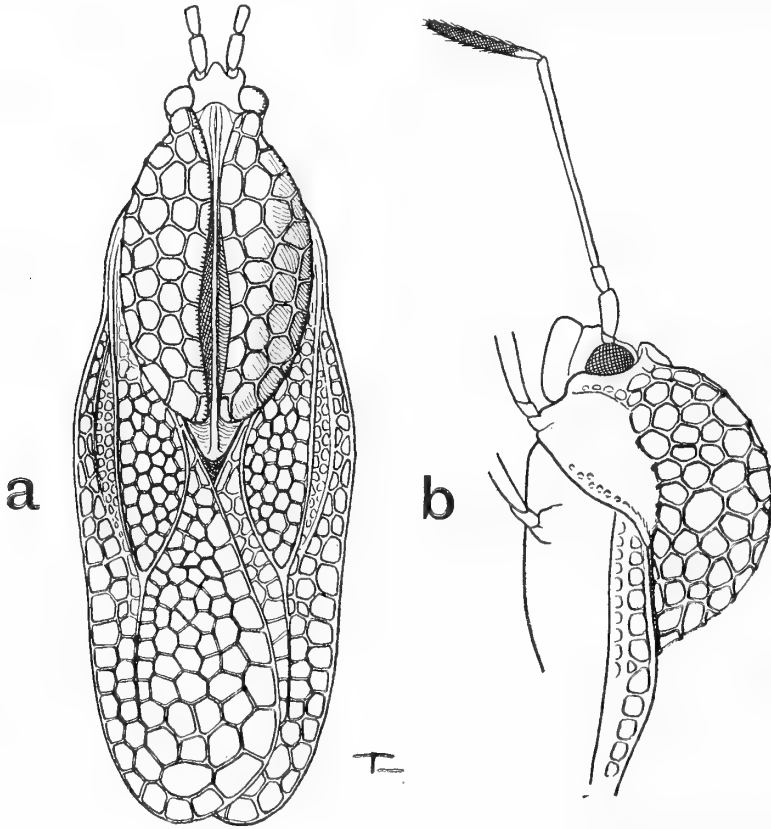
Genotype :—*Idiocysta hackeri*, sp. n.

Apparently allied to *Physatocheila* Fieber but the head unarmed, the sub-costal area of hemelytra narrow and vertical, the costal area widened in the

middle and the paranota strongly globosely developed. Differs from *Monanthia* in presence of lobe to metasternal orifice.

45. *Idiocysta hackeri*,\* sp. nov. (Text-fig. 22).

*Colour*.—Head and eyes black, vertex covered with white pruinosity; bucculae fuscous; antennae yellow, the fourth segment, except base, black.



TEXT-FIG. 22.—*Idiocysta hackeri*, gen. et. sp. n.: a, dorsal view (antennae and legs omitted); b, lateral view of head and pronotum.

Anterior collar of pronotum pale yellow, the paranota grey with dark fuscous reticulation; extreme apex of pronotum and of median carina pale yellow. Propleura black shading to fuscous along posterior margin. Meso- and meta-pleura and sterna black, the carinae, the lobe of odoriferous orifice, and posterior lateral angle of metapleuron, sordid fulvous. Hemielytra black, the costal

\* Dedicated to Mr. H. Hacker, of the Queensland Museum, in recognition of his excellent work on the Australian Tingitidae.

vein at base and in middle, a stripe on vein bounding inner margin of discoidal area, another along origin of vein running from apex of discoidal area, and the reticulation of the broad median region of costal area, all sordid yellow; larger cells of membrane towards apex greyish fuscous. Legs yellow, apices of tibiae and tarsi infuscate. Venter black.

*Structure*.—Head twice as wide as long (24 : 12); vertex twice as wide as width of an eye (12 : 6); relative lengths of antennal segments, 12 : 7 : 57 : 32. Pronotum about five-eighths as wide across widest part as long from anterior margin of collar to posterior apex (54 : 83); paranota about twice as long as greatest breadth 63 : 52; coarsely reticulate about 24 cells visible from above on each lobe, the veins thick; the inner marginal vein with a few moderately long hairs; length of pronotum visible posteriorly, equal in length to anterior collar in middle; median carina strongly elevated. Hemelytra widest at level of apex of pronotum, about half the total length (64 : 125); reticulation of membrane cells equal in size to those of middle of costal area; reticulation of discoidal area rather less coarse and of subcostal area moderately fine; veins of discoidal area with a few moderately long erect hairs. Bucculae finely reticulate; propleura obsoletely punctate posteriorly.

Total length, 2.8 mm. Greatest breadth of pronotum, 0.9 mm.

Upolu :—Tuaefu : 1 specimen, 16.ix.1923 (Swezey and Wilder); Malololelei : 2,000 ft., 1 specimen (type), vi.1924.

#### Family REDUVIIDAE

##### Subfamily EMESINAE.

#### 46. *Gardena pacifica* Kirk.

*Gardena pacifica* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 371, 1908.

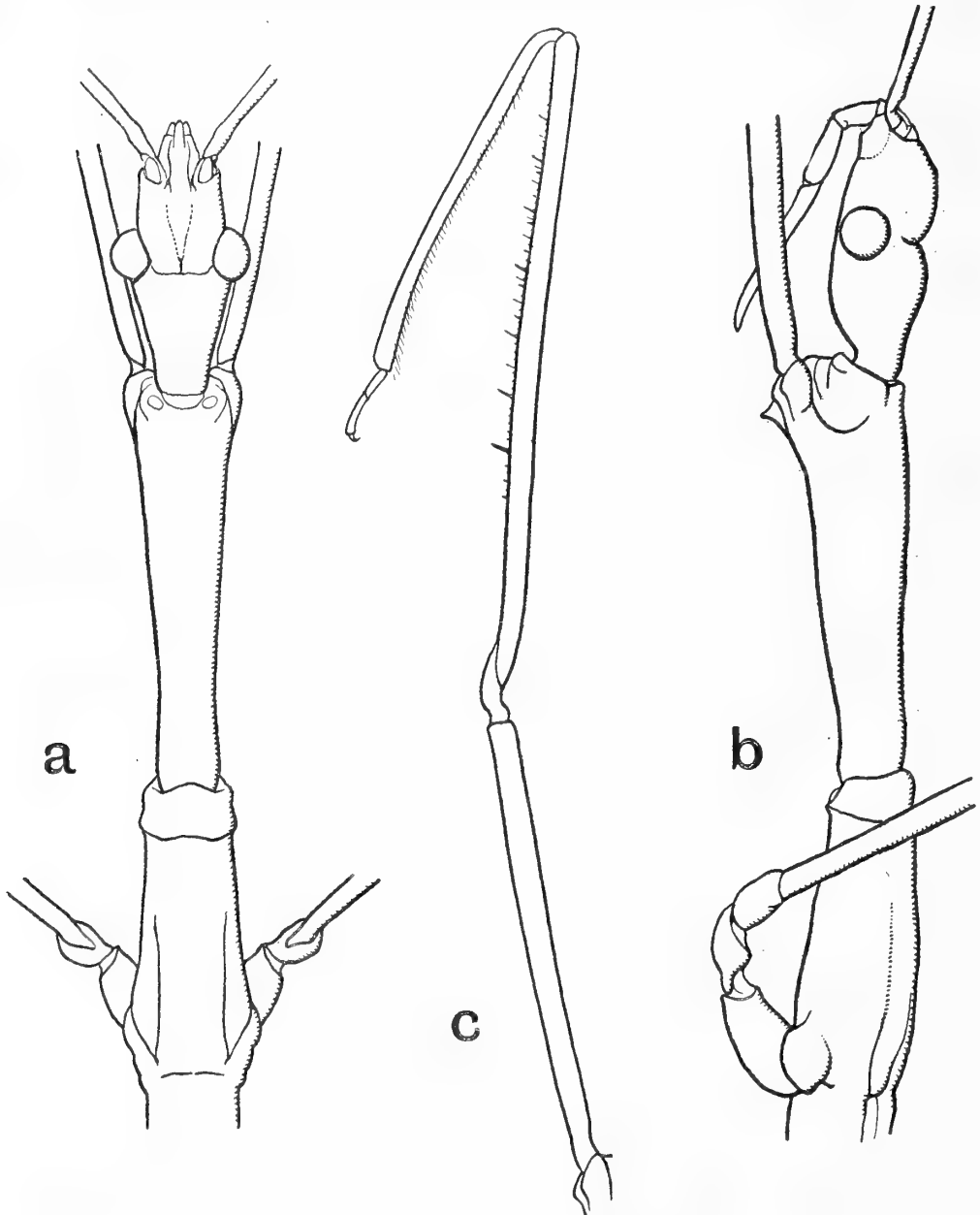
Upolu :—Vailima : 1 winged ♀, 10.iv.1925.

This species has hitherto been recorded only from Fiji.

#### 47. *Gardena geniculata*, sp. n. (Text-fig. 23).

*Apterous*.—♀. Dark chestnut-brown, the pro- meso- and meta-nota laterally and the abdomen (except some obscure fulvous markings) blackish-brown. Sides of posterior lobe of head dark brown, with a pale stripe behind eye; eyes black. Antennae dark brown, the first segment except apical eighth, pale brown; extreme apices of first, second, and third segments sordid white. Coxae

and trochanters dark brown ; anterior femora, tibiae and tarsi, chestnut brown with the apical eighth of femur and extreme base of tibia sordid white ; base



TEXT-FIG. 23.—*Gardena geniculata*, sp. n. : *a*, dorsal view of head and pronotum ;  
*b*, lateral view of same ; *c*, anterior leg.

and apex of brown part of femur and tibia, darker ; spines on femora black with brown base. Intermediate and posterior femora pale brown the apices white

bounded basally with a broad blackish-brown annulation; intermediate and posterior tibiae pale brown gradually becoming darker towards the extreme bases which are white.

*Structure*.—Head with anterior lobe slightly longer than posterior lobe (25 : 23), the latter slightly shorter than width of head across eyes (23 : 24); antennae very long and slender, first and second segments equal in length, third very short, fourth rather more than three times as long as third; relative lengths of segments 280 : 280 : 15 : 50. Pronotum rather less than twice as long as head (82 : 48), the basal lobe (fitting over apex of mesonotum) very short. Visible part of mesonotum slightly shorter than head (45 : 48), rather obscurely tri-sulcate; metanotum rather shorter than mesonotum (40 : 45), obscurely tricarinate. Relative lengths of anterior coxae, femora, tibiae and tarsi, 130 : 198 : 107 : 17; femur armed with six long spines, about ten shorter spines and numerous small spines; distance from base of femur to first long spine rather longer than from apex of femur to last long spine (60 : 50). Relative lengths of intermediate femur and tibia, 362 : 507, and of posterior femur and tibia 497 : 710. Abdomen more than one-half longer than head and thorax together (365 : 215), slightly and gradually widened towards apex.

Total length, 20 mm.

Upolu :—Malololelei : 1 ♀ (*type*), 2,000 ft., 25.ii.1924.

Closely allied to *Gardena pacifica* Kirk., but differing in the well-marked white apices of the femora, and in the armature of the anterior femora, which bear six instead of five long spines.

#### 48. *Luteva* \* *insolida* B. White (Text-fig. 24).

*Luteva insolida* Buchanan White, *Ann. Mag. Nat., Hist.*, (4), XX, p. 113, 1877.

*Ploiaria collenetti* Cheesman, *Ann. Mag. Nat. Hist.*, (9), XIX, p. 95, 1927.

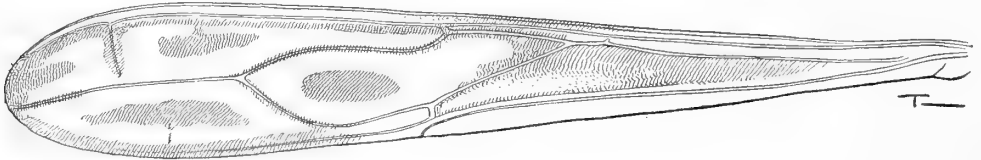
Miss Cheesman's species is apparently synonymous with the Hawaiian *Luteva insolida* B. White, and, as her description was based on very poorly preserved material from the Marquesas, while that of B. White is somewhat inadequate, it has been thought advisable to redescribe the species from the Samoan specimen.

REDESCRIPTION :—

*Colour*.—♂. Head including rostrum pale brown, region between eye and insertion of antennae, darker; antennae uniformly deep castaneous brown;

\* *Ploiaria* McAtee and Malloch (*nec* Scopoli ?), *Phil. Journ. Sci.*, XXX, 1, p. 139, 1926.

eyes black. Pro- and meso-nota and pleura castaneous brown with a rather obscure broad pallid longitudinal median stripe extending from anterior margin of pronotum to apex of scutellum which is brown ; posterior margin of pronotum pale brown ; meta-notum and pleuron brown, the posterior apex of meta-notum darker ; pro- meso- and meta-sterna pallid. Hemielytra greyish-white ; veins fuscous except cubital (anal ?) vein and apical half of costal and subcostal veins which are orange-yellow and the bifurcation of R + M at base of discal cell and basal half of Sc which are greyish-white ; basal half of costal cell, outer half of basal cell, claval margin, basal angle of discal cell, a long stripe along apical half of Sc, a large oval spot in middle of discal cell, another more elongate in middle of inner apical cell and smaller spots in the two outer apical cells, all fuscous brown ; margins of veins also infuscate especially cross vein between apex of Sc and R + M.\* Wings whitish hyaline. Anterior legs pallid brown,



TEXT-FIG. 24.—*Luteva insobida* B. White, hemielytron.

the outer surface of coxae towards apex and the dorsal surface of femora, especially the apex, and tibiae and tarsi castaneous brown ; bristles on underside of femora black. Intermediate and posterior legs castaneous brown the tibiae gradually becoming paler towards tarsi which are pale ; no pallid or darker annulations present, coxae pale brown. Abdomen dark brown with the pygophor (hypopygium) and some obscure markings paler.

*Structure*.—Anterior lobe of head about one and a half times longer than posterior lobe (15 : 9) ; vertex between eyes slightly wider than width of eye (8 : 6) ; transverse impression with its extremities in middle of eye, slightly posteriorly curved ; antennae without long hairs, relative lengths of antennal segments, 158 : 124 : 32 : 16. Pronotum about two-thirds the total lengths of head (17 : 23), with an obscure median sulcation, the basal lobe very short. Mesonotum to apex of scutellum as long as from transverse impression of head to posterior margin of pronotum (28) ; width across humeral angles equal to width of head including eyes ; distinctly trisulcate, the lateral sulcations with a thin white membranous carina running along them. Metanotum about one-

\* Homology of veins possibly not correct.



third the length of mesonotum (9 : 28). Hemielytra extending to apex of abdomen ; discal cell less than twice as long as vein emitted from its apex. Relative lengths of anterior coxae, femora tibiae and tarsi, 37 : 58 : 32 : 18 ; trochanter with a single stout bristle towards apex ; spines of femora longest towards base, becoming gradually shorter towards apex. Relative lengths of intermediate femora, tibiae and tarsi, 150 : 218 : 7. Relative lengths of posterior femora, tibiae and tarsi, 213 : 324 : 7. Posterior surface of hypopygium continued in a long central spine which extends slightly beyond the apices of parameres.

Total length, 7.5 mm.

Upolu :—Vailima : 1 ♂, 8.vi.1924.

Also recorded from Hawaii and the Marquesas (Fatuhiva). Closely allied to the Philippine *Ploiaria uniformis* McAtee and Malloch, but apparently distinguished by rather larger size, the pale median longitudinal stripe down pro- and meso-nota, and the shorter discal cell.

As pointed out by Miss L. E. Cheesman, it is probable that, in spite of the presence of trochantal spines, this species is more closely related to *Luteva* Dohrn than to *Ploiaria* Scop. McAtee and Malloch (*Proc. U.S. Nat. Mus.*, 67, I, p. 49, 1925) have regarded *Luteva* as synonymous with *Ploiaria*, basing their argument on the intergradation, which they say occurs in the diagnostic characters so far considered. This may be so, but we cannot accept their further argument that one should refrain from recognising what they call an excessive number of genera, because it makes the construction and use of a generic key difficult. Genera should be based on phylogeny, not on convenience, and perfectly distinct genera, even if they "approach the one species standard," should not be synonymized to facilitate the construction of a key.

#### 49. *Luteva subaequalis* (McA. and Mall.).

*Ploiaria subaequalis* McAtee and Malloch, *Phil. Journ. Sci.*, XXX, 1, p. 142, 1926.

There is in Buxton's collection a single damaged specimen, which agrees very closely with McAtee's and Malloch's description of this species. The genitalia and part of the abdomen are missing, but the reticulate infuscation of the hemielytra is very distinctive.

Upolu :—Apia : 1 specimen, 29.v.1925.

Recorded only from the Philippines.

50. *Empicoris rubromaculatus* (Blackb.).

*Ploiariodes rubromaculata* Blackburn, *Proc. Linn. Soc. N.S. Wales*, (2), III, p. 349, 1889.

*Ploiariodes euryale* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 372, 1908.

*Ploiariodes californica* Banks, *Psyche*, XVI, p. 46, 1909.

*Ploiariola froggatti* Horváth, *Ann. Mus. Nat. Hung.*, XII, pp. 643, fig. 5, 1914.

*Empicoris rubromaculatus* McAtee and Malloch, *Proc. U.S. Nat. Mus.*, LXVII, I, p. 16, 1925.

Savaii :—1 specimen, 1,000 ft., 21.xi.1925.

Recorded from California, Missouri, Florida, Virginia, Porto Rico, Brazil (Madeira ?), N.S. Wales, New Zealand, Fiji and Hawaii.

The variety recorded by McAtee and Malloch from Madeira is probably identical with *Ploiariola scotti* Distant. (Seychelles).

51. *Empicoris*, sp.

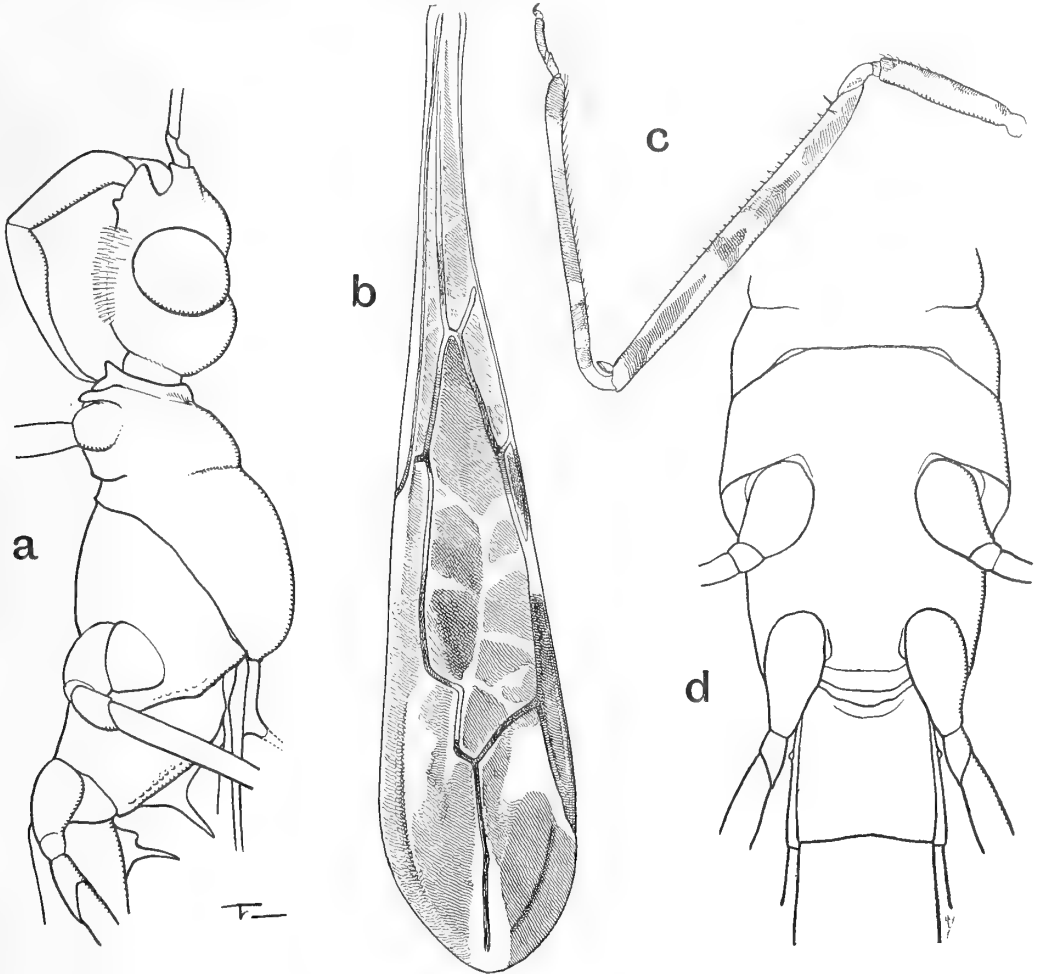
This species is apparently closely allied to the Fijian *E. calamine* Kirk., but differs in the more or less regular fuscous annulation of the first antennal segment and hind femora. It has been thought best not to base a new species on a fragmentary specimen.

Upolu :—Apia : 1 mutilated specimen, x.1925.

52. *Empicoris* (*Dictynna*, nov.) *nitidicollis*, sp. n. (Text-fig. 25).

*Colour*.—♀. Head intensely shining, dark brown, the posterior lobe rather paler but very dark down the middle line ; underside, between the eyes, with a dense pad of long erect hairs ; eyes black, apices of antenniferous tubercles pale ; rostrum shining brown, the apices of first and second segments, base of third and commissure pallid. Antenna dark blackish-brown, becoming paler towards the extremity ; the first segment with some obscure fulvous brown annulations and its apex white, sparsely clothed with long erect hairs ; second and third segments without annulations, covered with shorter more or less depressed hairs. Pronotum intensely shining, dark brown, entirely glabrous except for a tuft of interlocking silvery hairs in the medial impression of the anterior lobe. Meso- and meta- nota dull dark brown, the spines pale brown ; mesonotum covered with silvery hairs ; pro- meso- and meta-sterne and pleura intensely shining, black, the pro- and meso-acetabulae pallid ; prosternum with a pad of pale hairs on each side of the stridulatory groove, the mesosternum glabrous ; the metasternum regularly covered with long fine erect hairs. Hemelytra almost completely covered with large fuscous areas,

the narrow intervening spaces whitish hyaline; stigma uniformly brown, veins fuscous with certain regions pallid (*see figure*). Wings hyaline, veins and membrane along them, especially at apex of wing, infuscate. Anterior leg dark brown, the base and upper surface of coxae, the trochanter, the basal



TEXT-FIG. 25.—*Empicoris (Dictynna) nitidicollis*, subgen. et. sp. n.: *a*, lateral view of head and thorax; *b*, hemelytron; *c*, anterior leg; *d*, ventral view of base of abdomen, showing straight posterior margin of first ventrite.

third of underside, two medial annulations and the extreme apex of femur, extreme base, a sub-basal and a sub-apical annulation of tibia, and base of tarsus, yellowish-white; intermediate leg yellowish-white, a spot towards apex of coxa, seven more or less regular annulations and the apex (broadly) of femur deep brown, eight annulations and the apical third of tibia brown; hind leg

similar to intermediate leg but with the coxa brown except at apex, the femur with eight or nine annulations and the apex deep brown; tibia with about ten annulations and the apical fourth brown. Abdomen dull dark brown becoming paler on the second and third ventrites, the first ventrite shining black.

*Structure*.—♀. Head about as long as wide across eyes (34 : 35) with the anterior and posterior lobes of equal length; vertex about as wide between eyes as width of eye (12 : 11); transverse impression placed on a level with middle of eye, slightly posteriorly curved; relative lengths of antennal segments 185 : 216 : 55 (fourth segment mutilated in type); relative lengths of rostral segments 24 : 15 : 15. Pronotum intensely smooth and shining longer than broad across humeral angles (46 : 40) the posterior lobe nearly three times as long as the anterior lobe; medial impression of anterior lobe deep, covered by interlocking hairs from each side of impression; disc of posterior lobe strongly convex, without sulcations, or ridges; lateral carinae entirely absent. Meso- and meta-nota with short spines (mesonotal spine broken in type). Hemielytra slightly longer than abdomen; discal cell very long, more than twice as long as apical vein, without a small basal cell, strongly indented apically; stigma long and broad.

Relative lengths of anterior coxa femur, tibia and tarsus, 40 : 93 : 70 : 15; femur with two rows of very short spines and bristles, gradually increasing in length towards base, less than one-fourth the width of femur in middle but each row ending at base in a longer spine about one-half width of femur; tarsus two segmented. Relative lengths of femur, tibia and tarsus of intermediate leg, 190 : 265 : 12, and of posterior leg, 270 : 410 : 12. Basal tergite of abdomen with an erect spine, basal sternite with its posterior margin broadly concave not deeply angularly emarginate.

Total length, 5 mm.

Upolu :—Malololelei : 1 ♀ (type), 2,000 ft., 25.ii.1924.

#### Dictynna, subgen. n.

Differs from *Empicoris* in the absence of a deep angular emargination of the posterior margin of the basal abdominal sternite and in the smooth intensely shining pronotum with strongly convex posterior lobe entirely without lateral carinae. The first character is, according to McAtee and Malloch, of generic importance.

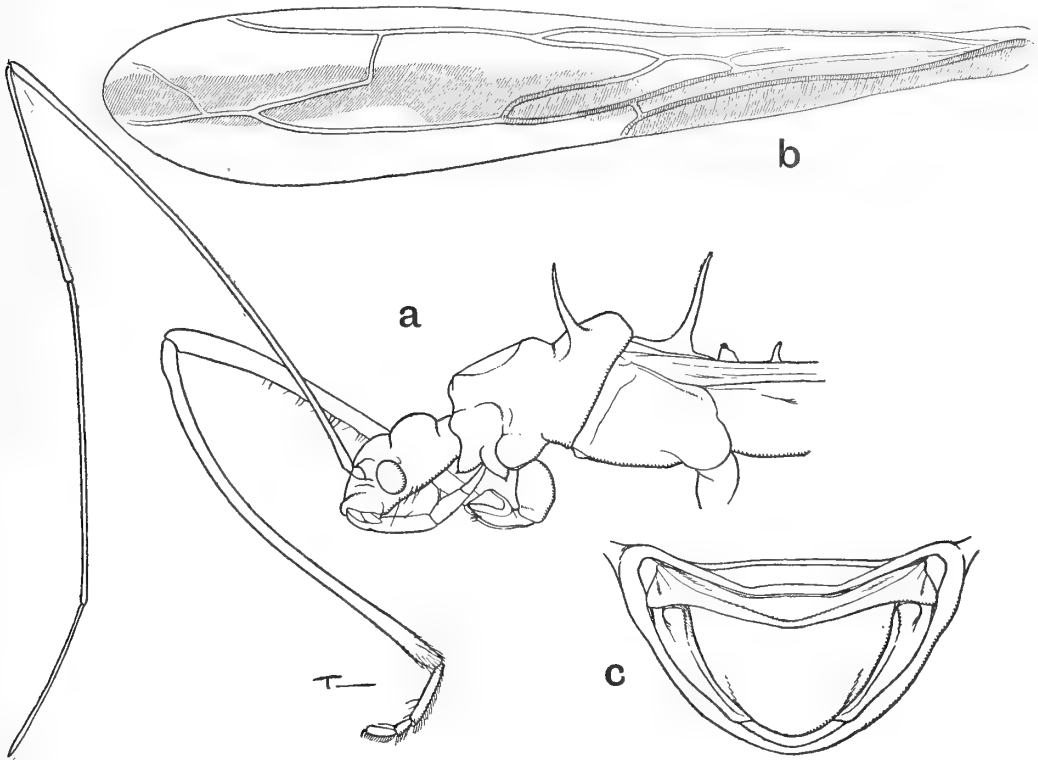
Genotype :—*Empicoris nitidicollis*, sp. n.

## Subfamily SAICINAE.

53. *Polytoxus similis*, sp. n. (Text-fig. 26).

*Polytoxus*, sp., Kirkaldy ?, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 368, 1908.

*Colour*.—Rather variable. Head above pale fulvous suffused with pale red, especially towards apex, below more or less infuscate; anterior lobe between eyes also slightly infuscate in some specimens; eyes black; first segment of antennae fulvous tinted with red at base, remaining segments fuscous with pale



TEXT-FIG. 26.—*Polytoxus similis*, sp. n. : *a*, lateral view of head and pronotum; *b*, hemielytron; *c*, terminal view of ♂ abdomen.

pubescence; rostrum fulvous yellow. Pronotum fulvous yellow the anterior lobe darker and lightly suffused with dull red-brown, and with the median line slightly infuscate; posterior lobe with a broad median pale fuscous stripe; humeral spines yellow with apices infuscate; propleura sordid yellow, with a short but broad fuscous stripe laterad of, but touching acetabulae. Meso- and meta-nota fuscous the spines fulvous with apices fuscous; meta- and

meso-pleura fuscous. Hemielytra pale yellow; with a percurrent longitudinal stripe, extending from base of clavus to apex of membrane, fuscous becoming pale towards apex of membrane; stigma sometimes with a pale pink suffusion the vein bounding it internally also tinged with pink. Legs fulvous yellow, apices of femora and bases of tibiae bright red; apices of tibiae especially anterior tibiae, fulvous, tarsi infusate. Abdomen sordid yellow with a broad somewhat suffused fuscous stripe down each side.

*Structure.*—♀. Head about one and a half times longer than wide across eyes (35 : 23); the anterior lobe, excluding region anterior to insertion of antennae, equal in length to posterior lobe (13); posterior lobe slightly wider than anterior lobe between eyes (19 : 17); transverse impression between lobes placed slightly behind level of posterior margins of eyes, not strongly concave; relative lengths of antennal segments 140 : 58 : 85 : 45. Posterior lobe of pronotum two-thirds the length of anterior lobe (20 : 30); width across humeral angles about four-fifths the total length of pronotum (38 : 50); pronotal spines about as long as posterior lobe in the middle (20) inclined laterally and slightly anteriorly. Mesonotal spine about as long as pronotal spines and inclined slightly posteriorly, metanotal spine short about one-fourth length of mesonotal spine. Hemielytra extending to apex of abdomen, basal membranal cell narrow, more or less parallel sided, apical membranal cell large, its apical marginal vein strongly bent to form a rectangular indentation (*see fig. 26b*). Relative lengths of femur tibia and tarsus, anterior leg, 96 : 110 : 29; intermediate leg, 120 : 132 : 24; posterior leg, 200 : 245 : 25. Posterior lateral angles of last segment of connexivum (♀) obtuse not produced into an acute tooth or spine. Male genitalia figured (26c).

Total length : ♀ 10.5 mm., ♂ 10.3 mm.

Upolu :—Tuaefu : Sliding Rock, 1 larva, 16.ix.1923 (Swezey and Wilder); Apia : 1 ♀ (type), 13.iv.1924 (Armstrong); Vailima : 1 specimen, 1.i.1925, 1 specimen, 2.i.1925.

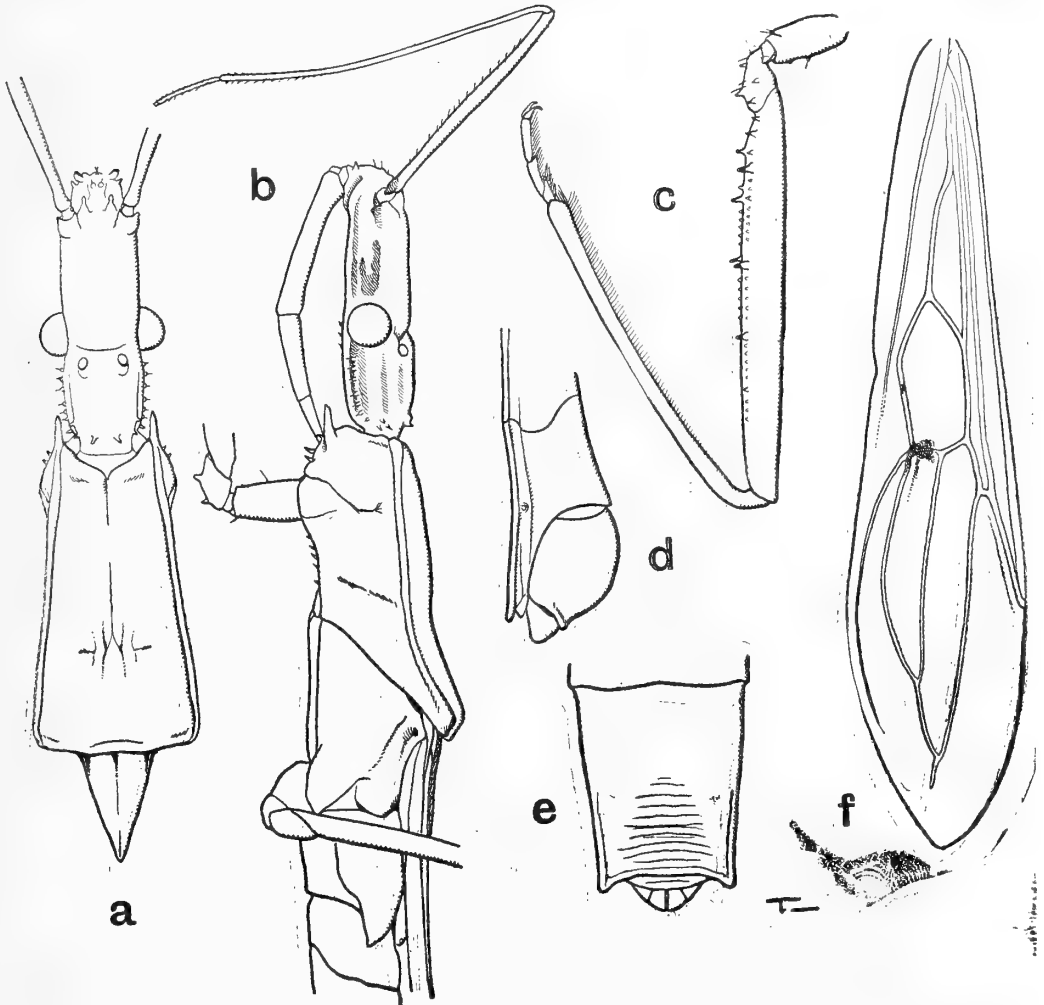
Tutuila :—Pago Pago : 1 specimen, 30.ix.1923 (Swezey and Wilder); Amauli : 1 specimen, 5.ix.1923 (Swezey and Wilder); Afono Trail : 5 specimens (1 broken), 25.ix.1923 (Swezey and Wilder).

Closely allied to the New Caledonian *Polytoxus acanthifera* Montr. and Sign. (= *P. acanthophorus* Stål), which I know only from description, and possibly only a subspecies. Differs in the smaller size, less distinctive coloration, and in first two antennal segments not being yellow.

## SUBFAMILY STENOPODINAE.

54. *Sastrapada hopkinsi*,\* sp. n. (Text-fig. 27).

*Colour*.—♂ and ♀. Head dull greyish-yellow with a broad composite brown band down each side of both lobes, and a brown spot on outer side of antenni-



TEXT-FIG. 27.—*Sastrapada hopkinsi*, sp. n.: a, dorsal view of head, pronotum and scutellum; b, lateral view of head and thorax; c, anterior leg; d, lateral view of apex of ♂ abdomen; e, dorsal view of same; f, hemielytron.

ferous tubercle; eyes yellow, black in ♀; antennae with first segment dull yellow, a small brown spot at its base on outer side, and its apex brown; remain-

\* This species is dedicated to Mr. G. H. E. Hopkins, the junior collector.

ing segments infusate ; rostrum yellow with a brown stripe down each side of first segment and the apical segment brown. Pronotum and scutellum dull yellow ; pro- meso- and meta-pleura more or less infusate the pale pubescence restricted to longitudinal stripes giving a striated brown and yellow appearance. Metasternum with a median dark brown stripe. Hemielytra more or less greyish-yellow, the costal margin rather darker, the membrane with a suspicion of mottling ; a brown spot over vein at base of internal membranal cell. Inner surface and two broad transverse stripes on outer surface of anterior coxae, brown ; inner surface of anterior femur except for some longitudinal yellow striation, a narrow percurrent line along spines, another line broken into four pieces, and some mottling between the lines, brown ; short spines brown, large spines pale yellow with brown tips. Inner surface of apex of middle femur brown and of hind femur slightly infusate, underside of base and the apex of anterior and intermediate tibiae brown ; hind tibiae pale yellow ; all tarsi brown. Abdomen brownish-yellow, spiracles brown, disc of venter with two percurrent parallel brown lines thickened at base of each segment and fusing on ultimate segment, sometimes almost obsolete.

*Structure.*—♂. Head slightly shorter than pronotum (75 : 85) anterior longer than posterior lobe (45 : 25) ; anterior lobe with two short forward spines between antennae but unarmed down sides either by spines or bristles ; posterior lobe with a row of six bristle-bearing tubercles down each side and with two similar tubercles and several smaller ones along posterior margin ; first rostral segment extending to middle of eyes ; first antennal segment equal in length to head ; relative length of segments, 75 : 105 : 24 (last segment mutilated in type). Pronotum less than twice as long as wide at base (85 : 50) ; humeral angles moderately elevated and acute but not spined ; anterior propleural spine moderately short less than the diameter of an eye. Hemielytra extending to about three-fourths the length of abdomen (to fifth visible spiracle). Anterior coxae not extending to base of prosternum, armed with several short spines ; the femur with four large spines in anterior percurrent row and two in shorter posterior row of short spines ; femur longer than tibia, about as long as from anterior margin of eyes to posterior margin of pronotum. Relative lengths of anterior coxa, femur, tibia and tarsus, 25 : 125 : 110 : 27 ; intermediate leg, 140 : 150 : 24 ; posterior leg, 246 : 290 : 27. Last abdominal tergite in male with posterior margin broadly concave, the posterior lateral angles only moderately acute and not extending beyond apex of pygophor.



Total length : ♂ 16.3 mm., ♀ 19 mm.

Upolu :—Apia : 1 ♀, 30.v.1924, 1 ♂ (type), i.1925, 2 larvae, iv.1925, 1 ♀, 28.iv.1925.

Closely allied to the Philippine *S. lurida* Stål, but differs in the absence of a median fuscous annulation to anterior tibiae, and in having the first segment of antennae equal in length to the head. Tryon's description of *S. novaeguineensis* ♀ (Fergusson Is.), except for the smaller size, agrees with the Samoan specimens as does Montrouzier's meagre description of the New Caledonian *S. armata*, but as both these descriptions could apply to several species it has been thought advisable, without having seen the types, to describe the Samoan species as new rather than risk an erroneous determination.

#### 55. *Oncocephalus pacificus* Kirk.

*Oncocephalus pacificus* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 368, 1908.

Samoa :—2 specimens, iii.–viii.1921 (O'Connor).

Upolu :—Apia : 1 specimen, 30.iii.1922 and 1 specimen, 5.v.1924 (Armstrong); 1 specimen, x.1924 and 1 specimen, x.1925.

These specimens agree very well with Kirkaldy's poor description of *O. pacificus* and with Fijian examples. In some specimens the fuscous mottling on the hind femora is absent and only the apical third is fuscous. This species is more closely related to the Philippine *O. assimilis* Reuter and the N. Australian *O. confusus* Reuter than to the Mascarene *O. angulatus* Reut. to which species it was compared by Kirkaldy.

Recorded only from Fiji.

#### Subfamily ACANTHASPINAE.

#### 56. *Peregrinator biannulipes* (Montr. et Sign.).

*Opisocoetus biannulipes* Montrouzier et Signoret, *Ann. Soc. Ent. France*, (4), I, p. 69, 1861.

*Microcleptes biannulipes* Stål, *Kongl. Svensk. Vet.-Ak. Handl.*, XII, 1, p. 79, 1874.

*Reduvius laniger* Butler, *Ann. Mag. Nat. Hist.*, (4), XVII, p. 411, 1876.

*Alloeocranum biannulipes* Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 369, 1908.

*Peregrinator biannulipes* China, *Ann. Mag. Nat. Hist.*, (9), XV, p. 164, 1925.

Upolu :—Apia : 1 specimen, x.1925.

Recorded from Central America, Cuba, Réunion, Rodriguez, Philippines, New Caledonia and Fiji; apparently widely distributed.

## Family NABIDAE.

57. *Arbela* \* *costalis* Stål.

*Arbela costalis* Stål, *Kongl. Svensk. Vet.-Ak. Handl.*, XI, 2, p. 111, 1873.

Upolu:—Apia : 1 specimen, 28.x.1923 (Armstrong); 2 specimens, 12.ix.1923, 1 larva, 13.ix.1923 (Swezey and Wilder); 4 specimens, ii.1924, 1 specimen, 2.iii.1924, 1 specimen, v.1924, 2 specimens, vi.1924, 2 specimens, 8.ix.1924, 2 specimens, iv.1925; Tuaeifu: Sliding Rock, 5 specimens, 16.ix.1923 (Swezey and Wilder); Vaea : 1,100 ft., 4 specimens, 25.iv.1924 (Bryan); Vailima : 3 specimens, 25.x.1924; Lalomanu : 3 specimens, xi.1924; Malololelei : 2,000 ft., 2 specimens, 12.iii.1924, 1 specimen, iv.1924.

Savaii:—Salailua : 2 specimens and 1 larva, 21.v.1924; Lowlands to 1,000 ft., 3 specimens, 16.v.1924 (Bryan); Lower Forest, 1,000–2,000 ft., 1 specimen, 17.v.1924 (Bryan); Rain Forest, 2,000–4,000 ft., 1 larva, 17.v.1924 (Bryan); Safune : 5 specimens, 4.v.1924 (Bryan); Lowlands to 1,000 ft., 2 specimens, 30.iv.1924 (Bryan); Lower Forest, 1,000–2,000 ft., 2 specimens, 11.v.1924 (Bryan); Tuasivi : 5 specimens, 9.ii.1924.

Tutuila:—760–900 ft., 4 specimens, iv.1918 (Kellers); 1,100–1,200 ft., 2 specimens, iv.1918 (Kellers); Pago Pago : 0–300 ft., 4 specimens, iv.1918 (Kellers); 1 specimen, 10.ix.1923 (Swezey and Wilder), 3 specimens, 12.iv.1924 (Bryan), 1 specimen, 14.xii.1925; Fagasa : 4 specimens, 9.ix.1923 (Swezey and Wilder); Leone Road : 7 specimens, 7.ix.1923 (Swezey and Wilder); Amauli : 6 specimens, 5.ix.1923 (Swezey and Wilder).

Manua Is. :—Tau : 6 specimens, 17.ix.1923 (Swezey and Wilder), 1 specimen, 27.ix.1923 (Swezey and Wilder).

Recorded only from Fiji. The sexual dimorphism of the hind tibiae exhibited in the Philippine *A. nitidula* Stål is absent in this species, the hind tibiae in the male being without a basal thickening.

*Arbela costalis* Stål *flavicollis*, var. n.

There are three specimens of *Arbela costalis* in which the posterior lobe of the pronotum is entirely yellow. These I propose to regard as a distinct variety.

Savaii:—Safune : Rain Forest, 2,000–4,000 ft., 1 ♀ (**type**), 8.v.1924 (Bryan); Tuasivi : 1 specimen, 9.ii.1924.

Tutuila:—Pago Pago : 1 specimen, 9.ix.1923 (Swezey).

\* *Acanthobrachys* (Fieber 1861) Breddin 1905, *nec* Jekel 1857 (Coleoptera), *vide* Reuter, *Mém. Soc. Ent. Belg.*, XV, p. 125, 1908.

58. *Reduviolus capsiformis* (Germ.).

*Nabis capsiformis* Germar, *Silbermann Rev. Ent.*, V, p. 132, 1837.

*Reduviolus innotatus* B. White, *Ann. Mag. Nat. Hist.*, (4), XX, p. 112, 1877.

*Reduviolus*, sp. ? Kirkaldy, *Proc. Linn. Soc. N.S. Wales*, XXXIII, p. 366, 1908.

*Reduviolus capsiformis* Reuter, *Mém. Soc. Ent. Belg.*, XV, p. 114, 1908 (synonymy).

*Reduviolus capsiformis* Kirkaldy, *Faun. Hawaii, Hemipt., Suppl.*, p. 546, 1909.

Samoa :—1 adult and 1 larva, iii.–viii. 1921 (O'Connor).

Upolu :—Apia : 8 specimens, on "Bermuda grass and *Sporobolus*," 12.ix.1923 (Swezey and Wilder); 1 specimen, i.1924, 2 specimens, ii.1924, 3 specimens, iii.1924, 1 specimen, vi.1924; Malololelei : 1 specimen, 24.ii.1924; 2,000 ft., 1 specimen, 12.iii.1924, 1 specimen, 25.iv.1924, 4 specimens, vi.1924, 1 specimen, 20.vi.1924, 1 specimen, 28.vi.1924, 1 specimen, 21.iv.1925, 1 specimen, 28.xi.1924, 2 specimens, vii.1925 (Wilder); Lalomanu : 1 specimen, xi.1924; Afiamalu : 1 specimen, 11.vii.1925 (Wilder).

Savaii :—1,000 ft., 1 specimen, 21.xi.1924; Tuasivi : 1 specimen, 9.ii.1924; Safune : 1 specimen, 4.v.1924 (Bryan); Lower Forest, 1,000–2,000 ft., 2 specimens, 5.v.1924 (Bryan).

Tutuila :—Pago Pago : 0–300 ft., 4 specimens, iv.1918 (Kellers); 760–900 ft., 2 specimens, iv.1918 (Kellers); 4 specimens, 20.ix.1923 (Swezey and Wilder).

Manua Is. :—Tau : 2 specimens, "grass," 27.ix.1923 (Swezey).

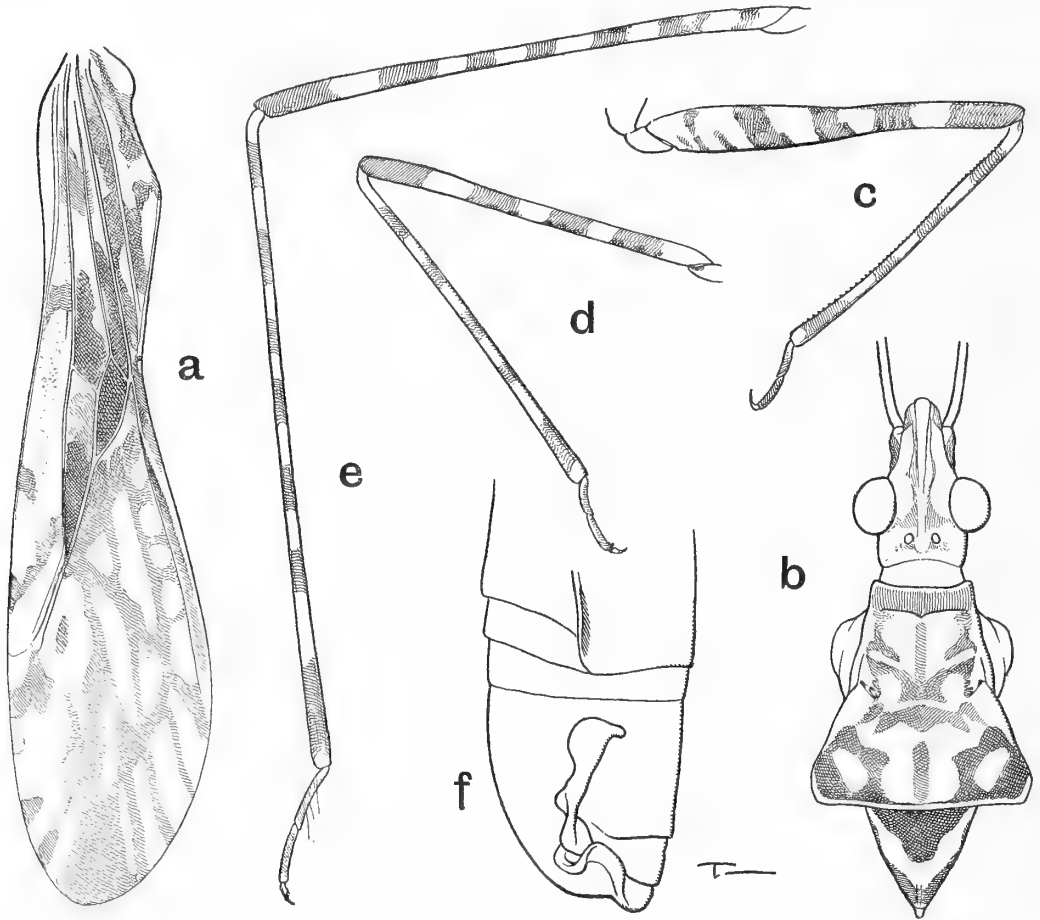
The Samoan specimens agree very well with the type of the Hawaiian *R. innotatus* B. White, which is apparently teneral. Reuter has identified this species with the almost cosmopolitan *R. capsiformis* Germar. With this I am not entirely in agreement, for, although as pointed out by Reuter this species is very variable, it seems more than probable that several subspecies, at least, are involved. Apart from the question of pterygo-dimorphism, the Pacific Island forms differ markedly from the typical Mediterranean and South African form in the much smaller size of the membrane. The hind femur and the second antennal segment in the Samoan specimens are distinctly longer than in Hawaiian specimens, although the shape of the male parameres is the same.

In the Pacific region this species occurs in Hawaii, Fiji, Tonga, Savage Is. (Niue), Tahiti and Raiatea.

59. *Reduviolus annulipes*, sp. n. (Text-fig. 28).

*Colour*.—♂ and ♀. Head greyish pubescent, with a broad dark brown stripe down each side in front of and behind the eye and including buccula and antenni-

ferous tubercle; a non-pubescent quadrangular spot above each ocellus, basal half of clypeus, and eyes brown; rostrum fulvous yellow the second segment shading to brown at base, the first shining brown; labrum and apical half of clypeus, fulvous; first antennal segment brown, with a median annulation



TEXT-FIG. 28.—*Reduviolus annulipes*, sp. n.: *a*, hemielytron; *b*, dorsal view of head, pronotum and scutellum; *c*, *d*, and *e*, anterior intermediate and posterior legs, showing colour pattern; *f*, lateral view of male pygophor, showing left paramere.

yellow and a broad apical annulation fulvous orange; second segment fulvous with base and a subapical annulation fuscous, apex pale fulvous; third and fourth segments greyish pubescent basal half of third fulvous, its extreme base pallid. Anterior lobe of pronotum brown with a greyish pubescent pattern, the apical margin of collar and lateral carinae yellow; posterior lobe sordid

yellow, with a definite fuscous pattern consisting of three irregular longitudinal stripes and a spot over each humeral angle ; lateral margin and posterior carinate margin yellow. Propleuron sordid yellow more or less covered with a broad longitudinal brown stripe extending from anterior margin of collar, over base of acetabula to posterior margin, the posterior lateral angle yellow. Scutellum fuscous with a yellow V-shaped elevation on apical two-thirds. Mesopleuron fuscous with an irregular whitish pubescent area ; acetabula pallid. Meta-pleuron pale yellow internally, dark fuscous externally. Hemielytra fulvous yellow with variable and irregular fuscous markings and the discal and apical cell of corium largely fuscous, corium sometimes with a distinct subapical fuscous band ; veins, especially apically, whitish-yellow ; apical angle of corium beyond transverse fuscous band pale yellow ; membrane smoky, the veins infusate. Coxae and trochanters yellow ; anterior femur sordid yellow with an apical and a broad irregular subapical fuscous annulation, its sides each with a row of oblique convexly elevated shining brown spots ; anterior tibia yellow with apex, two median and one sub-basal fuscous annulations, minute spines black ; middle femora pale yellow with an apical and two median annulations and one or two spots towards base, fuscous ; middle tibia with an apical, two median and a sub-basal annulation fuscous. Hind femora and tibiae pale yellow, sometimes shaded with fulvous, each with an apical, five median and a sub-basal annulation, fuscous ; all tarsi fuscous with apices of second segments pale. Venter fulvous yellow, with a dark shining brown stripe down each side within the connexivum and expanding apically to form large spots on the seventh and ninth ventrites ; basal half of ovipositor brown, apical half yellow ; apical lateral margin of ninth ventrite whitish-yellow ; connexivum brown, tinted with bright red, each segment with a small elongate yellow spot in middle around spiracle ; dorsum brown, the basal tergites yellow.

*Structure.*—♀. Narrow elongate, more than five times as long as wide across base of pronotum. Head exserted ; beyond eyes, elongate with sides more or less parallel gradually converging anteriorly, nearly twice as long as postocular region (15 : 8) ; eye equal in width to frons between eyes, and about four-fifths as long as ante-ocular region of head (12 : 15) ; rostrum extending to mesosternum ; relative lengths of segments 9 : 33 : 32 : 13 ; first antennal segment slender, distinctly longer than head (48 : 35) ; relative lengths of antennal segments (♀) 48 : 70 : 70 : 45. Pronotum more than twice as wide at base as at pronotal collar (46 : 19) ; the anterior lobe about two and a half times (18 : 7),

the posterior lobe three times (21) as long as anterior collar. Scutellum equilateral; disc strongly impressed and surrounded apically by a V-shaped ridge. Hemielytra extending well beyond apex of abdomen, membrane with three basal cells containing auxillary veinlets, wing cell with a distinct hamus arising from connecting vein close to decurrent vein. Front femora moderately incrassate, unarmed, beneath densely pilose, distinctly longer than head and pronotum together, and slightly longer than tibiae. Middle and hind legs long and slender, the hind femur extending slightly beyond apex of abdomen. Relative lengths of femur, tibia and tarsus: front leg 85 : 75 : 14; middle leg 85 : 83 : 14; hind leg 120 : 150 : 17. Venter strongly delimited from connexivum by a deep furrow; sternites without lateral glabrous spots; left paramere in male similar in general shape to that of *R. capsiformis* but much longer and narrower and comparatively much smaller.

Total length: ♂ 8.5, ♀ 9.5 mm.

Upolu:—Malololelei: 2 adult specimens and 1 larva, 24.ii.1924, 2 specimens, 25.ii.1924, 3 specimens, 10.iii.1924, 4 specimens, vi.1924, 2 specimens, 17.vi.1924, 2 specimens, 20.vi.1924, 1 specimen, 28.vi.1924, 1 specimen, 14–30.vi.1924, 3 specimens (including type), 28.xi.1924, 1 specimen, 1.i.1925, 4 specimens, 21.iv.1925.

Savaii:—Salailua: 1 specimen, 19.v.1924 (Bryan).

Very variable in colouring but readily distinguished from all other species of *Reduviolus* by the multiannulate femora and tibiae and the narrow elongate form. Apparently most closely related to the subgenus *Stenonabis* Reuter, but differing in origin of wing cell hamus and in the longer pronotum with non-punctate posterior lobe.

### Family CIMICIDAE.

#### 60. *Cimex hemipterus* Fabr.

*Cimex hemipterus* Fabricius, *Syst. Rhyng.*, p. 113, 1803.

*Acanthia rotundatus* Signoret, *Ann. Soc. Ent. France*, (2), X, p. 540, pl. 16 fig. 2, 1852.

*Acanthia macrocephala* Fieber, *Europ. Hemipt.*, p. 135, 1861.

*Klinophilos horrifera* Kirkaldy, *Bull. Liverpool Mus.*, II, p. 45, 1899.

*Cimex hemipterus* Horváth, *IX<sup>e</sup> Congres International Zoologie, Monaco*, p. 297, 1914.

*Clinocoris hemipterus* Rothschild, *Bull. Ent. Research*, IV, p. 345, 1914.

*Cimex rotundatus* Buxton and Hopkins, *Researches in Polynesia and Melanesia*, I–IV, p. 54, 1927.

Upolu:—Apia: 2 ♀♀, 1 ♂ and 3 larvae, “in Chinese quarters,” x.1925.

Distributed throughout the Ethiopian, Mascarene, and Oriental Regions, in

which vast area, according to Horváth, it is an autochthonous species. In New Guinea it is found only in the dwellings of Europeans, Chinese and Malays, and has probably been introduced within historic times. In the Antilles and Brazil *C. hemipterus* occurs only locally, and Horváth has suggested that it was introduced into America during the negro slave-trade period.

Recorded from New Hebrides by Buxton and Hopkins, and apparently replaced in Hawaii by *C. lectularius* L.

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# INSECTS OF SAMOA

## AND OTHER SAMOAN TERRESTRIAL ARTHROPODA

### LIST OF PARTS AND SYSTEM OF PUBLICATION:—

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