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**Aquatic Coleoptera of Oceania
(Dytiscidae, Gyrinidae, and Palpicornia)**

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INTRODUCTION

A. d'Orchymont's check list of the Palpicornia of Oceania [B. P. Bishop Mus., Occ. Papers 13(13): 147-160, 1937] comprised 23 species of which seven are endemic, included in 14 genera of which one is endemic. They were obtained from eight island groups.

No similar work has been done on the Dytiscidae and Gyrinidae. Since I have recently received several small collections covering the three families (including the extremely interesting Mangarevan Expedition material, for which I am indebted to E. C. Zimmerman of Bernice P. Bishop Museum) which have produced four new species and many new records, I advance this paper as a contribution to the knowledge of this interesting region.

The 18 island groups from which I now have records include four Fijian island groups [Fiji, Tonga, Uvea (Wallis), and Samoa] and 14 truly Polynesian. (See table 5, p. 119.)

d'Orchymont's "Oceania" includes Fiji and Samoa, but there is little doubt that the Fiji Islands are true continental islands. Holdhaus (Soc. Biogéogr., Mém. 4: 201-218, 1934) gives an interesting discussion of the relationships between the island groups, and Berland [Insects of Samoa 8(2): 41, 1929] has shown that for the Araneida, Fiji, Tonga, and Samoa form a well-defined faunistic group belonging to Melanesia rather than to Polynesia and suggests that they are all continental islands. The geological evidence clearly points to the Fiji and Tonga Islands being of continental origin, but the evidence with regard to Samoa is not conclusive.

Holdhaus includes as a Polynesian group the Juan Fernandez

Islands, because of their geological structure, as true oceanic islands. But their fauna, very scanty in the aquatic Coleoptera, is distinctly neotropical and they are only included in the lists because of their geological status.

Tables 2, 3, and 4 (pp. 106, 108, 109) enumerate 60 species and subspecies, of which 24 are Dytiscidae (12 endemic: Fijian island endemicity 42 percent, Polynesian endemicity 56 percent); four are Gyrinidae from Fiji only (two species and one subspecies endemic), and 32 are Palpicornia (nine endemic: Fijian endemicity 28 percent, Polynesian endemicity 20 percent). Only one palpicorn genus *Parafletium*, new genus, is endemic to Fiji.

Of the 60 species present, four species are common to Fiji, Polynesia, and Melanesia; one species is present in Melanesia and Polynesia but is not found in Fiji; five species occur in Fiji and Polynesia but are not known from Melanesia; 18 species occur in Polynesia but not in Fiji; 29 species occur in Fiji but not in Polynesia; 21 species occur in Fiji but not in Melanesia; 16 species are common to Fiji and Melanesia.

It is clear from the foregoing that the aquatic Coleoptera agree with Berland's results on the Araneida and that the fauna of Fiji is Melanesian rather than Polynesian and forms a well-defined faunistic group of the Melanesian subregion of Australasia.

Table 1 compares the number of species present and the percentage endemicity of the Polynesian area with the various faunistic regions of Melanesia and with New Zealand. Omitting the New Hebrides and Solomon Islands in which the fauna is undoubtedly very much richer than the figures suggest, the number of species declines as the distance from the Australian continent increases. It will be seen that the percentage endemicities of the Dytiscidae and Gyrinidae increase enormously from Queensland to Polynesia and Fiji, but that the percentage endemicity of the Palpicornia is about the same in these regions. Even consideration of the purely aquatic forms of this family, omitting the terrestrial forms, fails to alter the balance appreciably, leaving Polynesia at 20 percent endemicity and raising Fiji to only 33 percent. It is difficult to appreciate why the Palpicornia should be so dissimilar to the other two families in regard to endemicity. One would assume that the three families, living as they do in the same environment, would show close similarity in their reactions to that environment in so far as the production of distinct species is concerned.

Table 1

FAUNISTIC AREAS	POLYNESIA	FUJI	NEW HEBRIDES	NEW CALEDONIA	SOLOMONS	PAPUA ¹	NEW ZEALAND	QUEENSLAND
Total species and subspecies	30	44	23	57	13	129	82	125
Total endemics	9	19	4	28	4	76	71	32
Percentage endemicity Dytiscidae	56	50	22	52	17	48	75	26
Percentage endemicity Gyrinidae	0	75	0	60	75	86	0	12
Percentage endemicity Palpicornia	20	31	17	44	0	57	92	28
Total percentage endemicity	30	43	17	49	31	59	86	26

¹ Provisional only. The identification of Miss Cheesman's collections is not yet completed.

In any immigration due to human agencies, it is to be expected that the small palpicorns are more easily transported than the Dytiscidae, since they are not strong swimmers and live much more among water plants. This may perhaps be the explanation of the dissimilarities shown here, although no recent aquatic palpicorn immigrant is on record from the Hawaiian Islands, whereas a recent immigrant dytiscid, *Hydrovatus confertus* Sharp, has now established itself. It is clear that further close research of the Fijian and Polynesian aquatic insects is desirable and might provide material to bring the Palpicornia more into line with the Dytiscidae. It is difficult to believe that, of the Polynesian groups, only Tahiti (one species), Easter Island (one species), and the Hawaiian Islands (three species) possess a dytiscid fauna.

For the purpose of comparing the distribution of the species of Polynesia and Fiji, I have included in tables 2, 3, and 4 (pp. 106-111) columns for Indo-Malaya, Queensland (on political boundaries, the species from Arnhemland being insufficiently known for an accurate delimiting of the boundary of the Melanesian subregion in Australia); "Papuasia" (which comprises, for my purposes, the Moluccas, the Kei and Aru Islands, New Guinea, Bismark Archipelago, Solomon Islands, Banks Islands, and New Hebrides) (Balfour-Browne, Ann. Mag. Nat. Hist. XI, 3: 459, 1939); New Caledonia, including the Loyalty Islands; Juan Fernandez Islands; North and South America. A similar check list is in course of preparation for the Melanesian subregion and is intended to be complementary to the present Oceanic list.

Table 2.—Oceanic species of Dytiscidae^{1,2}

SPECIES	INDO-MALAYA	QUEENSLAND	NEW CALEDONIA	"PAPUASIA"	FIJI	TONGA	WALLIS	SAMOA	CAROLINES	MARIANAS	MARSHALLS	GILBERTS	TOKELAU	FANNING	RARONGA	SOCIETY ISLANDS				AUSTRALS	RAPA	MARQUESAS	MANGAREVA	EASTER	HAWAIIAN IS.	JUAN FERNANDEZ		AMERICA					
																BORABORA	RAIATEA	MOOREA	TAHITI							MASATIERRA	MASAFUERA						
Noterinae																																	
1. <i>Notomicrus tenellus</i> (Clark)	×	×	×	×				×																									
Hydroporinae																																	
2. <i>Hydrovatus confertus</i> Sharp ³	×																								×								
3. <i>Hyphydrus lyratus</i> (Swartz)	×	×		×	+																											•	
4. <i>Bidessus curvuplicatus</i> Zimmermann								*																									
5. <i>Bidessus fairmairei</i> van den Branden					*																												
6. <i>Bidessus skottsbergi</i> Zimmermann																								*									
7. <i>Macroporus tristis</i> Zimmermann					*																												
Colymbetinae																																	
8. <i>Copelatus badeni</i> Sharp					*																												
9. <i>Copelatus fidschiensis</i> Zimmermann					*																												
10. <i>Copelatus marginatus</i> Sharp		×			×	×		×																									
11. <i>Copelatus parvulus</i> (Boisduval)																									*								
12. <i>Copelatus strigosulus</i> (Fairmaire)					*																												

Table 2.—Oceanic species of Dytiscidae^{1,2}—Continued

SPECIES	INDO-MALAYA	QUEENSLAND	NEW CALEDONIA	"PAPUASIA"	FIJI	TONGA	WALLIS	SAMOA	CAROLINES	MARIANAS	MARSHALLS	GILBERTS	TOKELAU	FANNING	RAROTONGA	SOCIETY ISLANDS				AUSTRALS	RAPA	MARQUESAS	MANGAREVA	EASTER	HAWAIIAN IS.	JUAN FERNANDEZ		AMERICA	
																BORABORA	RAIATEA	MOOREA	TAHITI							MASATIERRA	MASAFUERA		
13. <i>Anisomera bistriata</i> Brullé ⁴																										×		×	
14. <i>Lancetes bäckströmi</i> Zimmermann																												*	
15. <i>Rantus annectens</i> (Sharp)				×	×	×		×																					
16. <i>Rantus debilis</i> (Sharp)																													
17. <i>Rantus liopterooides</i> (Zimmermann)								*																					
18. <i>Rantus pacificus</i> (Boisduval)																									*				
19. <i>Rantus signatus</i> (Fabricius)																										+			×
Dytiscinae																													
20. <i>Eretes sticticus</i> (Linnaeus)	×									+																			
21. <i>Hydaticus bihamatus</i> subsp. <i>goryi</i> Aubé		×	×	×	×	×																							
22. <i>Hydaticus consanguineus</i> Aubé		×	×	×	×	×		×																					
23. <i>Hydaticus fijiensis</i> Régimbart				×	×	×																							
24. <i>Hydaticus rhanaticoides</i> Régimbart				×				+																					
25. <i>Cybister tripunctatus hamatus</i> (Montrouzier)	×	×	×	×	×	×	×	×	+	+																			

¹ In tables 2-4, species are listed systematically for genera, alphabetically for species. Endemic genera and species are indicated by *, a new record by +, an existing record by ×.

² Four species from Fiji added, vide Balfour-Browne, Roy. Ent. Soc. London, Proc. B, 13, 1944, while this paper was in press.

³ First recorded from Hawaiian Islands, Haw. Ent. Soc., Proc. 5: 78, 1922.

⁴ vide Zimmermann, Nat. Hist. Juan Fernandez, Zool. 3: 300, 1924.

Table 4.—Oceanic species of Palpicornia

SPECIES	INDO-MALAYA	QUEENSLAND	NEW CALEDONIA	"PAPUASIA"	FIJI	TONGA	WALLIS	SAMOA	CAROLINES	MARIANAS	MARSHALLS	GILBERTS	TOKELAU	FANNING	RAROTONGA	SOCIETY ISLANDS				AUSTRALS	RAPA	MARQUESAS	MANGAREVA	EASTER	HAWAIIAN IS.	JUAN FERNANDEZ		AMERICA						
																BORABORA	RAIATEA	MOOREA	TAHITI							MASATIERRA	MASAFUERA							
Hydraenidae																																		
Hydraeniinae																																		
1. Ochthebius (Asiobates) eremita Knisch					*																													
2. Hydraena (s.str.) evansi Balfour-Browne					*																													
3. Hydraena fijensis Balfour-Browne					*																													
Spercheinae																																		
4. Spercheus platycephalus MacLeay		X	X		+																													
Hydrophilidae (s.str.)														X ¹																				
Sphaeridiinae																																		
5. Coelostoma fabricii (Montrouzier)		X	X	X																						X								
6. ? sp. Kolbe ²											X																							
7. ? sp. Kolbe ²											X																							
8. Dactylosternum abdominale (Fabricius)	X	X	X	X	+			X				X							+	+	+				+	+	X						X	
9. Dactylosternum subquadratum (Fairmaire)	X			+	X			X												+	+				+	+	X							
10. Dactylosternum superficiale Knisch ³									*																									

¹ One unnamed Hydrophilid vide Herms, Pan-Pac. Ent., 2: 49-54, 1925.² Schnee, Zool. Jahrb. Syst., XX, 4, 1904 gives two *Cyclonotum* spp. (Kolbe det.). I suspect *D. abdominale* and *D. subquadratum*.³ Add *D. leverii* Balfour-Browne, Ann. Mag. Nat. Hist. XI, 11: 857, fig. 2, 1942, described while this paper was in press.

Table 4.—Oceanic species of Palpicornia—Continued

SPECIES	INDO-MALAYA	QUEENSLAND	NEW CALEDONIA	"PAPUASIA"	FIJI	TONGA	WALLIS	SAMOA	CAROLINES	MARIANAS	MARSHALLS	GILBERTS	TOKELAU	FANNING	RAROTONGA	SOCIETY ISLANDS				AUSTRALS	RAPA	MARQUESAS	MANGAREYA	EASTER	HAWAIIAN IS.	JUAN FERNAN-DEZ		AMERICA							
																BORABORA	RAIATEA	MOOREA	TAHITI							MASATIERRA	MASAFUERA								
11. *Parafletium coelostomoides Balfour-Browne					*																														
12. Cercyon quisquilius (Linnaeus)																									X								X		
13. Omicrus brevipes Sharp																									X										
14. Noteropagus obscurus d'Orchymont	X				+																														
15. Noteropagus politus d'Orchymont	X							X																											
16. Cryptopleurum evansi Balfour-Browne					+																+														
17. Cryptopleurum minutum (Fabricius)																									X									X	
Hydrophilinae																																			
18. Paracymus pygmaeus (MacLeay)		X	X		+																														
19. Limnoxenus nesiticus (Sharp)																										*									
20. Limnoxenus semicylindricus (Eschscholtz)																										*									
21. Helochares (Hydrobaticus) simulator Knisch					X								X																						
22. Helochares (s.str.) pallens (MacLeay)*	X	X		X																															

Table 4.—Oceanic species of Palpicornia—Continued

SPECIES	INDO-MALAYA	QUEENSLAND	NEW CALEDONIA	"PAPUASIA"	FIJI	TONGA	WALLIS	SAMOA	CAROLINES	MARIANAS	MARSHALLS	GILBERTS	TOKELAU	FANNING	RAROTONGA	SOCIETY ISLANDS				AUSTRALS	RAPA	MARQUESAS	MANGAREVA	EASTER	HAWAIIAN IS.	JUAN FERNANDEZ		AMERICA						
																BORABORA	RAIATEA	MOOREA	TAHITI							MASATIERRA	MASAFUERA							
23. <i>Helochares</i> (<i>Chasmogenus</i>) <i>nitescens</i> (Fauvel)		×	×		+																													
24. <i>Enochrus</i> (<i>Lumetus</i>) <i>bryani</i> d'Orchymont								*																										
25. <i>Enochrus</i> (<i>Lumetus</i>) <i>esuriens</i> (Walker)	+				+			×									+			+														
26. <i>Enochrus</i> (<i>Lumetus</i>) <i>parvulus</i> (Kuwert)	×	×						×																										
27. <i>Enochrus</i> (<i>Lumetus</i>) <i>pygmaeus</i> (Fabricius)																									×								×	
28. <i>Enochrus</i> (<i>Lumetus</i>) <i>tritus</i> (Broun)								×								+		+		+	+													
29. <i>Enochrus</i> (<i>Lumetus</i>) sp. ⁴																																		
30. <i>Enochrus</i> (<i>Lumetus</i>) sp. ⁴																	+																	
31. <i>Sternolophus</i> (<i>Neosternolophus</i>) <i>artensis</i> (Montrouzier)			×		×																													
32. <i>Hydrophilus</i> (s.str.) <i>gayndahensis</i> MacLeay	×				×																													

⁴ "Nord de l'Océanie" teste Régimbart.

⁵ *Philhydrus melanocephalus* Fairmaire, non Fabricius.

⁶ See p. 131.

LIST OF SPECIES

FAMILY DYTISCIDAE

Notomicrus tenellus (Clark).

- Hydroporus tenellus* Clark, Ent. Soc. London, Trans. III, 1: 427, 1863.
Hydroporus politus MacLeay, Ent. Soc. N. S. Wales, Trans. 2: 124, 1871.
Notomicrus laevigatus Sharp, Roy. Dublin Soc., Trans. II, 2: 260, 1882.
Notomicrus suturalis Sharp, Roy. Dublin Soc., Trans. II, 2: 261, 1882.
Notomicrus punctulatus Fauvel, Rev. d'Ent. 22: 245, 1903.
Notomicrus tenellus A. Zimmermann, Insects of Samoa 4(1): 16, 1927.
 Java (MacLeay). Queensland (MacLeay, Sharp). New Guinea (Régim-
 bart). New Caledonia (Fauvel). Samoa: Upolu (Zimmermann).¹

- Laccophilus seminger** Fauvel, Rev. d'Ent. 3: 337, 1883. Balfour-Browne, Ann. Mag. Nat. Hist. XI, 3: 99, figs. 1a, 2a, 1939; Roy. Ent. Soc. London, Proc. B, 13: 97, 1944.
 New Caledonia. Australia: Arnhemland (Balfour-Browne). Fiji: Viti Levu.

- Hydrovatus confertus** Sharp, Roy. Dublin Soc., Trans. II, 2: 329, 1882.
 Siam. India. Indo-China. Burma. Malaya. Sumatra. Java. Celebes.
 Hawaiian Islands: Hawaii, Oahu (Fullaway).

- Hyphidrus lyratus** Swartz, in Schoenherr Syn. Ins. 2: 29, pl. 4, fig. 1, 1808.
Hyphidrus nigronotatus Clark, Ent. Soc. London, Trans. III, 1: 421, 1863.
Hyphidrus bisulcatus Clark, Ent. Soc. London, Trans. III, 1: 422, 1863.
Hydroporus fossulipennis MacLeay, Ent. Soc. N. S. Wales, Trans. 2: 122, 1871.
 Formosa. South China. Andaman Islands. Straits Settlements. Sumatra.
 Java. Sumbawa. Timor. Celebes. New Guinea. Australia. Fiji: Vanua Levu, Viti Levu, Taveuni.

- Bidessus curvuplicatus** Zimmermann, Insects of Samoa 4(1): 16, 1927.
 Samoa: Upolu.

- Bidessus fijiensis** Balfour-Browne, Roy. Ent. Soc. London, Proc. B, 13: 99, 1944.
 Fiji: Viti Levu.

- Bidessus fairmairei** van den Branden, Soc. ent. Belg., Ann. 4: 53, 1885.
Hydroporus dorsoplagiatus Fairmaire, Soc. ent. France, Ann. VI, 1: 249, 1881 (non 1880).
 Fiji.

- Bidessus skottsbergi** Zimmermann, Nat. Hist. Juan Fernandez, Zool. 3: 303, 1924.
 Easter Island.

- Bidessus leveri** Balfour-Browne, Roy. Ent. Soc. London, Proc. B, 13: 98, 1944.
 Fiji: Viti Levu.

- Macroporus tristis** Zimmermann, Ann. Mag. Nat. Hist. IX, 17: 167, 1926.
 Fiji: Viti Levu.

¹ Names in parentheses are those of collectors.

- Copelatus badeni** Sharp, Roy. Dublin Soc., Trans. II, 2: 592, 1882.
Fiji: Taveuni, Vanua Levu.
- Copelatus fidschiensis** Zimmermann, Wien. Ent. Zeitung 44: 173, 1928.
Fiji: Viti Levu.
- Copelatus marginatus** Sharp, Roy. Dublin Soc., Trans. II, 2: 579, 1882.
New Guinea: Dorey (Balfour-Browne). Queensland. Tonga: Tofua
Volcano; Nukualofa (Zimmermann). Samoa: Upolu (Zimmermann).
Fiji: Viti Levu, Vanua Levu.
- Copelatus parvulus** (Boisduval).
Colymbetes parvulus Boisduval, Voy. Astrolabe 50, 1835.
Copelatus mauiensis Blackburn, Roy. Dublin Soc., Trans. II, 3: 120, 1884.
Copelatus (Liopterus) parvulus Zimmermann, Coleopt. Catalogus 4(71):
145, 1920.
Hawaiian Islands: Kauai, Oahu, Maui, Molokai, Lanai (F. X. Williams).
- Copelatus strigosulus** (Fairmaire).
Hydroporus strigosulus Fairmaire, Petites Nouv. Ent. 4: 279, 1878.
Copelatus strigosulus, Balfour-Browne, Ent. Soc. London, Trans. 88, 2: 70,
1939.
Fiji: Viti Levu.
- Anisomera bistriata** Brullé, Hist. Nat. Ins. V, 2: 205, pl. 8, fig. 3, 1835.
Chile (Brullé). Juan Fernandez: Masatierra (Zimmermann).
- Lancetes bäckströmi** Zimmermann, Nat. Hist. Juan Fernandez, Zool. 3: 302,
1924.
Juan Fernandez: Masafuera.
- Rantus annectens** (Sharp).
Rhantus annectens Sharp, Roy. Dublin Soc., Trans. II, 2: 608, 1882.
Rhantus pulverosus Zimmermann, Insects of Samoa 4(1): 18, 1927.
Samoa (Sharp): Savai, Safune (Zimmermann). Tonga: Nukualofa
(Zimmermann). Fiji: Taveuni. New Hebrides: Malekula, Erromanga
(Balfour-Browne). Banks Islands: Gaua.
- Rantus debilis** (Sharp).
Rhantus debilis Sharp, Roy. Dublin Soc., Trans. II, 2: 608, 1882.
Society Islands: Tahiti.
- Rantus liopteroides** (Zimmermann).
Rhantus liopteroides Zimmermann, Insects of Samoa 4(1): 17, 1927.
Samoa: Upolu.
- Rantus pacificus** (Boisduval).
Colymbetes pacificus Boisduval, Voy. Astrolabe, 50, 1835.
Hawaiian Islands: Oahu, Molokai, Lanai, Maui, Hawaii.
- Rantus vitiensis** Balfour-Browne, Roy. Ent. Soc. London, Proc. B, 13: 99, 1944.
Fiji: Viti Levu.

Rantus signatus (Fabricius).

- Dytiscus signatus* Fabricius, Syst. Ent., 234, 1775.
Colymbetes irroratus Brullé, Voy. d'Orbigny 6: 49, 1836.
Colymbetes trilineatus Aubé, in Dejean Spec. Col. 6: 244, 1838.
Colymbetes suturalis Babington, Ent. Soc. London, Trans. 3: 7, 1841.
Colymbetes darwinii Babington, Ent. Soc. London, Trans. 3: 8, 1841.
Colymbetes fonticola Philippi, Stett. Ent. Zeitung 21: 247, 1860.
 Argentina. Chile. Uruguay. Brazil. Tierra del Fuego (Babington). Juan Fernandez: Masatierra.

Eretes sticticus (Linnaeus).

- For synonymy see Zimmermann, Coleopterorum Catalogus 4(71): 216, 1920.
 Warmer regions of the world except Australia and New Zealand. Marianne [Marianas] Islands.

Hydaticus consanguineus Aubé, in Dejean Spec. Col. 6: 160, 1838.

- Colymbetes dorsalis* Montrouzier, Soc. ent. France, Ann. III, 8: 243, 1860.
Colymbetes adumbratus Clark, Jour. Ent. 2: 17, 1863.
Hydaticus fabricii Zimmermann, in coll. British Museum.
 Australia: Queensland, New South Wales. New Caledonia: (proper), Isle of Pines (Fauvel). New Hebrides: Espiritu Santo (Clark). New Guinea: Cyclops Mountains. Samoa: Upolu, Savaii (Zimmermann). Tonga: Nukualofa (Zimmermann). Fiji: Vanua Levu, Viti Levu, Taveuni.

Hydaticus rhanaticoides Régimbart, Mus. Genova, Ann. II, 11: 993, 1892.

- New Guinea: Rigo (Régimbart). New Britain: Bainingberge (Zimmermann). Samoa.

Hydaticus fijiensis Régimbart, Soc. ent. France, Ann. 68: 316, 1899.

- New Hebrides: Malekula, Erromanga, Tanna (Balfour-Browne). Fiji: Viti Levu. Tonga: Tongatabu.

Hydaticus bihamatus subspecies *goryi* Aubé.

- Hydaticus goryi* Aubé, in Dejean Spec. Col. 6: 175, 1838.
Hydaticus scriptus Blanchard, Voy. pôle Sud 4(Zool.): 46; Atlas 2, pl. 4, fig. 1, 1853.
Hydaticus banksi Crotch, in Harold Col. 9-10: 205, 1872.
Hydaticus bihamatus goryi J. Balfour-Browne, Ann. Mag. Nat. Hist. XI, 3: 112, 1939.
 Australia (Aubé). New Caledonia: (proper), Isle of Pines (Fauvel). Loyalty Islands: Lifu (Fauvel). New Guinea: Rigo (Régimbart). Tasmania. Torres Straits. Fiji: Vanua Levu.

Cybister tripunctatus hamatus (Montrouzier).

- Colymbetes hamatus* Montrouzier, Soc. agr. Lyon, Ann. 9: 9, 1857.
Cybister novae-caledoniae Montrouzier, Soc. ent. France, Ann. III, 8: 241, 1860.
Cybister artensis Montrouzier, Soc. ent. France, Ann. III, 8: 241, 1860.
Cybister tripunctatus Fauvel, Rev. d'Ent. 2: 345, 1883.
Dytiscus tripunctatus var. Sharp, Roy. Dublin Soc., Trans. II, 2: 729, 1882.
Cybister gayndahensis MacLeay, Ent. Soc. N. S. Wales, Trans. 2: 127, 1871.
Cybister tripunctatus var. *temnenki* Régimbart, Soc. ent. France, Ann. 68: 351, 1899.
Cybister tripunctatus temnenki, Gschwendtner, Ent. Blätt. 27: 102, 1931.
Cybister tripunctatus, Guignot, Miss. Sci. de l'Omo 4(Zool.): 64, 1938.

?*Cybister temnencki*, Guignot, Miss. Sci. de l'Omo 4(Zool.): 67, 1938.
 Uvea (Montrouzier). New Caledonia (Montrouzier). New Guinea (Gschwendtner). Aru Islands (Gschwendtner). Australia (Régimbart). Oceania (Guignot). Ceram. New Hebrides: Malekula, Espiritu Santo, Aneityum. Fiji: Viti Levu, Taveuni, Vanua Levu. Tonga: Tongatabu. Samoa: Upolu. Caroline Islands. Marianne [Marianas] Islands.

FAMILY GYRINIDAE

- Dineutus (Cyclous) australis** (Fabricius).
Gyrinus australis Fabricius, Ent. Syst., 235, 1775.
Gyrinus rufipes Fabricius, Syst. Eleuth. 1: 276, 1801.
Gyrinus dentipennis MacLeay, Annul. Jav., 133, 1825.
Gyrinus limbatus MacLeay, Annul. Jav., 133, 1825.
 ?*Dineutes dentatus* Suffrian, Stett. Ent. Zeitung 3: 256, 1842.
Dineutus leucopoda Montrouzier, Soc. ent. France, Ann. III, 8: 245, 1860.
Dineutes australis Aubé, in Dejean Spec. Col. 6: 785, 1838.
Dineutes janthinus Blanchard, Voy. Pôle Sud 4(Zool.): 50; Atlas, pl. 4, fig. 5, 1853.
Dineutus (Cyclous) australis Ochs, Ent. Blätt. 23: 34, 1926.
 Australia (Fabricius). Java (MacLeay). New Caledonia (Montrouzier). Sunda Islands (Aubé). Japan. Liu Kiu Islands. Formosa. South China. Philippine Islands. Buru. Bali. Lombok. Sumba. New Hebrides: Santo (Ochs), Erromanga. Fiji: Vanua Levu, Viti Levu, Niuafu (Ochs).
Dineutus (Cyclous) australis ultimus Ochs, Ent. Blätt. 23: 34, 1927.
 Fiji: Niuafu (Ochs).
Dineutus (Callistodineutus) fairmairei (Régimbart).
Dineutes fairmairei Régimbart, Soc. ent. France, Ann. VI, 2: 394, 1882.
Dineutus (Callistodineutus) fairmairei, Ochs, Soc. ent. France, Ann. VI, 2: 34, 1927.
 Fiji: Viti Levu.
Dineutus (Callistodineutus) simmondsi Ochs.
Dineutus simmondsi Ochs, Soc. ent. France, Ann. VI, 2: 32, 1927.
 Fiji: Wairuirui (Ochs).

PALPICORNIA

FAMILY HYDRAENIDAE

SUBFAMILY HYDRAENINAE

- Ochthebius (Asiobates) eremita** Knisch, Arch. Naturg. 88 A(5): 87, 1922.
 Fiji (Knisch).
Hydraena (s. str.) **evansi**, new species.
 Fiji: Taveuni.
Hydraena (s. str.) **fijiensis**, new species.
 Fiji: Viti Levu.

SUBFAMILY SPERCHEINAE

- Spercheus platycephalus** MacLeay, Annul. Jav., 35, 1825.
Spercheus mulsanti Perroud and Montrouzier, Soc. Linn. Lyon, Ann. 11: 81, 1864.
Spercheus priscus Sharp, Ent. Month. Mag. 11: 250, 1875.
 Java (MacLeay). New Caledonia (proper; Perroud and Montrouzier): Nou (Fauvel). Australia (Sharp). Celebes. Fiji: Viti Levu.

FAMILY HYDROPHILIDAE
SUBFAMILY SPHAERIDIINAE

Coelostoma fabricii (Montrouzier).

- Ochthebius fabricii* Montrouzier, Soc. ent. France, Ann. III, 8: 245, 1860.
Cyclonotum mastersi MacLeay, Ent. Soc. N. S. Wales, Trans. 2: 133, 1871.
Cyclonotum australe Blackburn, Linn. Soc. N. S. Wales, Proc. 3: 839, 1888.
Cyclonotum extraneum Sharp, Fauna Hawaiiensis 3: 579, 1908.
Coelostoma orbiculare Heller, Nova Guinea, Zool. 9: 616, 1914.
Coelostoma fabriciusi d'Orchymont, Nova Guinea, Zool. 15: 30, 1924.
Coelostoma femoratum d'Orchymont, Soc. ent. Belg., Ann. 65: 270, 1925.
 New Caledonia (Montrouzier). Australia (MacLeay). Tasmania. New Guinea: Merauke (Heller). Hawaiian Islands: Oahu (Sharp). New Hebrides: Malekula (Balfour-Browne).

Dactylosternum abdominale (Fabricius).

- Sphaeridium abdominale* Fabricius, Ent. Syst. 1: 79, 1792.
Coelostoma insulare Castelnau, Hist. Nat. Anim. Artic. 2: 59, 1840.
Cyclonotum nitidum Boheman, Ins. Caffr. 1: 602, 1851.
Dactylosternum rousseti Wollaston, Ins. Mad., 100, pl. 3, fig. 1, 1854.
Dactylosternum natalense Gemminger and Harold, Coleopt. Catalogus 2: 495, 1868.
Hydrobius semistriatus Schaufuss, Horae Soc. Ent. Ross. 21: 108, 1887.
Dactylosternum foveonitidum Kuwert, Verh. Nat. Ver. Brünn 28: 179, 1890.
Dactylosternum depressum Régimbart, Soc. ent. France, Ann. 72: 46, 1903.
 Warmer regions of the world except New Zealand. Gilbert Islands: Nauru (Froggatt). Samoa: Upolu, Tutuila (d'Orchymont). Hawaiian Islands (Sharp). Fiji: Vanua Levu, Viti Levu. Society Islands: Tahiti, Moorea, Raiatea. Marquesas: Hivaoa, Tahuata. Mangareva Islands: Mangareva.

Dactylosternum subquadratum (Fairmaire).

- Cyclonotum subquadratum* Fairmaire, Rev. Mag. Zool. 1: 412, 1849.
Dactylosternum seriatum titanicum Knisch, Arch. Naturg. 88 A (10): 151, 1922.
 Society Islands: Tahiti (Fairmaire), Moorea, Raiatea. Samoa: Upolu, Tutuila (Knisch, d'Orchymont). Hawaiian Islands: Hawaii, Oahu (Sharp). Fiji: Vanua Levu, Viti Levu. Rapa. Austral Islands: Tubuai. Mangareva Islands: Mangareva. Buru (d'Orchymont). Timor Laut. New Guinea: Huon Gulf.

Dactylosternum leveri Balfour-Browne, Ann. Mag. Nat. Hist. XI, 11: 857, fig. 2, 1942.

Fiji: Viti Levu.

Dactylosternum superficiale Knisch, Treubia 6: 199, 1925.

Caroline Islands: Ponape.

Parafletium coelostomoides, new genus, new species.

Fiji.

Cercyon quisquilius (Linnaeus).

- Scarabaeus quisquilius* Linnaeus, Fauna Succ., 138, 1761.
 See Knisch, Coleopt. Catalogus 14(79): 145, 1924, for synonymy.
 Holarctica. Hawaiian Islands. Australia (Blackburn).

- Omicrus brevipes** Sharp, Ent. Soc. London, Trans., 82, 1879.
Hawaiian Islands: Oahu. Society Islands: Tahiti. Austral Islands:
Tubuai.
- Noteropagus obscurus** d'Orchymont, Soc. ent. France, Ann. 88: 135, 1919.
Timor (d'Orchymont). Borneo: Martapura (d'Orchymont). Fiji: Ta-
veuni. Society Islands: Tahiti.
- Noteropagus politus** d'Orchymont, Soc. ent. France, Ann. 88: 134, 1919.
Mentawai Island (d'Orchymont). Engano Island (d'Orchymont). Java.
Samoa: Tutuila (d'Orchymont).
- Cryptopleurum evansi**, new species.
Fiji: Taveuni. Rapa.
- Cryptopleurum minutum** (Fabricius).
Sphaeridium minutum Fabricius, Ent. Syst., 68, 1775.
Dermestes sordidum Marsham, Ent. Brit. 1: 69, 1802.
Cryptopleurum vagans LeConte, Acad. Nat. Sci. Phil., Proc. 7: 375, 1855.
Holarctica. Hawaiian Islands: Hawaii.

SUBFAMILY HYDROPHILINAE

- Paracymus pygmaeus** (MacLeay).
Cyclonotum pygmaeus MacLeay, Ent. Soc. N. S. Wales, Trans. 2: 133, 1871.
Hydrobius nitidiusculus Broun, Man. New Zealand Coleopt. 1: 78, 1880.
Paracymus metallescens Fauvel, Rev. d'Ent., 2: 352, 1883.
Australia (MacLeay). New Zealand (Broun). New Caledonia (Fauvel).
Fiji: Viti Levu. Society Islands: Tahiti.
- Limnoxenus nesiticus** (Sharp).
Hydrobius nesiticus Sharp, Fauna Hawaiiensis 3: 578, 1908.
Hawaiian Islands: Oahu.
- Limnoxenus semicylindricus** (Eschscholtz).
Hydrophilus semicylindricus Eschscholtz, Entomographien 1: 42, 1822.
Hawaiian Islands: Oahu, Lanai.
- Helochaeres (Hydrobaticus) simulator** Knisch, Arch. Naturg. 88 A (5): 104,
1922.
Tokelau Islands: Atafu. Fiji: Vatu Leile [Lele?] (Knisch), Taveuni.
- Helochaeres (s. str.) pallens** (MacLeay).
Enhydrus pallens MacLeay, Annul. Jav., 35, 1825.
Helochaeres minutissimus Régimbart, Soc. ent. France, Ann. 72: 54, 335, 1903.
Helochaeres dispar Sharp, Res. Swed. Zool. Exp. Egypt White Nile 10: 7,
1903.
Enochrus (Lumetus) pallens Knisch, Coleopt. Catalogus 14(79): 211, 1924.
Warmer regions of Asia and Africa. "Nord de l'Océanie" (Régimbart).
New Hebrides: Malekula (Balfour-Browne).
- Helochaeres (Chasmogenus) nitescens** (Fauvel).
Philhydrus nitescens Fauvel, Rev. d'Ent. 2: 353, 354, 1883.
New Caledonia: (proper, Fauvel). Queensland. Fiji: Viti Levu.

Enochrus (Lumetus) bryani d'Orchymont, *Insects of Samoa* 4(1): 33, fig. 1, 1927.

Samoa: Savaii.

Enochrus (Lumetus) esuriens (Walker).

Philhydrus esuriens Walker, *Ann. Mag. Nat. Hist.* III, 2: 209, 1858.

Pylophilus nigriceps Motschulsky, *Etud. Ent.* 8: 46, 1859.

Philhydrus escuriens Sharp, *Ent. Soc. London, Trans.*, 350, 1890.

Enochrus (Lumetus) escuriens Knisch, *Arch. Naturg.* 88 A (10): 151, 1922.

Ceylon. Sumatra. Queensland (Knisch). Fiji: Viti Levu, Vanua Levu, Taveuni. Society Islands: Tahiti, Borabora.

Enochrus (Lumetus) parvulus (Kuwert).

Philhydrus (Agraphilydrus) parvulus Kuwert, *Verh. Nat. Ver. Brünn* 28: 56, 1890.

Enochrus (Methydrus) parvulus d'Orchymont, *Insects of Samoa* 4(1): 33, 1927.

Syria (Kuwert). Egypt. Tropical Africa. Madagascar. Seychelles (Scott). Aldabra. Coetivy Island. (?) India. (?) Queensland (Knisch). Samoa: Upolu (d'Orchymont).

Enochrus (Lumetus) pygmaeus (Fabricius).

Hydrophilus pygmaeus Fabricius, *Ent. Syst.* 1: 78, 1792.

Hydrophilus nebulosus Say, *Long's Exped.* 2: 277, 1824.

Nearctic. Hawaiian Islands: Hawaii.

Enochrus (Lumetus) tritus (Broun).

Philhydrus tritus Broun, *Man. New Zealand Coleopt.* 1: 78, 1880.

Philhydrus variolorum Broun, *Man. New Zealand Coleopt.* 1: 79, 1880.

New Zealand. Kermadec Islands: Sunday Island (Broun). Samoa: Upolu (d'Orchymont). Rarotonga. Rapa. Society Islands: Tahiti, Raiatea.

Sternolophus (Neosternolophus) artensis (Montrouzier).

Hydrobius artensis Montrouzier, *Soc. ent. France, Ann.* III, 8: 247, 1860.

Sternolophus artensis Fauvel, *Rev. d'Ent.* 2: 352, 1883.

New Caledonia: (proper, Fauvel), Art (Montrouzier), Isle of Pines (Fleutiaux). Fiji (Fauvel).

Hydrophilus (s. str.) gayndahensis MacLeay.

Hydrophilus gayndahensis MacLeay, *Ent. Soc. N. S. Wales, Trans.* 2: 129, 1871.

Hydrophilus sabelliferus Fairmaire, *Mus. Godeffroy Jour.* 14: 80, 1878.

Hydrus (s. str.) gayndahensis, d'Orchymont, *B. P. Bishop Mus., Occ. Papers* 13(13): 152, 1937.

Australia: Queensland (MacLeay). Fiji: Viti Levu, Vanua Levu.

Table 5.—Number of species recorded in each group

SPECIES	INDO-MALAYA		QUEENSLAND	NEW CALEDONIA	"PAPUASIA"	FIJI	TONGA	WALLIS	SAMOA	CAROLINES	MARIANAS	MARSHALLS	GILBERTS	TOKELAU	FANNING	RAROTONGA	SOCIETY ISLANDS				AUSTRALS	RAPA	MARQUESAS	MANGAREVA	EASTER	HAWAIIAN IS.	JUAN FERNANDEZ		AMERICA
																	BORABORA	RAIATEA	MOOREA	TAHITI						MASATIERRA	MASAFUERA		
Dytiscidae						16	6	1	9	1	2									1							2	1	
Gyrinidae						4																							
Palpicornia						16			7	1		2	1	1	1	1	2	3	2	8	2	3	1	2				9	
Grand total						36	6	1	16	2	2	2	1	1	1	1		16		8	2	3	1	2	1	12	2	1	

NOTES ON AND DESCRIPTIONS OF NEW SPECIES

FAMILY DYTISCIDAE

Notomicrus tenellus (Clark).

I treat *N. punctulatus* Fauvel as a synonym of this species. (See Ann. Mag. Nat. Hist. XI, 3: 97, 1939.)

Hyphydrus lyratus (Swartz).

A short series from Fiji in the British Museum is identified by Zimmermann as *H. xanthomelas* Régimbart. It certainly is not *xanthomelas*, which is known to me only from Luzon, Philippine Islands, and seems to be easily characterized by the largely black pronotum and more scattered elytral punctuation.

Bidessus fairmairei van den Branden.

Fairmaire unaccountably described two species, one Algerian (Soc. ent. France, Ann. V, 10: 247, 1880), the other Fijian (Soc. ent. France, Ann. VI, 1: 250, 1881), under the name *Hydroporus dorsoplagiatus*. Van den Branden correctly rejected the second use of the name and proposed a new name. Zimmermann [Coleopt. Catalogus 4(71): 51, 1920] restored Fairmaire's name for the Fijian species, apparently on the ground that the Algerian species is only a synonym of *Hydroporus (Graptodytes) jucundus* Perris. This is inadmissible, since the second use of the name constitutes a simple homonym. I therefore restore for the Fijian species the name proposed by van den Branden.

Copelatus strigosulus (Fairmaire).

This species is placed in the genus by Zimmermann [Coleopt. Catalogus 4(71): 143, 1920] as "gen. dub." I have recently come to the conclusion that the correct position is in *Copelatus* and that Fairmaire's description is taken from a female. I have two males and three females from Tamavua and Suva, Viti Levu, which were submitted to Zimmermann and returned undescribed as "*Copelatus* sp. nov." I prepared a description, but when I was preparing the lists for the present paper I realized that the description of *H. strigosulus* applies excellently to the females I had received. The species shows a very strong sexual dimorphism, and, since Fairmaire's description is misleading, I have presented [Ent. Soc. London, Trans. 88(2): 70, 1939] a full redescription of this species which is a member of Group III of

Sharp's classification, but is evidently related by form to *C. fidschiensis* Zimmermann of Group III and *C. badeni* Sharp of Group XIII.

Rantus annectens (Sharp).

Zimmermann erroneously determined the Samoan specimens as *R. pulverosus* (Stephens), and I have Fijian specimens labelled by him as *R. punctatus* (Fourcroy). The equal anterior tarsal claws of the male provide an easy and rapid means of separating the two species.

Rantus signatus (Fabricius).

A single male in the British Museum (J. J. Walker) is undoubtedly of this widespread neotropical species. All the known Dytiscidae from Juan Fernandez are thus South American in affinities.

Hydaticus rhanaticoides Régimbart.

This species was described from south New Guinea by Régimbart and a single specimen is recorded by Zimmermann [Arch. Naturg. 88 A (12): 227, 1919 (1917)] from Bainingberge, which is in the Gazelle Peninsula of New Britain (Neu-Pommern) of the Bismark Archipelago. Through the kindness of Dr. Sachtleben of the Deutsches Entomologisches Institut, Berlin-Dahlem, I have seen this specimen, and also two other specimens, a male and female, labelled "Samoa" on blue paper and "det. Zimmermann" on white paper. These labels are similar to those on other Samoan specimens mentioned in Zimmermann's paper on the Dytiscidae of Samoa [Insects of Samoa 4(1): 14-17, 1927], but this species is not mentioned in that list. This occurrence is of considerable interest and suggests that the species has been overlooked in the intervening groups.

Cybister tripunctatus hamatus (Montrouzier).

I am not prepared to accept the most recent work of Guignot [Miss. Sci. de l'Omo 4(Zool.): 64, (1938) 1936] in which he accords the various subspecies of *C. tripunctatus* (Olivier) full specific rank.

The only individual I have seen which I interpret as *C. tripunctatus temnenkii* Aubé (*verus*) is that used by Sharp (Roy. Dublin Soc., Trans. II, 2: 729, 1882). This specimen is noticeably narrow and measures 29.25×14.5 mm., and could not be described as "Breitovall", as the subspecies is described by Gschwendtner (Ent. Blätt 27: 102, 1931).

The form occurring in Fiji and the Australasian Islands is not the *C. tripunctatus* (Olivier) (*verus*) as found in Mauritius, the type

locality, but is, as described by Gschwendtner, more strongly narrowed in front and more dilated behind the middle. This form is the *C. artensis* Montrouzier, from New Caledonia, and I am of the opinion that this is the species which was earlier described by the same author as *Colymbetes hamatus* from Wallis de Uvea Island, not Woodlark Island as Zimmermann incorrectly states. It is very unlikely that the form from Wallis should differ from the ordinary Melanesian form, which is very constant in a series from the nearby Fiji Islands before me, and accordingly I propose that the Melanesian subspecies should be known as *Cybister tripunctatus hamatus* (Montrouzier).

C. temnenkii Aubé should be regarded as an aberration, and the name should be reserved for those individuals which are noticeably narrow in proportion to their length.

Guignot is wrong in assigning *C. asiaticus* Sharp as a simple aberration of *C. tripunctatus* (*verus*). The true *C. asiaticus*, according to the types, has nothing of the short broad form that is typical of *C. tripunctatus*, but is entirely of the form that is most commonly found in the Indo-Malayan subregion, which form appears to be the *C. tripunctatus temnenki* auctt. non Aubé, but which should be known as *C. tripunctatus asiaticus* Sharp.

I therefore propose the following arrangement of this very difficult species and its forms:

Cybister tripunctatus (Olivier). Malagasy subregion of Ethiopia.

subspecies **africanus** Castelnau. Ethiopian Region.

subspecies **asiaticus** Sharp. Oriental Region.

subspecies **hamatus** (Montrouzier). Australasian Region.

ab: **temnenkii** Aubé. Java.

These subspecies are unfortunately not sharply confined to their zoogeographical regions, but tend to overlap to a greater or lesser extent, thus presenting the greatest difficulty of determination.

PALPICORNIA

Hydraena (s. str.) **evansi**, new species.

H. oblonga, nitida; capite antice flavo-testaceo, postice piceo; prothorace leviter sexangulato, in medio transversim piceo, antice, postice lateribusque flavotestaceis, crebre regulariter tenuiter punctulato, lateribus antice sat profunde foveolatis, foveis duabus prescutellaribus indistincte instructis; elytris piceo-flavis, seriebus distinctis punctis rotundatis leviter instructis, palpis pedibusque flavis. Subta mento subtilissime sat remote punctulato, distincte reticulato, areolis rotundatis; metasterno utrinque pone medium areâ laevigatâ elongatâ instructo. Mas ignotus.

Fiji: Taveuni Island, Waiyevo, Oct. 22, 1924, holotype female (unique), 1.39×0.56 mm. (H. Sylvester Evans). In the British Museum.

This extremely interesting *Hydraena*, the first to be described from Fiji, is quite unlike any Australasian species known to me, but few species are represented in the British Museum collections from this zoogeographical region.

Hydraena* (s. str.) *fijiensis, new species (fig. 1, *a*, *b*).

H. oblonga, nitida; capite lato, rufo-testaceo, antice tenuiore, postice fortiore crebre punctato; prothorace sub-transverso, lateribus antice fere rectis, postice attenuatis, rufo-testaceo, crebre regulariter sat fortiter punctato, lateribus antice profunde foveolatis, foveis duabus prescutellaribus sat distincte instructis; elytris piceo-rufis, seriebus distinctis punctis rotundatis sat distinctis instructis, lateribus explanatis; palpis pedibusque rufo-flavis. Subta, mento opaco, sat remote punctulato; metasterno maris utrinque pone medium areâ elongatâ laevigatâ instructo, feminae haud munito; protibiis maris intus versus apicem spinâ breve munitis. Long.: mas, 1.28×0.59 mm.; femina, 1.39×0.59 mm.

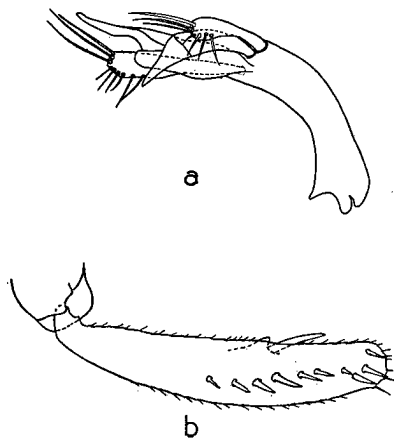


FIGURE 1.—*Hydraena fijiensis*: *a*, aedeagus, $\times 140$ circa; *b*, anterior tibia of male from above, $\times 140$ circa.

Fiji: Viti Levu, Mount Evans, Lautoka, Oct. 5, 1919 (W. Greenwood), holotype male, allotype female, 2 male, 3 female paratypes. In Imperial Institute of Entomology.

This species, by the form of the aedeagus and the male secondary sexual characters, comes very close to *H. boetcheri* d'Orchymont (Arch. Hydrobiol., Suppl. 9: 56, 1932) (recte *H. boettcheri*, speci-

mens described ex coll. Boettcher) from the Philippine Islands, but is larger, the pronotum not heart shaped; the elytral series are quite regular and the mentum is dull with a few remote punctules. The male has glabrous patches on the metasternum which are absent from the male of *H. boettcheri* (female not known), the female is without these patches and is therefore readily distinguished from *H. evansi*. The legs in *H. fijiensis* are short and stout as in *H. boettcheri*, providing an easy means of distinction from *H. evansi* in which they are longer and more slender. The labrum is not deeply emarginate in either sex.

***Spercheus platycephalus* MacLeay.**

This new record is based on a single female from Suva lacking one elytron but the specimen is quite comparable with the type of *S. priscus* Sharp.

***Dactylosternum abdominale* (Fabricius).**

The new records for this widespread species are as follows:

Fiji: Viti Levu, Natova, Feb. 1916, 1 specimen (R. Veitch); Society Islands: Tahiti; Hitaia [Hitiaa], Aug. 10, 1925, "in fungus", 1 specimen (L. E. Cheesman); Raiatea, north ridge Paaioia Valley, alt. 1,000 ft., Oct. 8, 1934, 1 specimen (D. Anderson and Y. Kondo); Moorea, Papetoai, alt. 10 ft., Sept. 28, 1934, 1 specimen; Tahiti, Arue, March 6, 1934, 28 specimens; Tiupi Bay, Papeari, April 28, 1934, beneath fallen coconuts, 1 specimen. Gambier [Mangareva] Islands: Mangareva, near convent, alt. 300 ft., May 24, 1934, in rotting fungus, 4 specimens (E. C. Zimmerman); Rikitea, June 1, 1934 (F. R. Fosberg). Marquesas: Tahuata, alt. 500 ft., under bark of tree, Jan. 12, 1925, 3 specimens; Hiva-Oa [Hivaoa], on freshly cut stumps, Dec. 28, 1924; 2 specimens (C. L. Collenette, St. George Expedition), 2 specimens (Cheesman).

***Dactylosternum subquadratum* (Fairmaire).**

New records for this species are:

New Guinea: Huon Gulf, Morobe District, May 22-June 19, 1937, 1 specimen (J. L. Froggatt). Society Islands: Raiatea, north ridge Paaioia Valley, alt. 1,000 ft., Oct. 8, 1934, 1 specimen (Anderson and Kondo); Moorea, Tepotu Valley, alt. 500 ft., Sept. 27, 1934, 1 specimen; Tahiti, Arue, alt. 400 ft., in rotten banana, March 6, 1934, 1 specimen; Tiupi Bay, Papeari, beneath coconut frond on tree, May 8,

1934, 1 specimen. Mangareva Islands: Mangareva, near convent, in rotting fungus, alt. 300 ft., May 24, 1934, 1 specimen; Rikitea, alt. 50 ft., June 26, 1934, 1 specimen. Rapa near Area, 0.25 mile east, July 1, 1934, 1 specimen; northeast ridge Mangaoa Peak, alt. 1,000-1,200 ft., under dead limb, July 6, 1934, 1 specimen; northwest slope Mount Taututu, alt. 700-800 ft., July 9, 1934, 1 specimen. Austral Islands: Tubuai, Mount Taita, alt. 1,000 ft., *Asplenium nidus*, Aug. 15, 1934, 7 specimens; southwest ridge Mount Taita, alt. 1,200 ft., in dead *Cyathea* fronds, Aug. 21-23, 1934, 13 specimens (E. C. Zimmerman).

Genus *Parafletium*, new genus

This new genus comes down to *Coelofletium* d'Orchymont in his key to the genera of the *Sphaeridiini* (Ann. Mag. Nat. Hist. X, 20: 134, 1937). It resembles that genus but it must be treated as generically distinct on the character of the glabrous metasternal tabella, the presence of a small patch of dense setigerous pubescence at the inner posterior edge of the mesofemora, and the form of the dilation of the meso- and meta-tibiae in which the inner edge is almost straight, the outer edge gently and progressively dilated to two thirds of its length, straight for the apical one third.

I append a revision of the relevant items of the dichotomic key given by d'Orchymont to admit of the inclusion of the new genus:

10. Metasternum simply rounded in the middle, without mesial anterior projection toward the mesosternum, with a small lozenge-shaped glabrous patch before the posterior coxae. Intermediate femora with dense hydrofugal pubescence beneath. Size small. Argentine Republic.....*Hydroglobus* (Knisch).
- 10'. Metasternum with mesial anterior projection toward the mesosternum; mesofemora without dense hydrofugal pubescence beneath.
- 10a. Metasternal glabrous patch narrow, nearly linear; mesofemora with numerous setigerous punctures but without any localized patch of dense setigerous pubescence; inner edge of meso- and meta-tibiae dilated, outer edge straight. Philippine Islands.....*Coelofletium* d'Orchymont.
- 10a'. Metasternal glabrous patch broad, the tabella roughly pentagonal; mesofemora with numerous setigerous punctures and with a small localized patch of dense setigerous pubescence at the base on the inner side; outer edge of meso- and meta-tibiae dilated, inner edge straight. Fiji.....*Parafletium*, new genus.

Genotype: *Parafletium coelostomoides*, new genus and new species.

Parafletium coelostomoides, new species (fig. 2).

Ovalis, sat convexus, haud explanatus, supra niger, nitidus; capite nigro, antice rufo (labro flavo), sat dense aequaliter punctulato; pronoto nigro, transverso, antice sinuato, antice et ad latera rufo-fusco, ad latera distincte, antice tenuissime marginato, ut in capite punctulato; elytris laevigatis, nigris, haud seriato-punctatis, perminutissime vix visibiliter reticulatis, antice sat dense, extus et postice magis remote punctulatis; antennis (clavâ inclusâ) palpisque flavis, pedibus piceo-testaceis; subtus piceo-rufo; mento leviter transverso, leviter antice emarginato, tenuiter reticulato, opaco, remote punctulato; prostethii longitudinaliter carinato, antice fortiter dentato; mesostethii parte elevatâ aream rhomboidalem in medio longitudinaliter tectiformam formante; metasterni parte elevatâ irregulariter sat remote punctulatâ; femoribus intermediis subtus regulariter parum remotis punctis setigeris sat fortis instructis, angulâ internâ posteriore areâ parvâ setosâ (setis auris); articulo basali tarsorum posteriorum secundo tertioque simul sumptis fere aequalibus; segmento basali abdominis longitudinaliter carinato. Long. 7.09 mm. (extenso); lat. 3.73 mm.

“Ins. Fiji” without further particulars. Holotype male (unique from the Sharp collection). In the British Museum.

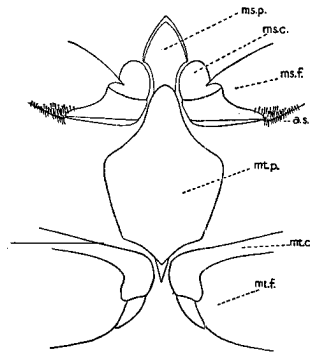


FIGURE 2.—*Parafletium coelostomoides*: ventral view of thorax (ms.p., mesosternal process; ms.c., mesocoxa; ms.f., mesofemur; a.s., setiferous area of mesofemur; mt.p., metasternal tabella; mt.c., metacoxa; mt.f., metafemur).

I think it is very probable that it is this genus and species that is listed by d'Orchymont as “new endemic genus near *Dactylosternum*.” The species resembles a *Coelostoma* but may be immediately recognized by the absence of a sutural stria and the characters of the ventral surface. The correct position of the new genus appears to be between *Coelofletium* and *Lachnodacnum*.

Omicrus brevipes Sharp.

Society Islands: Tahiti, Fautua [Fautaua] Valley, rotten stalk of dead banana, March 7, 1934, 1 specimen; Tiupi Bay, Papeari, beneath fallen coconuts, April 23, 1934, 2 specimens; Arue, rotten "papaia" stalk, March 6, 1934, 1 specimen. Austral Islands: Tubuai, Mount Taita, alt. 1,000 ft., *Asplenium nidus*, Aug. 15, 1934, 1 specimen (E. C. Zimmerman).

Five specimens of this little species are present in the Mangarevan Expedition material. They have been compared with the type and agree in every respect. The discovery of this species, hitherto supposed endemic to the Hawaiian Islands, in such remote island groups is the most outstanding feature of the expedition's material. From the habitat of four of the five specimens, it is not impossible to regard the species as introduced, but Britton [B. P. Bishop Mus., Occ. Papers 14 (6): 104-106, 1938] records endemic species of the carabid genus *Thriscothorax* (otherwise known only from the Hawaiian Islands) in Tahiti, which appears to indicate that there is some connection between the faunas of these groups and that this species may be naturally endemic.

Noteropagus obscurus d'Orchymont.

Fiji: Taveuni Island, Waiyevo, April 4, 1924, 1 specimen (Evans). Society Islands: Tahiti, Arue, March 6, 1934, 23 specimens (E. C. Zimmerman).

This record is unexpected, since the related species *N. politus* d'Orchymont has been recorded from Samoa by d'Orchymont. The unique Fijian specimen agrees with the Tahitian specimens in every respect. The specimens differ from *N. politus* in their smaller degree of convexity, smaller pronotal punctuation, smaller serial punctures of the elytra, less impressed serial punctures, interstitial punctures much finer and more scattered, mesial portion of the raised part of the metasternum much more finely punctate and more visibly reticulate. I have seen no authentic examples of *N. obscurus* but the series agrees with a unique from Mauritius, identified by d'Orchymont as "*Noteropagus obscurus* var.?", and the incised line at the apex of the elytra is present in all the specimens contrary to the description. The specimens do not agree with authentic examples of *N. politus* or the type of *N. obliquus*.

Cryptopleurum evansi, new species.

Breviter ovalis, sat convexus, niger, remote pubescens; capite nigro, crebre dense punctato, interstitiis punctorum tenuiter reticulatis; pronoto laevigato, nigro vel piceo-rufo, fortiter sat remote aequaliter punctato, lateribus interstitiis reticulatis, ad basin serie transverso punctorum majorum; elytris nigris, apicibus fusco-rufis, fortiter seriato-punctatis, seriebus profunde canaliculatis, praecipue externis, seriebus 7-8 geminatis, interstriis convexis, irregulariter punctulatis; antennis (clavâ exceptâ fuscâ) palpisque flavotestaceis; subtus, mento transverso, sat fortiter remote punctato, tenuiter reticulato; metasterni parte elevatâ dense et fortiter punctatâ, retrorsum acetabularum intermediorum lineam curvam distincte instructo. Long. 1.83-2.09 mm. (extenso); lat. 1.25-1.42 mm.

Fiji: Taveuni Island, Waiyevo, June 6, 1924, holotype male, allotype female, and 6 paratypes (Evans). In the British Museum.

This new species belongs to the group characterized by the presence of a small recurved suture "closing" the mesocoxal cavities behind. It is considerably larger than either of the two described Oriental species of this group and in the dorsal sculpture seems to approach most closely *C. coomani* d'Orchymont (belonging to the group with the mesocoxal cavities "open" behind) which I have not seen. It appears to be the first recorded *Cryptopleurum* from Melanesia.

A single female (Rapa, near Area, alt. 50 ft., July 29, 1934, E. C. Zimmerman) almost certainly belongs to this species. It is somewhat larger than the type series and has the lateral reticulate areas of the pronotum much smaller, barely distinguishable. The sutures "closing" the mesocoxal cavities also follow a different course, being slightly sinuate whereas in the type series the sutures are smoothly rounded, but I do not think these small variations of certain characters justify separation from the Fijian species.

Paracymus pygmaeus (MacLeay).

The new records of this species are:

Fiji: Viti Levu, Mount Evans, Lautoka, June 18, 1922 (Greenwood); Society Islands: Tahiti, Mount Aorai Trail, alt. 5,500-6,000 ft., Sept. 15, 1934, 1 specimen (E. C. Zimmerman).

These new records extend the known range of this small species considerably. The Tahitian record is of interest in that it is one of two species which are known to be distributed in both Polynesia and New Zealand, the other being *Enochrus (Lumetus) tritus* (Broun).

Helochaeres (Chasmogenus) nitescens (Fauvel) (fig. 3).

A single female from Lautoka (R. Veitch) has long been in the British Museum. It has been identified by Knisch as "*Helochaeres (Chasmogenus)* n. sp. near *nigritulus* Reg.", and by d'Orchymont as "*Helochaeres (Crephelochaeres)* sp. prope *nitescens* Fauvel" with the caution "not to be identified without ♂♂." A male of the same species

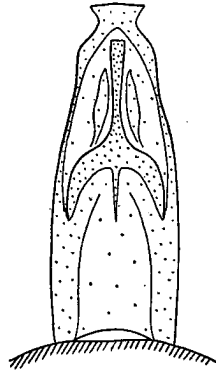


FIGURE 3.—*Helochaeres (Chasmogenus) nitescens*: aedeagus, $\times 50$ circa.

has recently been received from Waidoi, Viti Levu, and dissection provides the negative evidence that this is not one of the Oriental species of the genus, but comes very close to *H. abnormalis* Sharp, of which *H. nitescens* has been called a variety. As the size is correct for Fauvel's species and the specimens agree with Queensland individuals (a locality for *H. nitescens*) of which I have only females, I have little doubt of the determination.

Enochrus (Lumetus) esuriens (Walker) (fig. 4, a).

I have made an extremely close comparison between specimens from Fiji, Tahiti, and Borabora with the type of this species, which has been dissected, and with Seychelles and Aldabra specimens of *E. parvulus* (Kuwert), identified by Scott. I have no hesitation in the identification of the series as *E. esuriens* on the form exhibited by the aedeagus. The central lobe in the two species is of the same length but the extremity beyond the "collar" is about twice as long in *E. esuriens* as in *E. parvulus* (fig. 4, b). The aedeagus of the two species has certain peculiar similarities which suggest an extremely close relationship. The position of the "collar" of the central lobe rather suggests that in

the individuals figured the organ is erected in *E. esuriens* and at rest in *E. parvulus*, but a number of dissections have failed to produce a single specimen from the Seychelles with form A or from Polynesia with form B and I am accordingly leaving the two species as specifically distinct.

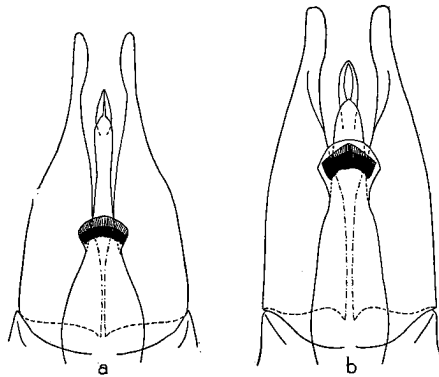


FIGURE 4.—a, *Enochrus (Lumetus) esuriens*: aedeagus, $\times 80$ circa; b, *Enochrus (Lumetus) parvulus*: aedeagus, $\times 80$ circa.

There is a certain amount of variation in the form of the mesosternal elevated area, but in no specimen does it show exactly the form seen in Seychelles individuals. I have seen no specimens other than Ethiopian with an aedeagus of form B and consider that the Indian, Samoan, and Queensland records for *E. parvulus* require confirmation by dissection. The only Indian specimen I have seen, a female from Belgaum identified as *E. parvulus* by d'Orchymont, is almost certainly *E. malabarensis* (Régimbart) having the anterior edge of the mesosternal lamella almost perpendicular.

I think it is very probable that Knisch's specimens from Samoa identified as *E. esuriens* and regarded as *E. parvulus* by d'Orchymont are actually this species and I have accordingly transferred the synonymy.

New records for this species are:

Fiji: Viti Levu, Suva, June 24, 1938, 8 specimens (R. A. Lever); Taveuni, Waiyevo, June 6, 1924, 2 specimens (Evans). Society Islands: north Borabora, valley below Popoti, alt. 300 ft., June 16, 1925, 1 specimen (Cheesman); Tahiti, Hitiaa, July 10, 1925, 1 speci-

men (Cheesman); Puen [Pueu] Valley, May 25, 1927, 2 specimens (L. H. MacDaniels); May 1927, 1 specimen, June 3, 1927, 1 specimen (MacDaniels); Papeete, March 20, 1925, 7 specimens (G. P. Wilder); Tautira, March 13, 1925, 3 specimens (Wilder); near Papeete, March 23, 1934, 1 specimen; Blue Lagoon, Papeete, at light, March 1, 1934, 1 specimen; Tiupi Bay, Papeari, on *mape*, April 4, 1934, 2 specimens (E. C. Zimmerman).

***Enochrus (Lumetus) tritus* (Broun).**

I have compared Broun's types and series of this species with *E. variolorum* and I am unable to see any characters other than color to distinguish them as separate species. Accordingly I am in agreement with d'Orchymont [Insects of Samoa 4(1): 31, 1927] in making *E. variolorum* a synonym. The Oceanic specimens before me are unfortunately nearly all more or less immature and consequently approximate the color seen in *E. variolorum*. The aedeagus is identical in all the specimens I have dissected. The following new records are included:

Rarotonga, 1882, 7 specimens (Wyatt Gill, A. W. Franks). Society Islands: Tahiti, Maraa, Papeari, March 15-16, 1925, 2 specimens (Wilder) north Raiatea, alt. 1,500 ft., June 1, 1925 (Cheesman). Rapa, April 1925, at light, 14 specimens (C. L. Collenette, St. George Expedition).

Enochrus (Lumetus) sp.

Elongato-ovalis, sat convexus, angustulus; capite (labro incluso) nigro, utrinque ante oculos maculâ magnâ piceo-flavâ, sat dense punctulato, antennis palpisque (illis clavâ exceptâ fuscâ) rufo-flavis; pronoto nigro, ad latera plus minusve late rufo-flavo, ut in capite punctulato, seriebus distinctis punctorum systematicorum; elytris laevigatis nigris, at latera angustule rufo, ut in capite punctulato, seriebus tribus punctorum majorum parcorum, striâ suturali instructâ, paulo ante medium abbreviatâ; subtus niger, segmento ultimo abdominis postice emarginato; pedibus piceo-rufis. Mas ignotus. Long. 5.72 mm. (extenso); lat. 2.81 mm.

Society Islands: Borabora, sea level, June 17, 1925, unique female (Cheesman). In the British Museum.

It is not improbable that this is the species identified by Fairmaire from Tahiti as *Philhydrus melanocephalus* (Fabricius), but it cannot be that smaller and broader Palaearctic species. The present species is very close to *E. tritus* (Broun) but is less strongly punctulate. There

is so much variation in that species that it is not unlikely that they are conspecific. It is, however, so distinct in color from the other Oceanic specimens that I have thought it worth while to give a full diagnosis.

***Sternolophus (Neosternolophus) artensis* Fauvel.**

In a paper on the aquatic Coleoptera of the New Hebrides and Banks Islands (*Ann. Mag. Nat. Hist.* XI, 3: 479, 1939), I gave reasons for supposing that the Fijian records of this species are based on a misidentification by Fauvel, and that the species is really *S. marginicollis* Hope. I have not yet been able to obtain Fijian specimens for examination.