NEW PEDIPALPI FROM AUSTRALIA AND THE SOLOMON ISLANDS

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Figs. 1-6.

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This paper deals principally with two new whip-scorpions. Of these, the one described hereunder as *Charinus pescotti* sp. nov. is recorded from Australia and the Solomon Islands, and is but the second species of the order to be reported from Australia. The statement by Werner (1935, p. 475) that "Australien (Festland) enthält keine einzige Gattung und Art" is erroneous, inasmuch as the ill-defined *Charon annulipes* Lauterer had been described from Brisbane, Queensland, many years previously.

The other species dealt with, namely *Stygophrynus* (*Neocharon*) *forsteri* subgen. et sp. nov., is from the Solomon Islands, and seems to be sufficiently distinctive to warrant separation from the more typical congeners.

Order **PEDIPALPI**
Suborder **AMBLYPYGI**
Family **TARANTULIDAE**
Subfamily **Charontinae**
Genus CHARINUS Simon, 1892

SYNOPSIS OF SPECIES

1.	Finger with one dorsal spine.	*C. jeanneli* Simon.
–	Finger with two dorsal spines.	2.
–	Finger with three dorsal spines.	5.
2.	Spines of finger small and subequal.	*C. australianus* (L. Koch).
–	Distal spine of finger about twice the length of the proximal.	3.
3.	The first tarsal segment of ambulatory legs only slightly longer than the other four together.	*C. pescotti* sp. nov.
–	The first tarsal segment of ambulatory legs about 1½ times as long as the other four together.	4.
4.	Lateral eyes pigmented.	*C. seychellarum* Krpln.
–	Lateral eyes without pigment.	*C. seychellarum diblemma* (Simon).
5.	Dorsal spines of hand subequal.	*C. neocaledonicus* Simon.
–	Dorsal spines of hand unequal, the distal much the larger.	*C. milloti* Fage.

The genus also includes the Galapagos species *C. insularis* Banks. The description is, however, insufficient to incorporate

that species in the above key and, further, the type-specimens, which should be in the collection of the Stanford University, California, seem to have been lost. Certainly Professor G. F. Ferris, to whom I am nevertheless indebted, can find no trace of them.

In the placement of *C. neocaledonicus* Simon, I have been guided by the figures given by Simon in support of his genus. Obviously these are not referable to the designated genotype *C. australianus* (L. Koch), which suggests that the genus was, in fact, described from a specimen of *neocaledonicus*. Other evidence tends to support this supposition. In erecting the genus, Simon (1892, p. 48) remarked that it "comprenant une seconde espèce de Nouvelle-Calédonie, encore inedite," and the definition of the genus, particularly where referring to the position of the lateral eyes, when compared with Kraepelin's descriptions of both species (1899, pp. 249-250), agrees better with *neocaledonicus* than with *australianus*. Unfortunately, I have not been able to obtain a specimen of Simon's species for examination; in view of the foregoing, it would be advisable for that species to be described in more detail.

Acknowledgments are also made to Dr. S. L. Hora, of the Zoological Survey of India, for details of the armature of the hand and finger of the two specimens of *C. seychellarum* Krpln. under his care.

Charinus pescotti sp. nov.

Figs. 1-3.

Female. mm.

Total Length	7·1
Length of Cephalothorax	2·8
Width of Cephalothorax	3·9
Length of Abdomen	4·3
Width of Abdomen	3·5

	Femur	Patella	Tibia	Meta-tarsus	Tarsus		Total
Leg i	5·6	0·7	10·6	—	10·3	=	27·2
ii	3·6	0·7	2·7	1·8	1·2	=	10·0
iii	4·1	0·9	3·4	1·9	1·3	=	11·6
iv	3·7	0·8	3·4	1·7	1·5	=	11·1

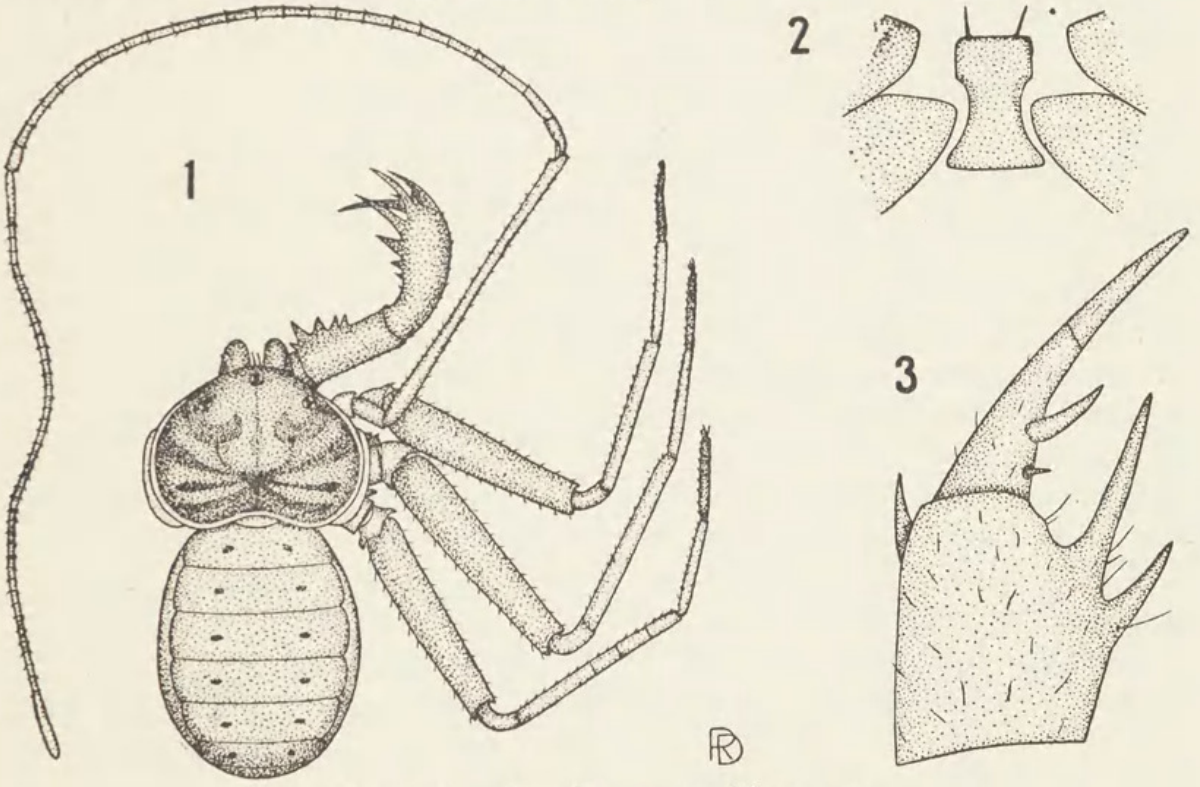
	Femur	Tibia	Hand	Finger		
Palp	1·7	2·4	1·1	1·4	=	6·6

Carapace light reddish-brown with darker markings; chelicerae, palpi, and legs ii, iii, and iv, light brown; leg i somewhat darker; sternum and coxae yellowish. Abdomen yellowish-brown above and below, with darker markings.

Carapace obcordate, convex, finely granular; grooves distinct, that behind the median eyes indistinct; anterior margin rounded, armed with six slender spines; posterior and lateral margins forming a narrow flange.

Eyes small and about equal in size; the two median, placed together on a low tubercle, are about their diameter apart and about the same from the anterior margin. Three lateral eyes to each side, close together on a low tubercle, about three times their individual diameter from the antero-lateral margin.

Chelicerae somewhat cylindrical in shape, projecting past the anterior margin of the carapace; promargin of falx-furrow armed with four teeth of which that nearest the base of the fang is deeply bifid, and the two intermediate are much the smallest; retromargin unarmed, fringed with long hairs. Fang moderately long, curved, armed on the inside of the curve with about four teeth decreasing in length distally.



Figs. 1-3. *Charinus pescotti* sp. nov.
Fig. 1. Dorsal view, omitting legs and palp on left side.
Fig. 2. Metasternum and portions of coxae iii and iv.
Fig. 3. Retrolateral view of left hand and finger.

Prosternum long and tapering anteriorly, provided with long and slender spines of which two are apical. *Mesosternum* short. *Metasternum* (Fig. 2) about twice as long as broad, excavated laterally opposite coxae iv, and, like the mesosternum, armed with a slender spine at each anterior corner.

Palpi relatively short, broad, and well armed. Femur armed dorsally with a row of four spines decreasing in length distally, and ventrally with three spines which likewise decrease in length distally; towards the base ventrally and near the proximal dorsal spine is a single trichobothrium. Tibia flat, about twice longer than broad, armed dorsally with five spines of which the penultimate is the longest, the one next behind it longer than the one next behind that, and the latter longer than the distal spine; armed ventrally with three spines which increase in length distally, the proximal minute, almost obsolete in paratypes. Hand (Fig. 3) flat, about one-fifth longer than broad, armed dorsally with two medial spines of which the distal is approximately twice the length of the proximal, and ventrally with one subapical spine. Finger jointed, the basal segment armed only dorsally with two spines of which the distal is more than twice the length of the proximal.

Legs armed with longitudinal rows of short slender spines ventrally and, on the femorae, dorsally. Leg i tactile; tibia composed of 23-27 segments; tarsus with 39-41 segments, of which the basal is much longer than the next segment, the distal segment being longer than the penultimate and modified into a tactile organ. Legs ii, iii, and iv ambulatory; each tarsus with two claws and pulvillus, composed of five segments in the approximate ratio of, in leg ii—44: 12: 3: 3: 19, leg iii—49: 14: 4: 4: 20, leg iv—52: 15: 5: 5: 21; a dorsal spur carrying an apical bristle springs from the apex of the penultimate tarsal segment and is equally as long as the distal segment; metatarsi somewhat thicker towards the apex and provided with numerous trichobothria; tibia ii and iii unsegmented; tibia iv composed of four segments in the ratio of approximately 65: 20: 24: 26.

Abdomen oval, finely granular, tergites i-vi with a pair of distinct impressions, telson wanting.

Locality. A single female (type) from Barron Falls, Queensland, collected by G. F. Hill, probably about 1923; and four females from Savo Island, Solomon Group, collected by R. R. Forster, about January 1944, under debris in coastal forest and coconut plantation.

Holotype in the National Museum of Victoria. Named in honour of the Director, Mr. R. T. M. Pescott, M.Agr.Sc., F.R.E.S., to whom I owe the privilege of examination of the arachnid collection. *Paratypes* in the Dominion Museum, Wellington, N.Z., and in the author's collection.

Obs. The Solomon specimens are somewhat duller in colour and, perhaps because of the varying size and age, show a tendency

towards a reduction in the number of spines on the femorae and tibiae of the palpi; however, I cannot find any difference important enough to warrant their separation from the Australian example. A much paler immature specimen with the paratypes measures about 2·7 mm. in length, and has the normal segmentation of leg iv, but the palpal spination of the older specimens is not fully developed; unfortunately both tactile legs are missing, being broken off at the patellar-tibial joint.

The only other Australian whip-scorpion known at present is *Charon annulipes* Lauterer, but is insufficiently described for determination of its true generic position. If the description is at all reliable, however, it is quite distinct from the present species, differing principally in having two large median eyes and *two* (?) small eyes on each side, in femur i being double the length of those of the ambulatory legs, in tibia i being divided into 26 and tarsus i into 47, or 49,[1] segments, in the proportionally shorter tactile leg, and in having dark brown rings on the ambulatory legs.

Genus STYGOPHRYNUS Kraepelin, 1895

A key to the species of this genus has already been given by Gravely (1915, p. 443), and it is apparent that the species fall into two distinct sections. The majority form a natural group around the genotype *S. cavernicola* (Thorell); to those mentioned by Gravely must be added *S. dammermani* Roewer (1928, p. 16), a species since described from Javanese caves.

S. moultoni Gravely is, however, quite distinct from its congeners. That this was recognized by Gravely is obvious from his remark (1915, p. 436) that for this species "a new genus ought perhaps to be established." Though in some respects the species described hereunder falls between *S. moultoni* and the more typical cavernicolous members of the genus, this second section seems sufficiently differentiated to warrant subgeneric rank at least, and consequently the subgenus *Neocharon* nov. is proposed for the reception of both species.

Subgenus NEOCHARON nov.

Differs from *Stygophrynus* Krpln. (*sensu stricto*) in being non-cavernicolous species, and having the distal supplementary spines of the hands, particularly the ventral ones, reduced in number below what is normal for the genus (at least three both dorsally and ventrally, *sec.* Kraepelin).

Type: *Stygophrynus* (*Neocharon*) *forsteri* sp. nov.

[1] In his description, Lauterer (1895, p. 414) states that the tarsus has 47 segments, but a few paragraphs previously refers to 49 segments.

Stygophrynus (*Neocharon*) *forsteri* sp. nov.

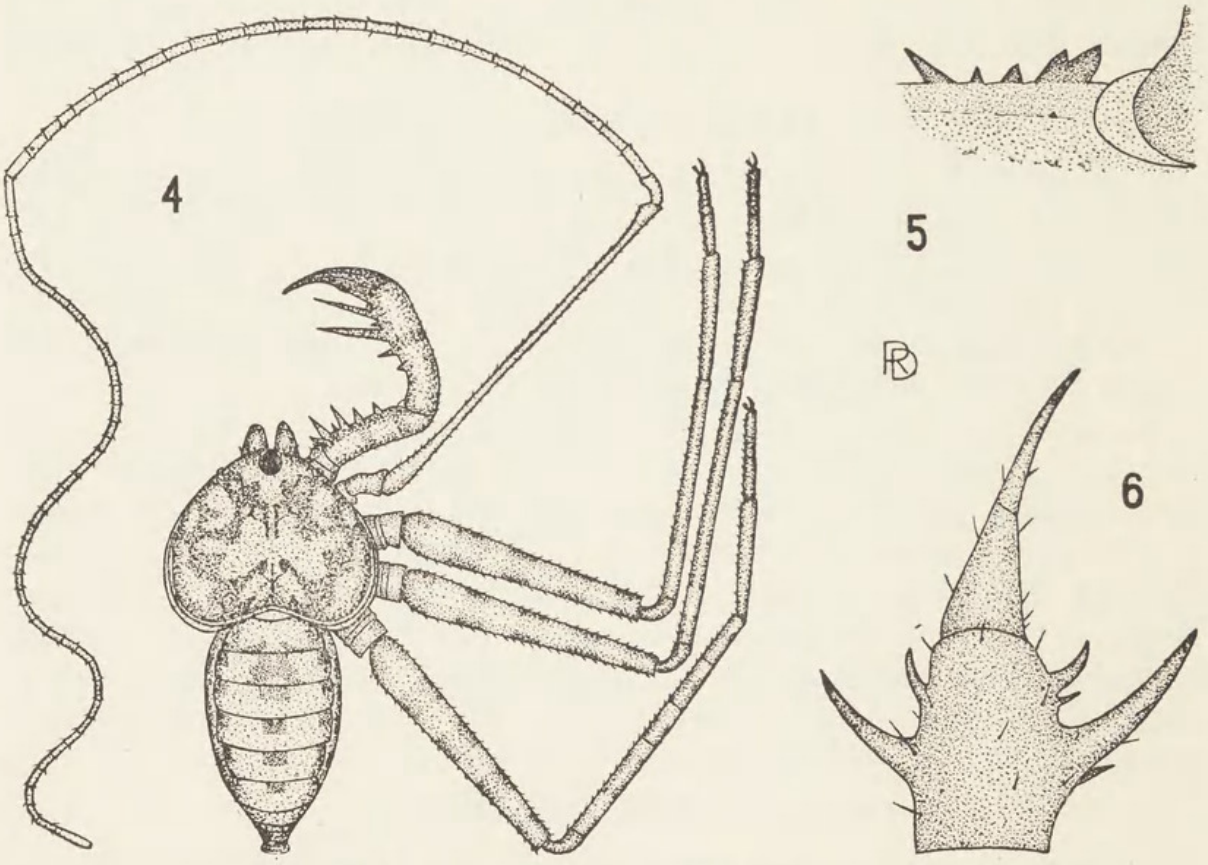
Figs. 4-6.

Female. mm.

Total Length	6·8
Length of Cephalothorax	3·0
Width of Cephalothorax	3·6
Length of Abdomen	4·2
Width of Abdomen	2·4

	Femur	Patella	Tibia	Meta-tarsus	Tarsus		Total
Leg i	6·9	0·5	12·5	—	14·3	=	34·2
ii	4·3	0·7	3·8	2·2	1·4	=	12·4
iii	4·7	0·8	4·6	2·2	1·5	=	13·8
iv	4·5	0·8	4·7	2·1	1·5	=	13·6

	Femur	Tibia	Hand	Finger		
Palp	1·9	2·4	1·0	1·2	=	6·5



Figs. 4-6. *Stygophrynus* (*Neocharon*) *forsteri* subgen. et sp. nov.

Fig. 4. Dorsal view, omitting legs and palp on left side.
Fig. 5. Retrolateral view of right falx-margins.
Fig. 6. Retrolateral view of left hand and finger.

Carapace light brown with darker markings, median eye-tubercle black; chelicerae light brown; leg i light brown, distal

segment of tibia and proximal segment of tarsus yellowish, almost whitish, tactile organ yellowish; legs ii, iii, and iv light brown, femorae with four yellowish annulations, tibiae with subbasal yellowish annulation and a faint indication of a distal annulation; tibia iv also annulated on each segment distally; palpi light brown, femorae with somewhat darker medial and distal transverse bands, tibiae with medial transverse band; sternum and coxae yellowish. Abdomen light brown, each tergite with darker rectangular patches anteriorly in the median line and laterally, sternites yellowish.

Carapace obcordate, convex, finely granular; grooves moderately distinct; anterior margin straight truncate, armed with six slender spines; posterior and lateral margins forming a narrow flange.

Eyes small and about equal in size; the two median, placed obliquely on a moderately high tubercle almost touching the anterior carapacal margin and which is surmounted by a pair of small tubercles each carrying a slender spine, are slightly more than their diameter apart. The three lateral eyes on each side are grouped together on a low tubercle which is close to the antero-lateral carapacal margin.

Chelicerae somewhat cylindrical in shape, projecting past the anterior margin of the carapace; promargin of falx-furrow (Fig. 5) armed with four teeth of which that nearest the base of the fang is bifid, and the two intermediate slightly the smallest; retromargin with a minute tooth near the base of the fang. Fang moderately long, curved, armed on the inside of the curve with six small contiguous teeth of which the second from the base of the fang is the largest, the others decreasing in length distally.

Prosternum long, tapered anteriorly, provided with slender spines of which two are apical. *Mesosternum* subround, provided with two pairs of slender submedial spines. *Metasternum* also subround, about equal in size to the mesosternum, placed between coxae iii, provided with one pair of submedial spines.

Palpi relatively short, moderately broad, and well armed. Femur armed dorsally with a row of five large spines of which the proximal is about equal in size to the distal, the others decreasing in length distally; between the distal spine and the apical end of the segment is an additional minute spine, and between the second and the third an additional intermediate spine. Ventrally the femur is armed with four large spines of which the proximal is the smallest, the others decreasing in length distally;

between the distal spine and the apical end of the segment in the holotype is an additional minute spine. Tibia not very flat, about three times as long as broad, armed dorsally in the distal half with three large spines of which the distal is much smaller than the other subequal two, each of these three spines being separated in the holotype by a small spine, with another slightly larger than those latter placed between the distal large spine and the apical end of the segment; the proximal half of the tibia bears dorsally two spines of which the proximal is about equal in size to the supplementary spines of the distal half and is much smaller than its neighbour. Ventrally the tibia is armed with five spines, the distal much smaller than the penultimate, the others increasing in length distally; three minute spines are also present in the holotype, one placed between the apical end of the segment and the distal large spine, another between the latter and the penultimate, and the other between the penultimate and the medial. Hand (Fig. 6) not flattened, about one-half longer than broad, armed dorsally with a large submedial spine which has a small subsidiary spine inserted at its base, and a moderate distal spine proximally of which in the holotype is a minute spine. Ventrally the hand is armed with a large submedial spine and another much smaller distal spine. Finger jointed, without spines.

Legs armed with longitudinal rows of short slender spines ventrally and, on the femorae, dorsally. Leg i tactile; tibia composed of 25 segments; tarsus with 44 segments of which the basal is much longer than the next segment, the distal segment being much longer than the penultimate and modified into a tactile organ. Legs ii, iii, and iv, ambulatory; each tarsus with two claws and pulvillus, composed of five segments in the approximate ratio of, in leg ii—26:7:4:4:15, leg iii—27:7:4:4:18, leg iv—28:7:4:4:19; a dorsal spur carrying an apical bristle springs from the apex of the penultimate tarsal segment and is equally as long as the distal segment; metatarsi somewhat thicker towards the apex and provided with numerous trichobothria; tibia ii and iii unsegmented; tibia iv composed of four segments in the ratio of approximately 81:31:38:38.

Abdomen ovate, finely granular, telson wanting.

Locality. Three females from Savo Island, Solomon Group, collected by R. R. Forster, about January 1944, under debris in coastal forest and coconut plantation.

Holotype in the Dominion Museum, Wellington, N.Z. Named in honour of Mr. R. R. Forster, who kindly arranged for my

examination of these and other specimens from the Dominion Museum. *Paratypes* in the Dominion Museum, and in the author's collection.

Obs. This species comes closest to *S. moultoni* Gravely, which, however, differs principally by the hand being armed with two long spines dorsally and one only ventrally, and by the finger being armed dorsally with three minute spines.

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