

CRUSTACEA.

By Dr. J. G. DE MAN.

(Plate 6.)

PALÆMON (MACROBRACHIUM) QUELCHI, sp. n.

Thirty-seven specimens, only five or six of which are full-grown, were collected in the Upper Mazaruni river at an altitude of 2500 feet, and one young specimen was captured at an altitude of 3500 feet on the Mt. Roraima range. Amongst the former is but one ova-bearing female, the rest are both males and young females, the full-grown specimens being all males.

This pretty species, that I have the pleasure to name after Mr. J. J. Quelch, is apparently closely allied to *Pal. potiuna*, F. Müller, from the Itajahy river, State of Santa Catharina, and to *Pal. Iheringi*, Ortm., from the State of São Paulo, both in the south of Brazil; but it is no doubt different, the second legs presenting characters *intermediate* between those of the two quoted species. *Palæmon Quelchi* is evidently their representative in British Guiana. One full-grown specimen only is still provided with both legs of the second pair, in the others one of them is lost. The ova-bearing female has also lost these legs, and in the numerous young individuals one leg of this pair or even both are often wanting.

Palæmon Quelchi belongs to the species of *small* size, the adult individuals measuring only 55 millim. from tip of rostrum to the extremity of the telson. Examined under a rather strong lens the cephalothorax presents a fine and rare punctation, on which one observes a short pubescence, for the rest it appears smooth. The rostrum (Pl. 6. figs. 1-4), vertically moderately deep, is rather short, reaching only the end of the antennular peduncles or even only the middle of their terminal joint, so that it does not extend to the end of the antennal scales. The upper margin, usually very slightly convex above the eyes, gradually descends downwards and carries *seven, eight, or nine* low, rather equidistant teeth, the first *two* of which commonly stand on the cephalothorax, but often only *one* tooth stands on it, the second being placed above the orbital margin. The lower margin is usually armed with *two* teeth, often, however, with *one* only. The formulæ for 34 specimens are the following:—

5 specimens	$\frac{9}{2}$;	4 specimens	$\frac{9}{1}$;	9 specimens	$\frac{8}{2}$;
5	„	$\frac{8}{1}$;	5	„	$\frac{7}{2}$;
				5	„
					$\frac{7}{1}$;
				1 specimen	$\frac{6}{2}$.

The hepatic spine is small and placed below and posterior to the somewhat larger antennal one. The apex of the telson, as usual shorter than the lateral appendages and the flattened upper surface of which bears the two ordinary pairs of small spinules, is triangular with a quite short median spine; the inner spinules are somewhat longer than the median point and considerably longer than the outer ones.

The free end of the antennal scales is obtusely angulated internally and reaches a little

further forward than the short spine at the extremity of the external margin. The shortest of the three antennular flagella is distinctly serrate and exceeds the free end of the antennal scales by its whole length. The external maxillipedes project with their terminal joint beyond the peduncles of the outer antennæ.

The first pair of legs exceed, in the full-grown male, the antennal scales by two fifth parts of their carpus; the latter is once and two-thirds as long as the hand, the fingers very slightly longer than the palm.

The second legs are considerably stouter and longer than the first and somewhat unequal. In the largest male, which is 54 millim. long, both legs (Pl. 6. figs. 5 & 6) are slightly longer than the body and both exceed the antennal scales by the whole length of the carpus. The cylindrical merus widens slightly towards its distal end. The carpus of both legs appears at first sight just as long as the merus, but measured exactly it appears always *very slightly longer than it*. The carpus, quite narrow at base and here much narrower than the distal end of the preceding joint, regularly widens towards its distal extremity, so that it has a conical shape and its diameter at the distal end is a little broader than that of the merus. *The carpus appears, therefore, two and a half to three times as long as thick at its distal extremity.* The chela is two and a half times as long as the carpus, and in both legs the palm measures almost two-thirds the length of the whole hand. The palm of the larger chela is *distinctly broader* than the widened distal end of the carpus, being a little more than once and a half as broad; the palm is about three times as long as broad, and its width measures almost one-fourth the length of the whole hand. The palmar portion of the hand appears *slightly broader than thick*, the proportion being as 6 : 5; it is everywhere rounded both on the upper and lower surface and on the sides. When the chela is looked at from above, the outer margin of the palm appears straight, but the inner slightly convex, and the inner border of the chela is a little concave at the base of the fingers. The pointed fingers leave, when closed, a narrow interspace between them, in the middle about as broad as the fingers themselves; the latter are almost cylindrical. The immobile finger is nearly straight and tapers but very slightly towards the tip; the dactylus, however, is somewhat curved and tapers more regularly. Each finger is armed with a strong conical tooth; that of the index is placed just in the middle of the finger, that of the dactylus a little beyond it; three much smaller obtuse teeth are observed between each conical tooth and the articulation, and the third of these small teeth is double. On each finger a sharp cutting-edge runs between the conical tooth and the tip.

The smaller chela (fig. 6) bears a close resemblance to the other, but the difference between its width and its height or thickness is still smaller, so that the palm appears almost cylindrical and but slightly broader than the carpus. The fingers are regularly tapering, the dactylus is less curved, and the interspace between both is small, only half as broad in the middle as the fingers. The tothing is about the same, but the dactylus bears six small obtuse teeth between the large conical tooth and the articulation.

In the younger individuals the fingers are comparatively longer, so in a young male, long. 36 mm., the palm is $4\frac{1}{2}$ mm., the fingers 4 mm. long; the former, $1\frac{2}{5}$ mm. broad, is three times broader than long and 1 mm. thick.

Fig. 7 represents the second leg of a female, long. 42 mm., devoid of eggs. The merus measures 5 mm., the carpus $5\frac{1}{2}$, the hand $11\frac{1}{4}$ mm., of which the palm occupies 6 mm. The palm is $1\frac{3}{4}$ mm. broad, the carpus at its distal extremity $1\frac{2}{5}$ mm. The tothing of the fingers, figured fig. 7a, appears in this young individual still very feeble, the dactylus showing only three teeth, the index also, but these are less prominent, more rounded.

The second legs of these young individuals bear a close resemblance to *Pal. potiuna*, F. Müll. (*vide* Ortmann, 'Os Camarões da agua doce da America do Sul,' S. Paulo, 1897, est. i. fig. 9), but there can be no doubt that this species is a different one, for this resemblance is only exhibited by quite young individuals.

The second legs are on all their joints roughened by small thorny points, that are crowded and numerous on their outer margin, less numerous on the rest of their surface, and those of the lower surface and of the inner margin are distinctly somewhat longer; these legs are glabrous, devoid of hair, except a rare short pubescence, only perceptible under a lens.

The ambulatory legs of the third pair project with a third of their propodites beyond the antennal scales, their carpopodites reaching as far forward as the peduncles of the outer antennæ; the legs of the fifth pair finally extend as far forward as the external maxillipeds, but do not reach the free end of the antennal scales. The ambulatory legs are rather slender. So are the meropodites of the third pair of the largest male 8 mm. long, 1.25 mm. thick, the propodites 7.9 mm. long and 0.84 mm. thick, so that the former are little more than six, the latter nine to ten times as long as broad; for the meropodites of the fifth legs (Pl. 6. fig. 8) these numbers are 7.5 mm. and 1 mm., for the propodites 7.9 mm. and 0.7 mm., so that the meropodites are seven to eight, the propodites eleven times as long as broad. The dactylopodites are short, measuring about one-fourth the length of the propodites. The posterior margin of the propodites bears two rows of spinules, so that in the third legs there are nine or ten spinules in the outer and six or seven in the inner row. The ambulatory legs are a little hairy, but for the rest quite smooth: the hairs are very short and fine, and arranged partly two and two in longitudinal rows; so that one row runs along the posterior margin of the meropodites. The eggs are few in number but large, having a diameter of $2\frac{1}{2}$ mm. Concerning the single female carrying these eggs, which is 38 mm. long from tip of rostrum to the extremity of the telson, the following may be remarked:—The rostrum (fig. 2) reaches to the middle of the terminal joint of the antennular peduncles; the upper margin that descends obliquely downward bears seven teeth, the second of which is placed above the orbital margin; the lower border is armed with two teeth, the interspaces are as usual ciliated. The external maxillipeds exceed the antennal peduncle only by half their terminal joint. The first legs project only with the hands beyond the free end of the antennal scales; the hands measure just two-thirds the length of the carpus. The legs of the third pair reach to the end of the antennal scales, those of the fifth to the end of the antennal peduncles. The meropodites of the third pair are $4\frac{1}{4}$ mm. long and $\frac{3}{4}$ mm. broad; the propodites are 4 mm. long and $\frac{1}{2}$ mm. broad.

Palæmon potiuna, F. Müller, differs at first sight by the chelæ of the second legs

having *the fingers as long or even*, according to Ortmann's figure, *slightly longer than the palm*. *Palæmon Iheringi*, Ortm. (*l. c.* p. 211, est. i. figs. 7 e, 8) is apparently also different. The carpus of the second legs, indeed, does not gradually and regularly widen towards its distal end, but suddenly, so that the form is different.

Measurements in millimetres.

	No. 1.		No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Length from tip of rostrum to extremity of abdomen	54		52	48	47	45	
„ of second legs	Left. 58	Right. 61	Left shorter. 46	36	43	32	39
„ of merus	$10\frac{1}{2}$	$10\frac{1}{2}$	$8\frac{1}{2}$	6	$7\frac{1}{2}$	$5\frac{1}{2}$	7
„ of carpus	$10\frac{3}{4}$	11	9	$6\frac{1}{2}$	$7\frac{1}{2}$	6	$7\frac{1}{2}$
Width of the carpus at the distal end	4	4	$3\frac{1}{5}$	$2\frac{1}{5}$	3	$2\frac{1}{5}$	$2\frac{3}{4}$
Length of chela	25	$28\frac{1}{2}$	$18\frac{1}{2}$	$14\frac{1}{2}$	$20\frac{1}{2}$	$12\frac{1}{2}$	18
„ of palm	$15\frac{1}{2}$	18	11	$8\frac{1}{4}$	13	7	10
Breadth „	$4\frac{2}{3}$	$6\frac{2}{5}$	$3\frac{1}{2}$	$2\frac{2}{3}$	$4\frac{1}{2}$	$2\frac{2}{5}$	$3\frac{2}{5}$
Height „	4	$5\frac{1}{2}$	3	$2\frac{1}{4}$	$3\frac{3}{4}$	2	$2\frac{3}{4}$

No. 6 is a detached leg.

EXPLANATION OF PLATE 6.

- Figs. 1-4. *Palæmon Quelchi*, sp. n. Anterior portion of carapace in four examples, $\times 3$: Fig. 1 of the largest male, long. 54 mm.; Fig. 2 of the ova-bearing female, long. 38 mm.; Fig. 3 of another male, long. 52 mm.; Fig. 4 of a young male, long. 35 mm.
- Fig. 5, right, and Fig. 6, left leg of the second pair of the largest male, long. 54 mm., $\times 2$.
- Fig. 7. One of the legs of the second pair of a female without eggs, long. 42 mm., $\times 2$; 7 a, tothing of both fingers of this specimen, $\times 25$.
- Fig. 8. Fifth leg of the largest male, long. 54 mm., $\times 5$.

List of the known Species of the Genus Palæmon, Fabr. s. s., May 1900.

[The species printed in *italics* inhabit America and the West Coast of Africa. The locality indicated as the habitat is in every case taken from the first published description of the species. Of those marked with an asterisk the descriptions were not accessible to me when preparing this list.]

1. *acanthosoma*, sp. n. (?) Nob. Katau, New Guinea.
2. *acanthurus*, Wgm. Coast of Brazil.
3. *acutirostris*, Dana. Sandwich Islands.
4. *africanus*, Bate. Tambo river.—According to von Martens, 1869, = *Gaudichaudii*, M.-E. The Tambo river, mentioned by Spence Bate as the habitat of his species, would, according to von Martens, be situated in Peru! Confer also: Miers, 'On a Collection of Crustacea from South America,' 1877.
5. *africanus*, Kingsl. West Coast of Africa.—Thallwitz, 1891, supposes this species to be identical with *Pal. macrobrachion*, Herkl.

6. *Alphonsianus*, Hffm. Réunion.—This species is identical with *Pal. dispar*, Marts. Confer : de Man, 'Crustacea collected by Max Weber,' 1892, p. 437.
7. *altifrons*, Hend. Delhi ; River Jumna ; Lahore.
8. *amazonicus*, Hell. Amazon river.
9. *americanus*, Bate. Lake of Amatitlan, Guatemala.—According to von Martens, 1869, = *brachydactylus*, Wgm., and according to Miers, 1888, = *jamaicensis*, Hbst.
10. *Appuni*, Marts. Porto Cabello, Venezuela.
,, var. *æquatorialis*, Ortm. Ecuador.
11. *asper*, Stps. In fresh water and in the river near Canton, China.—This species is identical with *nipponensis*, de Haan.
12. *asperulus*, Marts. Shanghai.
13. *Audouini*, Hell. Red Sea.
14. *Audouini*, Bate. Off New Zealand.
15. *australis*, Ortm. = sp., de M., 1887? Queensland.—Ortmann, 'Decapoden-Krebse des Strassburger Museums,' p. 708.
16. *aztecus*, Sauss. Gulf of Mexico.
17. *bariensis*, de M. Fresh water, Flores.
18. *boninensis*, Stps. Bonin Islands, in hill-streams.
19. *Borellii*, Nob. San Lorenzo (Jujuy) ; San Luis.
20. *brachydactylus*, Wgm. East coast of Mexico.
21. *brasiliensis*, Hell. Camaroes, Brazil, fresh water.—According to Ortmann a locality of this name does not exist in Brazil. Camaroes would be the Spanish name of these prawns ! ('Decapoden-Krebse des Strassburger Museums,' p. 711.)
22. *brevicarpus*, de Haan. Japan.—Confer : de Man, in Max Weber's 'Crustacea,' 1892, p. 418.
23. *brevimanus*, Fabr. India.
24. *caementarius*, Poepp. Mouth of the River Aconcagua.—This species is identical with *Bithynis longimana*, Phil. Confer : 'Zoologischer Anzeiger,' 1894, p. 266 ; von Martens, 'Ueber einige ostasiatische Süswasserthiere,' 1868, p. 65 ; and Miers, *l. c.* 1877, p. 662. According to Miers it is a variety of *Pal. Gaudichaudii*, M.-E.
25. *callirrhoë*, de M. Mandai river, Ketoengau river (Borneo).
26. *carcinus*, Fabr. India †.
27. *consobrinus*, Sauss. Gulf of Mexico, off Vera Cruz.
28. *coromandelianus*, Fabr. India.
29. *Danæ*, Hell. Sydney.
30. *Dayanus*, Hend. Orissa, Calcutta, Lahore.
31. *dasydactylus*, Streets. Tide-water of the Coatzacoalcos river, Isthmus of Tehuantepec.—According to Ortmann (*l. c.*) = *mexicanus*, Sauss.
32. *Desausuri*, Hell. New Granada.
33. *dispar*, Marts. Isle of Adenare.
34. *dolichodactylus*, Hilgd. Mozambique.
35. *dulcis*, n. sp.?, Thallw. North Celebes.
36. *elegans*, de M. Sinagar, Buitenzorg, Java.
37. *endehensis*, de M. Flores.
38. *ensiculus*, S. Sm. Pará.
39. *equidens*, Dana. In the sea near Singapore.
40. *esculentus*, Thallw. North Celebes.

† Fabricius indicates the rivers of America as the habitat of this species—of course, wrongly.

41. *euryrhynchus*, Ortm., = *latimanus*, Marts. Fiji Islands.—Confer: de Man, in Max Weber's 'Crustacea,' 1892, p. 482.
42. *faustinus*, Sauss. Antilles.
43. *fluvialis*, Streets. Coatzacoalcos river, among the Cordilleras.
44. *forceps*, M.-E. Rio de Janeiro.—According to von Martens, 1869, = *acanthurus*, Wgm.
45. *formosensis*, Bate. River Tamsuy, Formosa.
46. *gangeticum*, Bate. Patna, India.
47. *Gaudichaudii*, M.-E. Chili.—Confer: von Martens, 'Ueber einige ostasiatische Süßwasserthiere,' 1868, p. 65.
48. *gracilimanus*, Rand. Sandwich Islands.
- *49. *gracilirostris*, Miers. Upolu, Samoa Islands.
50. *grandimanus*, Rand. Sandwich Islands.—Confer: von Martens, *l. c.* 1868, p. 45.
51. *heterochirus*, Wgm. East coast of Mexico.
52. *Hildebrandti*, Hilgd. Madagascar.
53. *Hilgendorfi*, Cout. East coast of Madagascar, region of large forests.
- *54. *hirtimanus*, Oliv.
- *55. *hispidus*, Oliv.—According to Heller, 'Synopsis der im rothen Meere vorkommenden Crustaceen,' 1861, this species occurs in the Red Sea.
56. *Horstii*, de M. Celebes, fresh water.
57. *Idæ*, Hell. Borneo.
 - ,, var. *idella*, Hilgd. Pond near Matomondo, Ungú; Usaramo (German East Africa).
 - ,, var. *mammillodactylus*, nov. var.?, Thallw. North Celebes, Luzon.
 - ,, var. *subinermis*, Nob. St. Joseph river, Innawi (British New Guinea).
58. *Iheringi*, Ortm. State of São Paulo, Brazil (fresh water).
59. *jamaicensis*, Hbst. Rivers of Jamaica.
60. *japonicus*, de Haan. Japan.
61. *javanicus*, Hell. Java.
62. *Jelskii*, Miers. Guiana (Oyapok).
63. *Lamarrei*, M.-E. Coast of Bengal.
64. *laminatus*, Gollm., = *jamaicensis*, juv.? Caracas.—Confer: von Martens, *l. c.* 1869, p. 24.
65. *lampropus*, de M. Celebes, Timor (fresh water).
66. *lanceifrons*, Dana. Luzon.
67. *lar*, Fabr. India.
68. *latidactylus*, Thallw. North Celebes.
69. *latimanus*, Marts. Philippines (Isle of Samar).
70. *lepidactyloides*, de M. Flores (fresh water).—Confer: de Man, in 'Notes from the Leyden Museum,' vol. xv. p. 308.—According to Coutière = *lepidactylus*, Hilgd.
71. *lepidactylus*, Hilgd. Mozambique (Quellimane, Tette).
72. *longidigitum*, Bate. Habitat unknown.
73. *longimanus*, Fabr. East India.
74. *longimanus*, Hfm., = *ornatus*, Oliv. Réunion.—Confer: de Man, in 'Notes from the Leyden Museum,' vol. i. p. 172.
- *75. *longimanus*, Phil., = *caementarius*, Poepp. Chili (La Ligua river).—Confer: Philippi, in 'Zoologischer Anzeiger,' 1894, p. 266.
76. *longipes*, de Haan. Japan.
77. *macrobrachion*, Herkl. West Coast of Africa (Boutry, near Dixcove).
78. *madagascariensis*, Hfm. Nossy-Faly.
- *79. *Malcolmsonii*, M.-E. Nagpore.—Confer: Henderson, 'A Contribution to Indian Carcinology,' 1893, p. 444.

80. Malliardi, Rehts. Mauritius (Creole river, Black river).
81. Mariæ, Cout. River Ivaloina, near Tamatave (Madagascar).
82. mayottensis, Hffm. Mayotte, Nossy-Faly.—Confer: de Man, in 'Notes from the Leyden Museum,' vol. i. 1879, p. 173, where it is proved to be a local variety of ornatus, Oliv.
83. *mexicanus*, Sauss. Coast of Mexico.
84. modestus, de M. Flores, fresh water.
85. *Montezumæ*, Sauss. Gulf of Mexico, off Vera Cruz.
86. Moorei, Calman. Lake Tanganyika.
87. mossambicus, Hilgd. Mozambique (Quellimane).—According to Coutière = dispar, Marts.
88. multidentis, Cout. River Kotofotsy, arm of the Onilahy, Madagascar.
89. *Nattereri*, Hell. Brazil (Rio Negro).
- *90. niloticus, Roux. Nile.—Confer: von Martens, *l. c.* 1868, p. 66.
91. nipponensis, de Haan. Japan.
- *92. *ohionis*, S. Sm. Ohio, Mississippi.
93. *Olfersii*, Wgm. Coast of Brazil.—Confer: Greeff, in 'Sitzungsber. Gesells. z. Beförderung der gesammten Naturw. zu Marburg,' 1882, p. 30.
- *94. ornatus, Oliv., = lar, Fabr.
95. parvus, Hffm. Nossy-Faly.
96. Patsa, Cout. River Mahanara (east coast of Madagascar); arm of the River Onilahy (west coast of the same island).
97. *paucidens*, Hilgd. Togo Country.
98. Petersii, Hilgd. Mozambique (Tette).
99. pilimanus, de M. Sumatra.
 „ var. leptodactylus, de M. Java (Buitenzorg).
100. placidulus, de M. Saleyer, Celebes, Flores, Timor, fresh water.—Confer: de Man, in 'Notes from the Leyden Museum,' vol. xv.
101. placidus, de M. Sumatra.
102. *potiporanga*, F. Müll. Itajahy river.
103. *potiuna*, F. Müll. Itajahy river.
104. *punctatus*, Rand., = *jamaicensis*, Hbst. East Indies?—Confer: Kingsley, in 'Bull. Essex Institute,' vol. xiv. 1883, and Miers, in E. Whympser, Supplementary Appendix to 'Travels amongst the Great Andes of the Equator,' 1888.
105. *Quelchi*, de M. Upper Mazaruni river, Mount Roraima (British Guiana).
106. reunionnensis, Hffm. Réunion.—Confer: de Man, in Max Weber's 'Crustacea,' 1892, p. 454.
107. Ritsemæ, de M. Atjeh.
108. Rosenberghii, de M. Andai, New Guinea.
109. ruber, Hess., = ornatus, Oliv. Fiji Islands.—Confer: Ortmann, 'Decapoden-Krebse des Strassburger Museums,' p. 705.
110. rudis, Hell. Ceylon.
111. Savignyi, Bate. Bermuda Islands.
112. scabriculus, Hell. Ceylon.
113. *sexdentatus*, Streets. Tide-water of the Coatzacoalcos river, Isthmus of Tehuantepec.—According to Ortmann ('Decapoden-Krebse des Strassburger Museums,' p. 711) this species is identical with *mexicanus*, Sauss.
114. sinensis, Hell., = nipponensis, de Haan. Shanghai.—Confer: de Man, in 'Notes from the Leyden Museum,' vol. i.
115. singalangensis, Nob. Aier Mantecior, near Mount Singalang (Sumatra).
116. sintangensis, de M. Sintang, Borneo.

117. *spectabilis*, Hell., = lar, Fabr. Tahiti.—Confer: de Man, in Max Weber's 'Crustacea,' p. 445.
118. *spinimanus*, M.-E. Antilles and coast of Brazil.—According to von Martens, *l. c.* 1869, = Olfersii, Wgm.
119. sp., de Man, in Zool. Jahrbücher, ii. 1887. Sydney.
120. sp., de Man, in Archiv für Naturg. 1888, p. 557. Amboina.
121. sp. (*Macrobrachium* ?), de Man, in Max Weber's 'Crustacea,' 1892, p. 488. Celebes, fresh water.
122. sp., Miers, in Ann. & Mag. Nat. Hist. ser. 5, v. p. 384 (1880). Java.
123. sp., Thallwitz, 'Decapoden-Studien,' 1891, p. 19. North Celebes.
124. *sundaicus*, Hell. Java.
 —, var. *bataviana*, de M. Batavia.
 —, var. *brachydactyla*, Nob. Amboina.
 —, var. *de Mani*, Nob. Amboina.—According to Nobili the last-named variety is identical with that described by de Man in Zoolog. Jahrbücher, ix. Abth. f. System. p. 783, fig. 72.
125. *superbus*, Hell. Shanghai.
126. *tenellus*, S. Sm. Polvon, Occidental Department of Nicaragua.
127. *tranquebaricus*, Fabr. East India.
128. *Trompii*, de M. Ketoengau river, Mandai river, Sintang (Borneo).
129. *ustulatus*, Nob. Rigo, British New Guinea.
130. *vagus*, Hell., = lar, Fabr. Amboina.—Confer: de Man, in 'Notes from the Leyden Museum,' vol. i.
131. *Vollenhovenii*, Herkl. Coast of Guinea.—Confer: de Man, in 'Notes from the Leyden Museum,' vol. i. 1879.
132. *Weberi*, de M. Celebes, fresh water.

MYRIOPODA AND ARACHNIDA.

By R. I. POCKOCK.

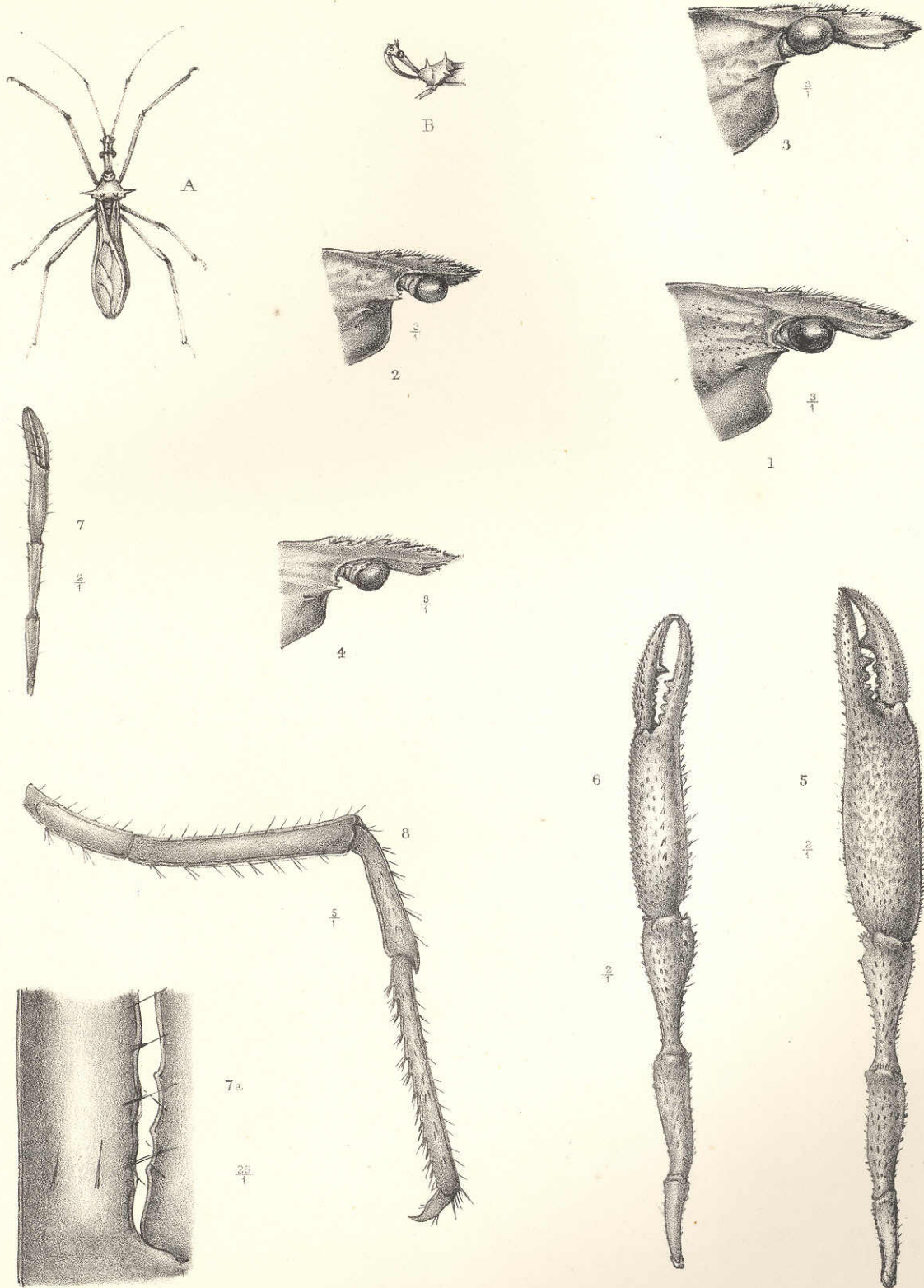
Class *DIPLOPODA*. (MILLIPEDES.)

Family POLYDESMIDÆ.

Genus ODONTOPELTIS, Pocock.

ODONTOPELTIS MACCONNELLI, sp. n.

♂. *Colour* black or very dark blackish brown, with the external half of the keel bright or dull red or yellowish brown, and, at least on the anterior terga, a median transverse yellowish or red patch along the posterior border; caudal process not pale; antennæ blackish; legs blackish brown or deep reddish brown, sterna brownish yellow. *Dorsal integument* smooth and shining or finely coriaceous; *keels* horizontal, with smooth edges, the posterior margin transverse and in the same straight line as the posterior border of the tergum, as far back as the eleventh or twelfth somite; the posterior angle not spinate, mostly acutely angled, rarely approaching a right angle; the anterior angle widely rounded and obtuse. *Caudal process* triangular, narrowly truncate posteriorly.



J.G. de Man del.

West, Newman imp.