

BRACHYURAN CRABS FROM AUSTRALIA AND NEW GUINEA.

By

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(Plates xiv.-xvi.)

A small collection of Australian crabs has recently been received at the United States National Museum from Mr. Melbourne Ward of Sydney. It includes a new species of *Cleistostoma* and specimens of four known species.

About the same time the Australian Museum sent for examination specimens of two species of river crabs from New Guinea, which appear to be new. These were collected by Mr. E. A. Briggs, M.Sc., while engaged on zoological work for the University of Sydney, on the north-east coast of the Mandated Territory of that island. The collecting base was near the headwaters of a small stream, the Wakip River, which enters the sea close to Cape Djeruen, 50 miles south-east of Aitape.

Examples of two already known species (listed below) were also represented in the small collection brought back by Mr. Briggs.

The known species (from both sources) with their localities are as follows:

Ozius truncatus Milne Edwards. Port Adelaide, South Australia; under stones between tides on sand.

Ocypode cordimana Desmarest. Sandgate, Queensland; on sand hills at back of shore and above high water mark.

Uca marionis (Desmarest), var. *vomeris* McNeill. Mouth of Brisbane River, Queensland; on mud flats.

Euplax tridentata (A. Milne Edwards). Mouth of Brisbane River, Queensland; on mud flat, among mangroves.

Varuna litterata (Fabricius). Under stones in bed of Wakip River, north coast New Guinea, close to its source; water fresh and flowing. Species common.

Macrobrachium placidulus (de Man). Wakip River, north coast New Guinea. Occurred in rocky pools in the bed of the river two miles inland from the sea coast. At time of collecting the stream was a disconnected line of similar pools in many places, which contained pure drinking water. Only one specimen was secured, but the collector states that the species was common in occurrence.

The writer is indebted to Mr. Frank A. McNeill for the privilege of describing the two new species from New Guinea.

Family OCYPODIDAE.*Subfamily* MACROPHALMINAE.*Genus* CLEISTOSTOMA *de Haan*.CLEISTOSTOMA WARDI, *sp. nov.*

(Plate xiv.)

Type-locality.—Sandgate, mouth of Brisbane River, Queensland; on mud flats. Five males. The type specimen is in the Australian Museum, Reg. No. P.8489.

Measurements.—Male holotype, length of carapace 12.2, width of same 17.6, fronto-orbital width 13.2, anterior width of front 3.4 mm.

Diagnosis.—Lateral margins of carapace strongly arcuate. Orbital margins sloping forward and outward. Merus of outer maxilliped punctate. Arm not reaching beyond carapace; palm nearly as high as long. Ambulatory legs densely hairy.

Description.—Carapace slightly convex, smooth; a transverse, curved furrow behind gastric region, a broad and deep median furrow on the front, epigastric lobes prominent, cardiac and intestinal regions defined, hepatic region depressed. Margin of carapace subacute, raised and finely milled, as is also the slightly sinuous line subparallel to, and above, the posterior margin. Front inclined downward, anteriorly narrow, about a fifth of carapace width, margin arcuate in front view, appearing bilobed in dorsal view; sides sinuous; posterior width less than a third of carapace width. Orbital margin sinuous, directed obliquely forward to the produced outer angle. Inferior margin of orbit granulate, granules for the most part separated, but finer and close toward outer end. Lateral margin of carapace arcuate.

Median tooth of epistome lobiform, the epistomial margin on either side convex. Merus of outer maxilliped broader than long, coarsely punctate, a bipartite furrow branching from the antero-external angle. Chelipeds of moderate length; when they are folded against the body the merus does not reach beyond the lateral margin of the carapace. Margins of arm acute, finely granulate; wrist longer than broad, inner margin rounded, without tooth; chelae of male heavy; palm swollen, lower edge with a sinus near base of finger; fingers slender, gape triangular, immovable finger nearly horizontal, shorter than dactylus, which has near its base a single truncate tooth, round in cross section; prehensile surfaces broad, with two granulate edges, outer coarser than inner, tips spooned. Postero-lateral slope of carapace, upper and posterior surfaces of second, third and fourth legs and upper surface of merus of first leg covered with long hair of two sorts, one coarse and thick, the other finer and longer.

The first segment of the male abdomen follows the curve of the carapace; it is pubescent and crossed transversely by a sharp crest. In the coalesced segment (second to fifth, inclusive), a partial suture between second and third segments is visible at the sides; the third,

fourth, fifth and sixth segments have each separately convex side margins; sixth segment five-eighths as long as greatest width; length and breadth of seventh segment subequal, tip arcuate.

Remarks.—Mr. Ward states that he found the species to be very common on the mud flats.

Family POTAMONIDAE.

Subfamily GECARCINUCINAE.

Genus CYLINDROTELPHUSA *Alcock.*

Cylindrotelphusa Alcock, Catal. Ind. Dec. Crust. Indian Mus., part 1, fasc. 2, Potamonidae, Calcutta, 1910, pp. 121 and 124.

To this genus (? or subgenus) belong the following:

- C. steniops* (Wood-Mason), type of the genus; India.
- C. macropus* (Rathbun); Monrovia.
- C. montanoana* (Rathbun); Philippines.
- C. perrieri* (Rathbun); Congo.
- C. ingrami* (Calman); New Guinea.
- C. wakupensis* Rathbun; New Guinea.

CYLINDROTELPHUSA WAKIPENSIS, *sp. nov.*

(Plate xv.)

Type-locality.—At foot of mountain range, close to head waters of Wakip River, north coast of New Guinea; E. A. Briggs, collector, 1924; four females, of which one is the type, Reg. No. P.8486, Australian Museum.

Measurements.—Female holotype, length of carapace 28.3, width of same 31.6, fronto-orbital width 16.7, width of front 6.5, height of body 19.6 mm. Female paratype, in paper-shell condition, length of carapace 28.3, width of same 32.6, fronto-orbital width 17.3, width of front 7.7, height of body 19.4 mm.

Diagnosis.—Carapace almost imperceptibly broader than long. Area enclosed by cervical suture sub-oblong rather than sub-triangular. Orbital tooth and epibranchial tooth well formed. Upper edge of orbit sloping outward and forward. Sides of front oblique, not sub-parallel.

Description.—Carapace strongly convex antero-posteriorly; very narrow, length about nine-tenths of width; surface coarsely and unevenly punctate and minutely granulate all over; toward lateral margins some short, fine, granulate ridges; epigastric lobes vermiculated; depression behind front and orbits crossed by numerous fine impressed lines; similar lines on intestinal region. The forward part of the cervical groove begins a little behind the hepatic region; it is directed toward the outer angle of the orbit, and continued backward and slightly inward in a sinuous line, being interrupted before it reaches the mesogastric region; along the sides of this region the groove is wider and deeper than elsewhere, but narrow between gastric and cardiac regions;

grooves deep on either side of cardiac region; post-frontal groove narrowly bifurcate, but not continued in front of epigastric lobes. Regions distinct and separately tumid. Front very broadly triangular, margin sinuous, median point bent backward to meet the epistome. Orbits wide (vertically), outer angle dentiform, prominent, subacute, not separated by a gap from lower border. Antero-lateral borders shorter than postero-lateral, rimmed, the rim punctate, set off by a groove above, and terminating anteriorly in a blunt rectangular epibranchial tooth.

Basal article of outer antenna obliquely placed with its whole length across the broad orbital gap; flagellum half as long as greatest dimension of orbit. Median tooth of free edge of epistome equilaterally triangular, vertically deflexed; margins on either side more advanced than edge of front, sinuous, the highest part above the tubular efferent branchial openings.

Chelipeds unequal in female; merus with inner and upper margins dentate, outer margin rimmed, distally dentate, outer surface with sharp squamiform granules. Surface of carpus punctate and vermiculate, a conical acuminate spine at inner angle, and a stout spinule below the angle. Chela punctate and finely granulate, palm swollen; fingers, measured from gape, nearly as long as palm, grooved, gaping narrowly at base, armed with numerous small rounded teeth or lobes, tips crossing.

Legs narrow, slightly rough; merus with a subdistal spine; upper margin of merus and both the upper and lower margins of propodus spinulose; larger spinules on the four margins of the slender dactyls, which are longer than their respective propodites, measured along upper margin.

Variation.—The carapace of the measured paratype, though of the same length as that of the holotype, is a little wider, its anterior portion more depressed and less compressed laterally, the orbits in consequence not so slanting; the front appears a little less triangular, while the median tooth of the lower edge of the epistome is flatter (less concave) and therefore wider. The two additional paratypes are smaller and not susceptible of measurement; all have a well formed secondary spine on the carpus of the cheliped.

Relation.—This species is very near *C. ingrami* (Calman)¹, but is distinguished from it by the narrower carapace, the more longitudinal and more sinuous lateral limbs of the cervical suture, the greater size of the outer orbital tooth, the presence of a small spine on the wrist below the spine at inner angle.

Remarks.—Mr. A. E. Briggs states that clay castings from the burrows of this species occurred on the banks of the Wakip River close to its headwaters, which are about $2\frac{1}{2}$ miles from the sea coast. Upon excavation, tunnels about four inches in diameter were revealed running down obliquely into the earth for a distance of about two feet. Similar castings and burrows were plentifully distributed on both banks of the stream for a distance of about 300 yards. In this area the surface of the banks is hard yellow clay, but at a little depth this becomes soft and moist. In this moist clay the burrows of the crabs terminated in a water-filled chamber, which invariably contained a specimen.

¹Calman—Proc. Zool. Soc. London, 1908, p. 960, pl. xviii.

Genus *PARATHELPHUSA* Milne Edwards.Subgenus *LIOTELPHUSA* Alcock.

Liotelphusa Alcock, Catal. Ind. Dec. Crust. Indian Mus., part 1, fasc. 2, Potamonidae, Calcutta, 1910, pp. 71 and 109.

From Alcock's definition should be excluded, "No spine on upper border of merus of chelipeds."

PARATHELPHUSA (*LIOTELPHUSA*) *BRIGGSI*, *sp. nov.*

(Plate xvi.)

Type-locality.—Headwaters of the Wakip River, north coast of New Guinea; E. A. Briggs collector, 1924; one male holotype, Reg. No. P.8488, Australian Museum.

Measurements.—Male holotype, length of carapace 14.7, width of same 17, fronto-orbital width 11.3, width of front 5.3, height of body 8.6 mm.

Diagnosis.—Width of carapace 1.15 times length. Short, deep carapace furrows. Wrist bispinose. Legs slender, of moderate length. Sixth abdominal segment in male longer than broad.

Description.—Carapace moderately convex, nearly flat from side to side except near the margins; narrow, length about 6/7 of breadth; epigastric lobes well marked, eroded; no postorbital lobes; a continuous depression behind front and orbits; front bent downward and inward forming a crest entirely across the front. A deep median furrow, not continued on the front; the lateral sections of the cervical suture short, straight, not reaching the hepatic region nor the mesogastric region; a broad furrow behind the gastric region, interrupted at the middle, but with a small branch either side. Deflexed portion of front broadly triangular, concave. Outer orbital angle rectangular; antero-lateral margin acute, finely granulate, epibranchial tooth insignificant, obtus-angular; short raised lines run obliquely inward from the whole lateral margin. Dorsal surface coarsely punctate.

Only the right cheliped is present; it appears to be the minor, and is shorter than the first ambulatory; outer and upper surface crossed by short rugae; merus with a short, acute, subdistal tooth above; carpus with a stout, conical, sharp inner, tooth or spine and below and proximal to it a small denticle; fingers narrow, a little longer than palm measured from the gape, grooved, narrowly gaping in proximal half, edges feebly dentate. Ambulatory legs narrow, slightly roughened; upper edges of merus roughened with short rugae except in last pair where it is margined; a small, rectangular, subdistal tooth above; dactyli coarsely spined, a little longer than their respective propodites measured on the upper margin.

The male abdomen is of the same type as that of *P. (L.) aruana* Roux,² but the fifth segment is wider (from side to side) and the seventh is also wider except at proximal end, and more oblong.

²Roux—Abhandl. Senck. Naturf. Ges., Frankfurt am Main, xxxv, 1919, text-fig., p. 345.

Relation.—The Wakip River specimen, although closely related to Roux's *aruana*,³ can hardly be referred to it; it is narrower than the narrowest of the variations listed by Calman,⁴ the lengthwise furrows of the cervical suture are more convergent, the legs slenderer; the abdomen differs as above stated. Similarly, our species cannot be combined with *P. (L.) wollastoni* Calman,⁵ on account of its narrower carapace; deeper carapace furrows; more evident epibranchial tooth; antero-lateral marginal line longer, extending about two-fifths the length of the carapace; shorter ambulatory legs; differently proportioned abdominal segments.

Remarks.—The collector informs me that he secured several examples of this species in the headwaters of the Wakip River, which rise in the mountain ranges about $2\frac{1}{2}$ miles inland from the sea. They were found under stones in the bed of the stream at the foot of a waterfall. Where the species occurred the water was perfectly fresh and flowing, but specimens were not very plentiful.

³Roux—Notes Leyden Mus., xxxiii, 1911, p. 91.

⁴Calman—Trans. Zool. Soc. London, xx, 1914, p. 313.

⁵Calman—Trans. Zool. Soc. London, xx, 1914, p. 310, text-fig. 12.