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A new portunid crab of the genus *Libystes* from the
Ogasawara Islands, with note on *L. villosus* Rathbun
from the Ryukyu Islands¹

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In the present paper a new species of the genus *Libystes* A. Milne Edwards of the family Portunidae is described from the Ogasawara Islands, and a rare species *L. villosus* Rathbun from the Ryukyu Islands is added herewith. Up till now the following five species of the genus have been enumerated exclusively from the Indo-West Pacific waters.

- Libystes alphonsi* Alcock, 1900
- L. edwardsi* Alcock, 1900
- L. nitidus* A. Milne Edwards, 1867
- L. paucidentatus* Stephenson et Campbell, 1960
- L. villosus* Rathbun, 1924

They are small in number, but as briefly noted below, systematically important showing the close affinity to the family Goneplacidae. In the above list the species hitherto referred to the genus *Catoptrus* A. Milne Edwards are excluded following Serène (1966) who is of opinion that the genera *Libystes* and *Catoptrus* should be maintained. The species of *Catoptrus* are three as listed below.

1) Contributions from the Zoological Laboratory, Faculty of Agriculture, Kyushu University, No. 427.

- Catoptrus inaequalis* Rathbun, 1906
C. nitidus A. Milne Edwards, 1870
C. rathbunae Serène, 1966

Tesch (1918) and Stephenson and Campbell (1960) remarked that there is no reason to justify the maintenance of the genus *Catoptrus*. As already noticed by them and judging from the evidence available, the diagnostic characters of both genera have been founded to the toothed or entire anterolateral borders of the carapace, the operculiform or usual third maxilliped with or without the expanded antero-external angle of the merus, and the relative flattening of the fourth ambulatory or natatory leg. It is apparent that there is the great confusion in those features within the species of *Libystes* and *Catoptrus*. However, in the species of *Libystes* the carapace is much wider and somewhat cylindrical contrary to the ovate carapace in *Catoptrus*. It is shortly noted that if *Catoptrus* is synonymized with *Libystes*, *Catoptrus nitidus* A. Milne Edwards becomes *Libystes truncatifrons* (de Man), since each of the two genera has a species bearing the name *nitidus*.

In both genera the general formation of the carapace is in reality very close to that of the members of the subfamily Carcinoplacinae of the family Goneplacidae. However, the elongated chelipeds in both sexes, the shape of the male abdomen, and bearing the peculiar lobe at the first maxilliped are characteristic of the family Portunidae.

Subfamily Catoptrinae Borradaile, 1903

Genus *Libystes* A. Milne Edwards, 1867

Libystes lepidus sp. nov.

(Figs. 1, 2)

Diagnosis. Carapace more or less elliptical. Dorsal surface ill-defined without granules and hairs. Anterolateral border granulated and bears altogether four small teeth behind low external orbital angle. Ambulatory legs with longish brush-like hairs. Dactylus of last ambulatory leg not paddle-like.

Description of holotype. The carapace is transverse and more or less elliptical; its dorsal surface is very smooth and vaulted fore and aft without regional indication, hairs and granules; it is nearly level transversely for its greater surface, but rather convex near the lateral borders; in front of the posterior angle is a short, low longitudinal prominence, the outer side of which is sunken.

The front is about one-third the breadth of the carapace and narrowly but rather distinctly edged, being nearly truncated; it is entire without median emargination, but in reality two lobes are distinguishable due to the median dorsal concavity; the lateral angle of the front is produced, but rather rounded without lateral lobule, forming a supra-orbital angle. The orbit is somewhat transverse, and the eyestalk and cornea are protruded from the contour of the carapace. The third maxilliped is operculiform; the ischium and merus are wide, and the antero-external angle of the merus is greatly extended obliquely forwards.

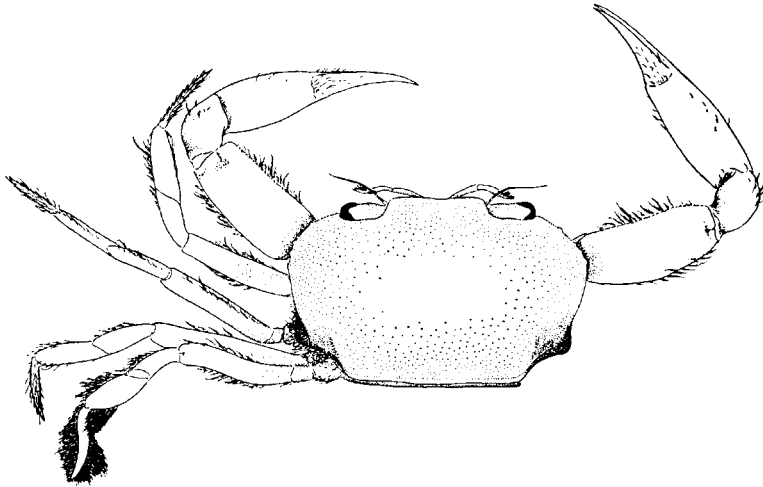


Fig. 1. *Libystes lepidus* sp. nov., holotype.

The anterolateral border of the carapace is granulated and obscurely denticulated; at some distance behind the external orbital angle is a low prominence, and further behind of the latter the three small prominences are demarcated, of which the hindermost is the smallest; the posterolateral border is somewhat convex in the middle; accordingly, the arched anterolateral border, the last smallest anterolateral tooth and the convex posterolateral border give the carapace an elliptical appearance.

The chelipeds are subequal. The greater part of the merus is exerted beyond the carapace; it is unarmed only with a fringe of brush-like hairs and minute granules along its anterior border. The carpus and palm are unarmed, smooth and shining only with sparse longish brush-like hairs; the palm is not so swollen, but as stout as the merus. The fingers are subequal to the palm in length, and sharply but irregularly toothed on the cutting edges, being distinctly crossed to each other at the tips; the proximal halves of both fingers are

provided with sparse longish brush-like hairs.

The ambulatory legs are exceedingly slender and bordered with longish brush-like hairs; the dactyli of the first three pairs and all the segments of the last pair bear the much denser fringes of the same hairs; the dactylus of the last ambulatory leg is not paddle-like, but only sinuate.

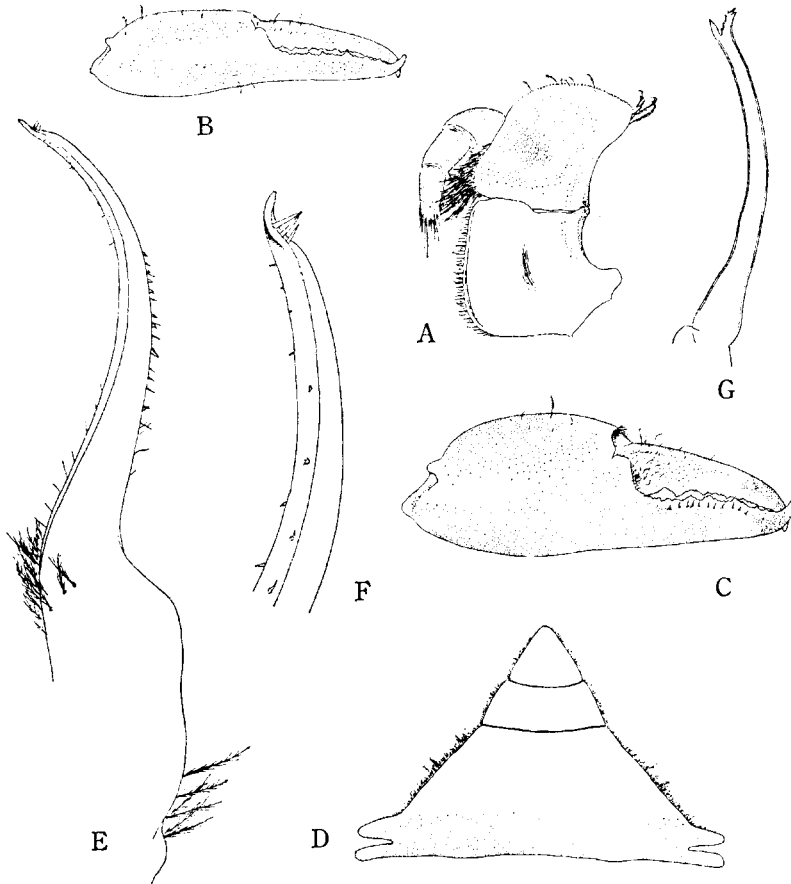


Fig. 2. *Libystes lepidus* sp. nov. A, left third maxilliped of paratype, $\times 12.5$; B, right chela of holotype, $\times 7.5$; C, the same of paratype, $\times 7.5$; D, abdomen of paratype, $\times 10$; E, left first pleopod of paratype, $\times 40$; F, distal part of the same, $\times 100$; G, left second pleopod of paratype, $\times 40$.

Description of paratype. The formation of the carapace is quite like that of the holotype. It is uncertain whether the chelipeds are equal or unequal on account of the absence of the left cheliped. Otherwise, the buccal region is somewhat damaged and the ambulatory

legs are detached. The right cheliped is massive much more than that of the holotype, though the general formation is nearly alike each other; the palm is stout and high, being slightly longer than the fingers unlike the case of the holotype. The abdomen is almost triangular, tapering rapidly; the proximal lateral indentation of the fused segment is so deep that the two lateral projections formed are subequal and very prominent. The first pleopod is curved inwards and tapers distally, bearing a small beak at the tip. The second pleopod is rather long and bifid at the tip.

Material examined.

Futami [-- Port Lloyd], Chichi-jima I., Ogasawara [== Bonin] Is., dredged; 1 ♂ (paratype), 1 ♀ (holotype), ZLKU No. 1970 and 1971; June 1939; Hayato Ikeda leg.

Measurements (in mm)

	Holotype ♀ (No. 1971)	Paratype ♂ (No. 1970)
Length of carapace.....	4.3	5.0
Breadth of carapace	6.8	7.8
Breadth of front	2.2	2.6
Breadth of fronto-orbital border	4.4	5.1

Remarks. This species is closely related to *L. nitidus* A. Milne Edwards and *L. alphonsi* Alcock, the latter of which is doubtly considered as a synonym of the former by Tesch (1918) and Edmondson (1954). Only a difference enumerated in the original description of *L. alphonsi* is a shape of the carapace. It was described that in *L. nitidus* the carapace is elliptical in the contour, while that of *L. alphonsi* is subquadrilateral. *L. nitidus* is rather widely distributed in the Indo-West Pacific waters, and well figured by A. Milne Edwards (1968), Barnard (1954) and Crosnier (1962). In *L. nitidus* and *L. alphonsi* the anterolateral border of the carapace is thick and entire, while in this species it is granulated and bears altogether four small teeth. The carapace of this species is apparently narrower than in the two species, and otherwise, the size is much smaller than *L. nitidus*.

Libystes villosus Rathbun, 1924

(Fig. 3)

Libystes villosus Rathbun, 1924, p. 127—Apia, Samoa Is.

Libystes villosus, Edmondson, 1951, p. 223, fig. 25—Off Honolulu, Oahu I., 55–80 m deep, and Wake I., Hawaiian Is.

Libystes villosus, Edmondson, 1954, p. 226, fig. 4, c, d—No new locality.

Description. The carapace is transverse and somewhat quadrilateral; the dorsal surface is smooth and naked for its greater part and vaulted antero-posteriorly; it is ill-defined only with a somewhat H-shaped gastro-cardiac separation that is fairly distinct; a longitudinal short elevation in front of the posterior corner is prominent and tipped with a row of five or six granules of good size; the longish brush-like hairs are dispersed near the anterolateral borders and behind the orbits, and just at and along the margin of the front is a dense fringe of the same hairs; otherwise, the eyestalk bears a prominent tuft of the same long hairs near the cornea, and each lateral wall of the carapace is densely provided with the same long hairs that show the shaggy appearance. The orbit is suborbicular, and the eyestalk is not protruded from the general contour of the carapace. The third maxilliped is operculiform with the greatly produced antero-external angle of the merus.

The anterolateral border is thin and entire; the border itself and the dorsal surface inner and along the border are minutely and thickly granulated; the anterolateral and posterolateral borders are not distinctly delimited, but in reality the latter is considerably longer and very slightly inclined.



Fig. 3. *Libystes villosus* Rathbun, ♀ (No. 11049).

Only the right cheliped is present, being probably the larger one. The merus and carpus are densely fringed with brush-like hairs of various length; the anterior border of the merus is minutely granulated,

while the carpus is unarmed at all. The palm is much stouter than the merus, and smooth for its greater surface but somewhat punctated near the upper border. The fingers are shorter than the palm, gaping along their proximal two-thirds; each of the fingers is provided with two or three longitudinal shallow furrows, and irregularly toothed on the cutting edge; the tips are strongly crossed to each other.

The ambulatory legs are long and densely fringed with brush-like, shaggy hairs of various length; the dactylus of the last ambulatory leg is not foliaceous, but slender and sinuate.

Material examined.

Ara-dake, Kume-jima I., Ryukyu Is., under stone; 1 ♀, ZLKU No. 11049; March 13, 1960; Hisakatsu Minei leg.

Measurements (in mm)

Length of carapace	4.8
Breadth of carapace	8.2
Breadth of front	2.4
Breadth of fronto-orbital border	4.5

Remarks. This species is related to *L. nitidus* A. Milne Edwards and *L. alphonssi* Alcock in the formation of the anterolateral border of the carapace being not denticulated. Those two species are, as already remarked elsewhere, closely related to each other, if not quite identical. In this species the anterolateral border and the surface inner and along the border are thickly granulated, while in those species the borders of the carapace, chelipeds and ambulatory legs are smooth and not provided with hairs.

Distribution. This species has been known only from the Samoa and Hawaiian Islands in the Pacific. Edmondson (1951, 1954) recorded a specimen collected in the shallow water at Wake Island and three specimens dredged from two localities near Oahu Island at the depths of 55 and 70 to 80 m.

Acknowledgement

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