

movable finger swollen basally, provided with a blunt tooth at the base. In smaller cheliped, merus, wrist and palm are almost similar in shape to those of the larger one. Fingers furnished with fine teeth along their inner margins, not gaping; tips pointed and slightly curved inwards toward each other.

Ambulatory legs smooth, slightly hairy; merus and carpus unarmed; propodi of first three pairs armed with two spinules along the longitudinal axis and two similar ones at distal ends of their posterior margins; dactylus terminates in an acute claw, in addition to it there are two smaller claws upon the principal claw, posterior margin of dactylus armed with two spinules. Telson of abdomen seven-jointed; central plate broader than long.

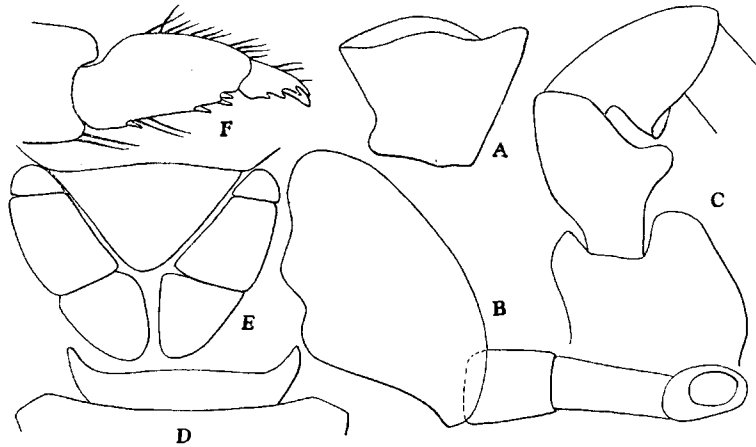


Fig. 57. *Polyonyx sinensis* STIMPSON.

A First peduncle of right antennule, ventral view, $\times 40$, B Basal peduncles of left antenna, ventral view, $\times 40$, C Merus and carpus of third maxilliped of right side, ventral view, $\times 40$, D Sternum of third maxilliped, $\times 25$, E Telson of male, $\times 25$, F Dactylus and propodus of second ambulatory leg, $\times 25$.

Colour in life: According to STIMPSON, "In life this species is of a clear, pale bluish-gray color, with large spots of a neutral tint or sepia color."

The markings and colour of the body turn pale and fade into whitish in alcohol.

Habitat: Dredged from a bottom of shelly sand at twenty-six fathoms, in the China Sea, under the twenty-third parallel of north latitude (STIMPSON).

Material examined: Tomioka, Amakusa; 1 ♂, Jul. 10, 1934 (MIYAKE).

Dimensions (in mm):

	♂	
Length of carapace	4.2	
Breadth of carapace	5.1	
	L	R
Length of wrist	5.1	4.5
Breadth of wrist	3.0	2.5
Length of palm	4.5	4.0
Breadth of palm	2.8	1.9
Length of movable finger	2.5	2.2

Distribution: China Sea, Amakusa.

33. *Polyonyx utinomii* nom. nov.

Text-figs. 58-59.

Polyonyx asiaticus MIYAKE 1937, p. 216 (not *P. asiaticus* SHEN, 1936).

Carapace much broader than long, the proportion of length to breadth being 1:1.42; upper surface strongly convex longitudinally, smooth, glabrous and transverse lineolate near the lateral margins; regions faintly indicated. Front rather broad, measuring one-third as long as the carapace; median lobe a little more projecting than lateral lobes. Antero-lateral margin of carapace cut into two arcs by a broad sinus above the base of antenna; postero-lateral margin rounded; posterior margin slightly concave.

First peduncle of antennule smooth, very thickened distally; upper plate much concave laterally; antero-inner lobe not produced than the upper plate; the lateral margins much convergent basally. First peduncle of antenna very broad, elongated; upper plate elliptical, with the surface more or less concave. Succeeding peduncles cylindrical and smooth. The relative lengths of basal peduncles are II:III:IV=5:8:4. Third maxilliped smooth, with each segment very long; the inner crest of merus broad, rounded and almost symmetrical. The sternum of third maxilliped shorter

than the anterior margin of thoracic sternum, the proportion of them being 7:8. Anterior margin of sternum of third maxilliped more or less convex, being destitute of middle process; outer margin of the lateral process straight. Anterior margin of thoracic sternum strongly concave especially near the middle.

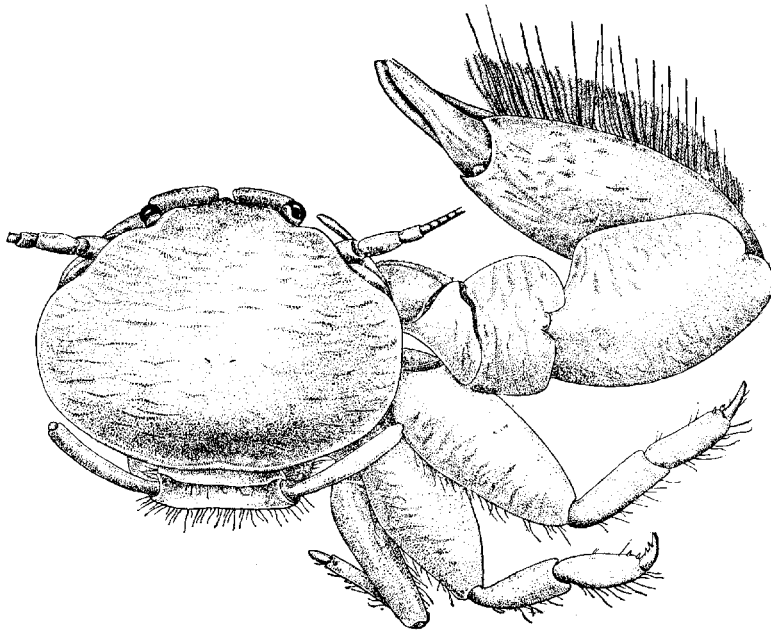


Fig. 58. *Polyonyx utinomii* nom. nov., female, $\times 12$.

Chelipeds unequal, the right one being larger in the holotype. Arm and wrist convex, smooth, though marked with some delicate transverse lines which are only visible by means of a magnifying lens on upper surface; their anterior margins project in the form of a crest, forming a deep concavity beneath for the reception of the inner part of palm. The crest of merus broad and rounded, that of wrist with straight free margin, not swollen; palm marked with short, microscopical longitudinal lines on upper surface and furnished with a line of stiff hair thickly on lower margin. Movable finger provided with a line of granules on outer surface, cutting edges of both fingers armed with small teeth.

Ambulatory legs successively decrease in length; merus very broad; carpus unarmed; propodus armed with three spinules on

posterior margin: two of them in pair at distal end, remaining one just in front of them; dactylus terminates in a double claw, accessory claw above much smaller than principal one, in addition to them it bears two spinules on posterior margin. Telson of abdomen seven-jointed, central plate rather narrow.

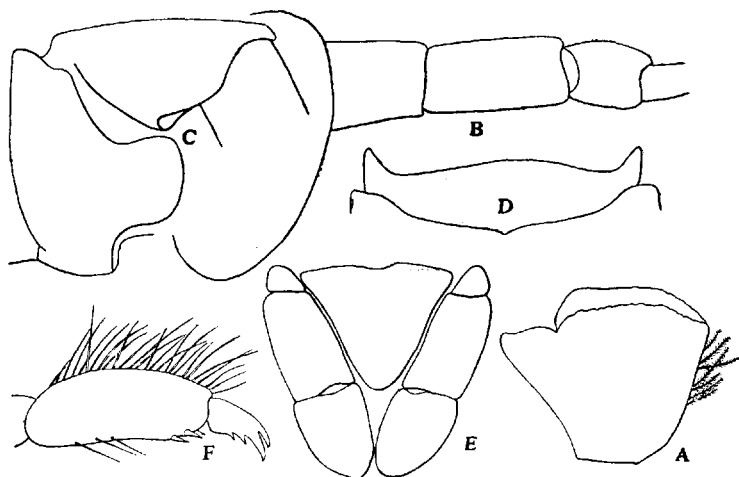


Fig. 59. *Polyonyx utinomii* nom. nov.

A First peduncle of left antennule, ventral view, $\times 40$, B Basal peduncles of right antenna, dorsal view, $\times 40$, C Merus and carpus of third maxilliped of right side, $\times 40$, D Sternum of third maxilliped of right side, $\times 25$, E Telson of female, $\times 25$, F Dactylus and propodus of ambulatory leg, $\times 25$.

Remarks: This species is allied to *P. asiaticus* SHEN, 1936, but differs from it in shape of the crest of wrist, which is not so swollen as in that species. The crest of merus of third maxilliped is broader than that of *P. asiaticus*, and moreover, propodus bears only three spinules instead of four.

In my previous paper (MIYAKE 1937_d), I referred a specimen from Seto, Prov. Kii to *Polyonyx asiaticus* SHEN from Chefoo, North China, but with some doubt as to its identification. However, after my closer investigation, I think it better at present to separate the Nipponese form from the Chinese as a distinct species.

Colour in alcohol: Whitish.

Habitat: Commensal in *Chaetopterus variopedatus*.

Material examined: Tanosaki, Prov. Kii; 1 ♂, S.M.B.L., IX J. Cat. No. 20, Apr. 20, 1927 (UTINOMI).

Dimensions (in mm):

		♂
Length of carapace		4.0
Breadth of carapace		5.4
	L	R
Length of wrist	3.3	4.0
Breadth of wrist	2.4	2.6
Length of palm	3.5	5.0
Breadth of palm	2.0	2.7
Length of movable finger	2.2	2.0

34. *Polyonyx carinatus* ORTMANN

Polyonyx carinatus ORTMANN 1892, p. 268, Pl. 12, figs. 2, 2e.

I have not had an occasion yet to examine this species. The following diagnoses were prepared from ORTMANN's original descriptions.

"Carapace rounded, not longer than broad, smooth, but somewhat hairy. Front short, almost straight, slightly produced only in the middle and with a faint median groove above. Chelipeds subequal, merus armed with a triangular tooth on distal end of inner margin, wrist with a longitudinal edge on upper surface and armed with one or two teeth on anterior margin, palm with a longitudinal edge on upper surface, its inner margin provided with two spines at distal end, its outer margin with a row of hairs, movable finger with a feeble longitudinal edge, dactylus terminates in two unguicles, the accessory claw of which being smaller than the principal one and tubercle-like."

Distribution: Amami-Ōsima (Type-locality).

35. *Polyonyx biunguiculatus* (DANA)

Text-fig. 60.

Porcellana biunguiculata DANA 1852, p. 411; 1855, Pl. 26, fig. 1—

Locality unknown.

..... HASWELL 1882, p. 147—Off Port Denison, Queensland.

Polyonyx biunguiculatus GORDON 1935, p. 10, figs. 5b-d—Eiland Enoe.

..... MIYAKE 1942, p. 371, Pl. 1, fig. 1; text-figs. 30-32
—Palau Is.

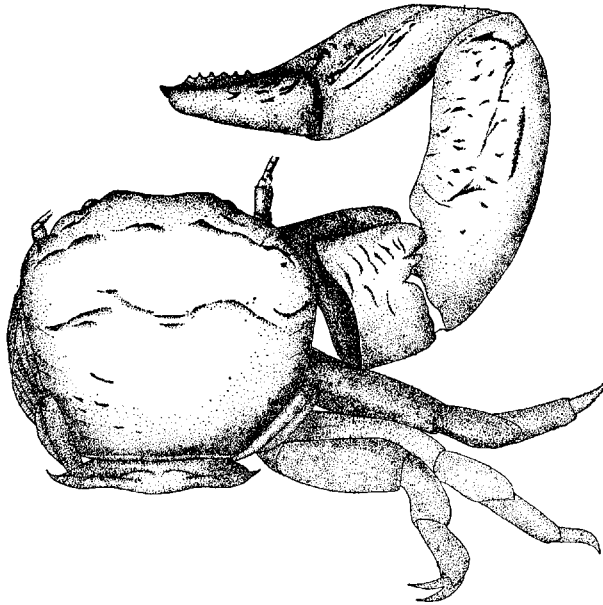


Fig. 60. *Polyonyx biunguiculatus* (DANA), male, $\times 7.5$.

Genus *Raphidopus* STIMPSON

Raphidopus STIMPSON 1858, p. 66; 1907, p. 184; HENDERSON 1888, p. 113.

The forms of the carapace, chelipeds, and ambulatory legs render this one of the most distinct genera in the Porcellanidae. Carapace suborbicular, broader than long, and much expanded at the sides. Front transverse, not prominent, and dentate. Eyes of small size. First peduncle of antenna elongated, jointing the upper margin of carapace. The third maxilliped of usual form; ischium, however, is short, very much dilated and rounded within, and its external apex not rounded. Chelipeds elongated, with narrow curved digits. Ambulatory legs slender, the dactyli flattened and ciliated, almost straight, with the apex sharply pointed, but without any indication of a distinct unguicle. Such a form of legs seems to be well adapted for moving about with ease through soft mud in which it lives.

Type: *Raphidopus ciliatus* STIMPSON

Following two species have hitherto been described: 1. *R. ciliatus* STIMPSON, 2. *R. indicus* HENDERSON from Madras, India.

36. *Raphidopus ciliatus* STIMPSON

Text-figs. 61-62.

Raphidopus ciliatus STIMPSON 1858, p. 241; 1907, p. 185, Pl. 22, fig. 5—Hongkong (Type-locality).

- TARGIONI and TOZZETTI 1877, p. 222, Pl. 5, fig. 4.
 HENDERSON 1888, p. 113—Hongkong.
 ORTMANN 1892, p. 266—Tōkyō Bay
 PARISI 1917, p. 7—Misaki.
 GORDON 1931, p. 526—China.

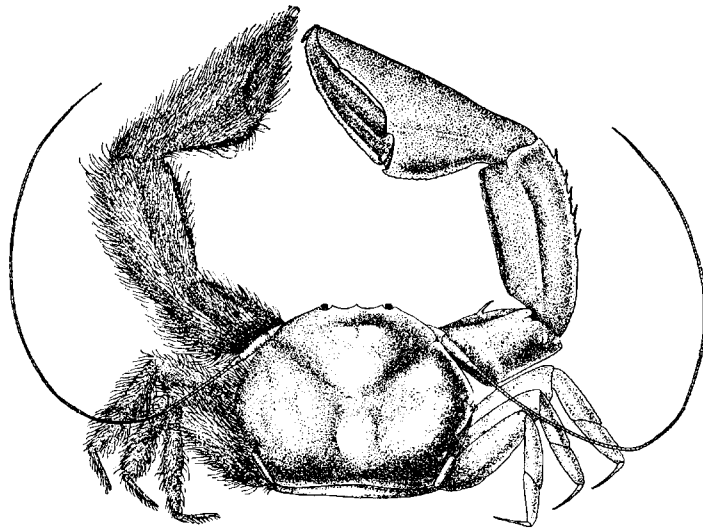


Fig. 61. *Raphidopus ciliatus* STIMPSON, male, $\times 5.3$.

Sides of the body and margins of the legs thickly ciliated with long, fine hairs. Carapace rounded, broader than long, tomentum somewhat areolated; surface slightly uneven and transversely rugate especially on latero-inferior regions. Lateral margin strongly convex, with a sinus behind base of antenna at the position of epibranchial tooth in members of *Petrolisthes*, two small teeth or spines near the middle, and a spine on the postero-lateral margin

at the extremity of a short oblique ridge. Frontal margin not produced, divided into three minute teeth, the median one most prominent. Antero-lateral margin slightly sinuated at the orbits.

First peduncle of antennule is tuberculated on anterior region, and ciliated on anterior margin. Antenna cylindrical and ciliated on the surface. Second peduncle provided with a small tubercle. The relative lengths of basal peduncles are II:III:IV=5:7:3. Merus of third maxilliped smooth, somewhat punctate on ventral surface. The laminate crest provided with rounded free margin.

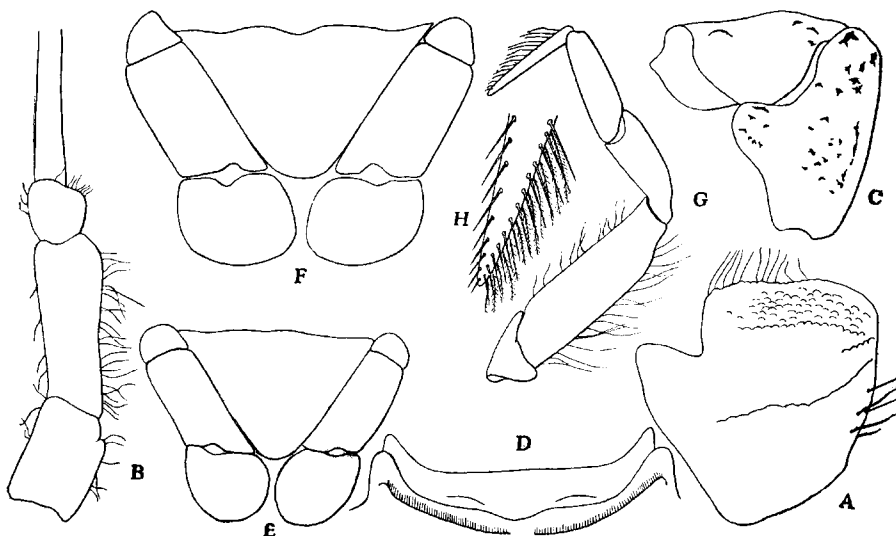


Fig. 62. *Raphidopus ciliatus* STIMPSON.

A First peduncle of left antennule, ventral view, $\times 25$, B Basal peduncles of left antenna, ventral view, $\times 12$, C Merus and carpus of third maxilliped of left side, ventral view, $\times 12$, D Sternum of third maxilliped of ovigerous female, $\times 7.5$, E Telson of male, $\times 12$, F Same of ovigerous female, $\times 7.5$, G Second ambulatory leg of left side, $\times 12$, H Dactylus of same, $\times 25$.

Chelipeds unequal, angular and very hairy; arm large, more than two-thirds as long as the wrist, with a longitudinal ridge on upper surface and armed with a single, sharp, curved spine on inner margin; wrist nearly as long as palm, with a median

logitudinal spinulated ridge, its anterior margin not dilated, slightly concave and serrulated; its posterior margin convex and armed with four or five spinules; smaller palm elongated, subtriangular, with three longitudinal obtuse ridges, minutely crenulated or spinulated on the upper surface; fingers longer than palm, not gaping, tips much curved, crossing each other, cutting edges minutely denticulated but not toothed; inner edge of immovable finger slightly dilated. In the larger hand movable finger subcristate above, and armed with a tooth near the base on cutting margin; the immovable finger bears a strong tooth at the middle of cutting margin.

Ambulatory legs long, slender, slightly compressed; merus not dilated; dactylus as long as propodus, and slightly sulcated on one side toward extremity; dactylus of third pair shorter than the others. Telson of abdomen seven-jointed; its postero-lateral plate large, broader than long specially in female.

Colour in life: Body white; hairs yellowish brown.

Habitat: Taken with a trawl on muddy bottom at 1-6 fathoms.

Material examined:

Bingo-Nada, Inland Sea, 1 ♂, 4 ovig. ♀ ♀, Sept. 22, 1933 (TAKI).
Tomioka, Amakusa, 1 ovig. ♀, Sept. 10, 1934 (MIYAKE).

Dimensions (in mm):

	♂		♀	
Length of carapace	5.5		7.0	
Breadth of carapace	7.0		9.0	
Length of wrist	5.0	5.0	9.0	8.0
Breadth of wrist	2.8	3.0	5.0	4.0
Length of palm	5.0	6.0	6.0	8.8
Breadth of palm	3.3	4.0	7.0	6.0
Length of immovable finger	3.8	3.8	6.8	6.5

Distribution: Tōkyō Bay, Misaki, Inland Sea, Amakusa, Hongkong.

III. ZOOGEOGRAPHICAL AND ECOLOGICAL NOTES

The forms of Nipponese Porcellanids, as far as known, are referable to 36 species and one variety. One of them *Pachycheles*

stevensii STIMPSON is regarded as belonging to the northern group (2.8 per cent.), distributed from Vladivostock, Hokkaido, Nippon proper to the Inland Sea, while the others all inhabit in temperate or subtropical seas. These latter may be divided from the distributional and ecological view-point into three groups as follows:

i. Common to Nippon proper and Hongkong

(6 species, 16.6 per cent.)

This group inhabits in temperate zone, especially first two species are restricted in Nippon proper; they are considered as endemic species of Nippon. The last four species are distributed in Nippon proper, Hongkong and its neighbourhood in South China, being regarded as the Far Eastern species. The discontinuous range between Kyūsyū and Hongkong seems to be due to unfavourable habitat. HIRO's suggestion as to Cirripedia of the discontinuous distribution seems to be related closely to our case.

Table 1. Distributional list of first group

Species	Localities							Habitats
	Tōkyō Bay	Misaki	Prov. Kii	Inland Sea	Northern Kyūsyū	Southern Kyūsyū	Hongkong	
1. <i>Pachycheles balssi</i>	—	○	○	—	○	—	—	under stones
2. <i>Polyonyx utinomii</i>	—	—	○	—	—	—	—	commensal
3. <i>Raphidopus ciliatus</i>	○	—	—	○	○	○	○	muddy bottoms
4. <i>Porcellana ornata</i>	—	—	○	○	○	○	○	muddy bottoms
5. <i>P. pulchra</i>	—	—	—	○	○	—	○	commensal
6. <i>Polyonyx sinensis</i>	—	—	—	—	—	○	○	free living

Polyonyx utinomii MIYAKE is a commensal living in the *Chaetopterus* tube. ENDERS, SHELFORD and PEARSE have observed a peculiar mode of life.

Polyonyx macrocheles (GIBBES) associated with *Chaetopterus*. *P. macrocheles*, after their statements, is strongly thigmotaxic and creeps into crevices or tubes; it becomes quiet when shadows pass over the body, it feeds by "net casting" after the manner of barnacles; it has a very long breeding season, producing one brood after another. The thigmotaxis would easily account for its entering host's tubes, and its feeding habit is admirably suited for the capture of food in such a situation. The quick cessation of motion when stimulated by a decrease in light might protect them from enemies when out of the tube.

A pair of *Porcellana pulchra* STIMPSON lives commensalistic with a hermit crab *Pagurus haani* (RATHBUN), occupying a shell of *Rapana thomasi* CROSSE. A few *Syphopatella walshi* (REEVE) with white shell are attached to the inner face of shell. A similar mode of a peculiar association is also found in the case of *Porcellana paguriconviva* GLASSELL. In the Gulf of California, this Porcellanid is a commensal living with a large hermit crab *Petrochirus californiensis* BOUVIER. The usual association is: the Pagurid host, occupying the shell of *Phyllonotus nigrilus* (PHILIPPI), accompanied by a large Pollonoid worm and a pair of *P. paguriconviva*. At times the inner face of the shell may find a *Crepidula nivea* GOULD attached, and this in turn may have its own Pinnotherid commensal *Fabia granti* GLASSELL.

ii. Indo-Malayan species commonly inhabiting
in warmer waters of Nippon.

(11 species, 30.6 per cent.)

This group is commonly found in Nippon proper, South-West Islands, Hongkong, and also in the Indo-Malayan, South Pacific Seas; it was seldom obtained in North Australia, Hawaii Islands, and farther westward to the Red Sea.

These species are evidently recognised to belong to the Indo-Malayan fauna, and may be considered to have propagated to the northern temperate zone driven by the warm current or Kuroshio. These species have their northern limits of distribution in Tōkyō Bay or Kominato, two of them living as commensals. The remainder are free-living, littoral inhabitants.

Porcellana serratifrons STIMPSON usually lives among fouling animals of ships' bottoms in the waters of Kyūsyū. Ships' bottoms

are primarily occupied by a barnacle *Balanus amphitrite*, a tubicolous Polychaete *Hydroides norvegica* MARENZELLER and some Bryozoa. This little Porcellanid lives among the named fouling animals being accompanied by a crab *Sphaerozius nitidus* STIMPSON. This secondary association seems to owe to their feeding habits. Ac-

Table 2. Distributional list of second group

Species	Localities											
	Tōkyō Bay, Sagami Bay	Izu, Suruga Bay	Prov. Kii	Tosa Bay	Inland Sea	Northern Kyūsyū	Southern Kyūsyū	Anami-Ōsima, Ryūkyū, Taiwan	Ogasawara, Ōtori-sima	Hongkong	Indo-Malayan Sea	South Pacific Sea
1. <i>Petrolisthes japonicus</i>	○	○	○	—	○	○	○	○	—	○	○	—
2. <i>P. coccineus</i>	○	—	○	○	—	○	○	○	—	—	○	○
3. <i>P. boscii</i>	—	○	○	○	—	—	○	—	—	—	○	—
4. <i>Porcellanella picta</i>	—	—	○	○	○	—	—	—	—	○	○	—
5. <i>Porcellana serratifrons</i>	—	—	—	—	○	○	○	—	—	○	○	○
6. <i>Petrolisthes hastatus</i>	—	—	—	—	—	—	○	○	—	—	○	—
7. <i>P. indicus</i>	—	—	—	—	—	—	—	○	○	—	○	—
8. <i>P. tomentosus</i>	—	—	—	—	—	—	○	○	○	—	—	○
9. <i>P. masakii</i>	—	—	—	—	—	—	—	○	—	—	—	—
10. <i>Polyonyx carinatus</i>	—	—	—	—	—	—	—	○	—	—	—	—
11. <i>Pisosoma fronto</i>	—	—	—	—	—	—	—	○	○	—	—	—

ording to NICOL, the well-developed mouth-part of the majority of the Decapoda shows that they were originally carnivorous, feeding on large food masses. Departures from the normal methods of obtaining food are entirely secondary, and the feeding habits have developed independently in various groups, often in connection with

peculiar habits. These Porcellanids feed on the larvae of Polychaetes and Molluscs.

Porcellanella picta STIMPSON is usually found attached to leaves of Pteroeididae. Its peculiar colour-markings as well as unguicles of dactylus are adapted for the commensal life.

The remainder are free-living, littoral forms. They are adapted to sedentary life in crevices and under stones, and can still creep rapidly on a substratum, walking backwards, but never forwards, and sometimes attempt to swim in feeble manner by flapping their tail. Some of them, however, have become still more sedentary, scarcely moving, relying on protective form and coloration for safety.

The last three species are inhabiting in the coral reefs of Southern Nippon. I have not examined the last mentioned form. *P. indicus* DE MAN is found under stones at extreme low tide. *P. fronto* (MELIN) usually inhabits under rocks of barrier reefs.

iii. Subtropical and tropical forms living in coral reefs

(18 species, 50 per cent.)

This group is commonly found in coral reefs of subtropical and tropical seas in the Indo-Pacific region. These species are roughly divided into the following three subgroups from their distributional phase.

1. The forms widely distributed in the Indo-Pacific region contain four species, namely *Petrolisthes asiaticus* (LEACH), *P. penicillatus* (HELLER), *Pisosoma sculptum* (H. MILNE-EDWARDS), *Petrolisthes lamarckii* var. *rufescens* (HELLER). Amami-Ōsima is regarded as their northern limit, while only one species, *P. asiaticus* spreads to Kagosima Bay.

2. The species inhabiting in the Indo-Malayan, South Pacific and North Australian Sea are eight in number, referable to five genera as enumerated in the following list. 1. *Pisosoma pisum* (H. MILNE-EDWARDS), 2. *Petrolisthes lamarckii* (LEACH), 3. *P. moluccensis* DE MAN, *P. militaris* (HELLER), 5. *Porcellana suluensis* DANA, 6. *P. armata* (DANA), 7. *Porcellanella triloba* WHITE and 8. *Polyonyx biunguiculatus* (DANA).

Among these, the first three species inhabit the breaker zone of coral reefs exposed to strong tides. The remaining five species

are found among submerged corals. *Porcellana suluensis* and *P. armata* are attached themselves to stagshorn corals at reef margins. *Porcellanella triloba* is commensal with leaves of *Pteroeides* as *P. picta* is. Usually a single pair occupies one host, but one or three may be present.

Table 3. Distributional list of third group

Species	Localities						
	Amami-Ōshima, Ryūkyū, Taiwan	Ogasawara Islands	Indo-Malayan Sea	South Pacific Sea	North Australia	Western Indian Sea, East Africa	Red Sea
1. <i>Petrolisthes asiaticus</i>	○	—	○	○	○	○	—
2. <i>P. penicillatus</i>	○	—	○	○	—	○	—
3. <i>Pisosoma sculptum</i>	○	—	○	○	—	○	—
4. <i>Petrolisthes lamarckii</i> var. <i>rufescens</i>	○	—	—	○	—	—	○
5. <i>P. lamarckii</i>	○	○	○	○	○	—	—
6. <i>P. moluccensis</i>	○	—	○	○	—	—	—
7. <i>P. militaris</i>	○	—	○	—	○	—	—
8. <i>Porcellana suluensis</i>	—	—	○	○	○	—	—
9. <i>P. armata</i>	○	—	○	○	○	—	—
10. <i>Pisosoma pisum</i>	○	—	○	—	○	—	—
11. <i>Porcellanella triloba</i>	—	—	○	○	○	—	—
12. <i>Polyonyx biunguiculatus</i>	—	—	○	○	○	—	—
13. <i>Petrolisthes unilobatus</i>	○	—	—	○	—	—	—
14. <i>P. fimbriatus</i>	○	—	—	○	—	—	—
15. <i>P. inermis</i>	—	○	—	—	○	—	—
16. <i>Neopetrolisthes ohshimai</i>	○	—	—	○	○	—	—
17. <i>Porcellana nitida</i>	—	—	—	○	○	—	—
18. <i>P. murakamii</i>	—	—	—	○	—	—	—
19. <i>P. melissa</i>	—	—	—	○	—	—	—

3. These species are commonly distributed in South Pacific waters or Northern Australia, containing the following seven species. *i. e.* 1. *Petrolisthes unilobatus* HENDERSON, 2. *P. fimbriatus* BORRADAILE, 3. *P. inermis* HASWELL, 4. *Neopetrolisthes ohshimai* MIYAKE, 5. *Porcellana nitida* DANA, 6. *P. murakamii* MIYAKE and 7. *P. melissa* MIYAKE.

Petrolisthes unilobatus inhabits under stones of exposed reef flat in low tide, occasionally associated with *Petrolisthes asiaticus*. *Porcellana nitida* lives attached to soft coral of submerged reefs.

Neopetrolisthes ohshimai is commonly found residing commensally in the oral cavity of a gigantic sea-anemone *Stoichactis kentii* (HADDON and SHACKLETON), which measures 15 to 40 cm in diameter, seldom also inside *Stoichactis haddoni* (SAVILLE-KENT). In the host animal, a single pair of the Porcellanid is associated with a couple of the prawn *Periclimenes (Ancylocaris) brevicarpalis* (SCHENKEL) and a few pretty fishes *Actinicola percula* (LAPCÉPÈDE), or *Amphiprion frenatus* BREVOORT. In coral reefs of Isigaki Island, in addition to the associates enumerated above, there were found a few snails *Coralliophila stearnsii* PILSBRY, attached to the outer surface of the body of the anemone.

The body of *P. brevicarpalis* is almost transparent, of a light brown colour with exception of a few parts of the surface which are covered with white and opaque speckles. The speckles of male and female are distinct. A fish *Actinicola percula* is usually found commensal with the host, it is measured 50 to 80 mm in total length, having strongly mucous surface; colour in life is yellowish brown with three pearl white cross-bands: first behind the head, second at middle, third around the caudal peduncle. According to AOYAGI (1941), some degenerative tendency is observed in gill raker, teeth and pyloric appendage of this fish.

The poison of the sea-anemone seems to be fatal to other animals. Nothing could be seen in the oral cavities of smaller anemones, say about 15 cm in diameter, after my observation, but a larger one was found to have fed on a crab or some fish. The fish was found dead. The crab had gone into pieces, but it was easily identified as *Xantho sanguineus* (H. MILNE-EDWARDS) by an empty carapace, chelipeds and ambulatory legs. This crab is commonly inhabiting near the host.

Concerning to poison of the anemone, the writer has assured of the following fact by personal experience. Coming across a coral reef standing out of clean sea-water, where no mangrove is seen, we may notice gigantic sea-anemones *Stoichactis kentii*, putting out their countless tentacles. The tentacles are tinged with brown, blue and purple, and they look so charming that one feels a temptation to touch them. These feelers have a peculiar nature of getting easily stuck to other objects, and once they get so clung, they will get detached from the body. If one thrusts one's bare hand into the tentacle-crown, the tentacles will stick to the hand firmly and the skin of the hand so touched will later become swollen up and a little pain is felt. The injury will last for a few days. One need not, however, feel uneasy about it, as these tentacles are not very poisonous.

This association, YOUNG states, is more remarkable when it is realised that it is just those types of animals which form the normal food of the anemone. But those particular species seem to have developed immunity to the poison of the nettle cells, and probably make a good living out of the pickings from the food of the anemone.

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