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CANADIAN PACIFIC FAUNA

BRACHYURA

by

Donald C.G. MacKay

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BRACHYURA

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CANADIAN PACIFIC FAUNA.

The present work is one of a series of publications dealing with the marine fauna of the Pacific Coast of Canada. Herein are listed, figured, and briefly described such species of Brachyura (the true crabs) as are known to inhabit the British Columbia coast, together with a few species inhabiting near-by regions.

In the preparation of this list it has been found necessary to borrow extensively from the publications of Mary J. Rathbun, Waldo L. Schmitt, Frank W. Weymouth and George L. Taylor without whose works the present list would not be possible.

The arrangement of families, genera and species is, for the most part, as in the various published works of Miss Rathbun.

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Key to the Genera

Abdomen of male triangular

Portunus

Antennules fold lengthwise

Cancer

Carapace about as long as broad. Chelipeds much shorter than ambulatory legs

Chionoecetes

Carapace much longer than broad, rostrum elongate

Hyas

Family PORTUNIDAE

Carapace moderately transverse, usually widest at last antero-lateral tooth. Antennules folded back transversely or obliquely. Third maxillipeds not overlapping epistome. Legs flattened and more or less adapted for swimming. Swimming crabs.

Genus PORTUNUS J.C. Fabricius (Neptunus of authors)

Carapace depressed or a little convex, often with surface areolated. Front proper (between antennae) well delimited from inner supraorbital angles and cut into three to six teeth. Antero-lateral borders oblique, arched, longer than postero-lateral, cut into nine teeth (including orbital angle) of which the ninth may be enlarged. Merus of outer maxillipeds not markedly produced at antero-external angle. Abdomen of male triangular.

PORTUNUS XANTUSII (Stimpson)

Diagnosis: Carapace twice as long as wide. Front not prominent, teeth acute. Lateral spine about three times as long as preceding tooth. Nerves of swimming legs spinous.

Size:

Distribution: Southern British Columbia to Gulf of California, Mexico.

Family CANCRIDAE

Carapace broadly oval, front with several teeth, one of which is median. Antennules fold back longitudinally. Antennal flagella usually short and more or less hairy. Third maxillipeds overlapping endostome.

Genus CANCER LINNAEUS

Carapace transverse, subelliptical, often indistinctly areolated; front narrow, cut into five teeth or lobes. Eye-stalks short; orbits small, with two fissures in both upper and lower margins. Basal antennal joint usually somewhat enlarged and united with the front, thus excluding the flagellum from the orbit.

CANCER PRODUCTUS (Randall)

The "red crab" or the "rock crab"

Diagnosis: Front markedly produced beyond the outer orbital angles, forming five subequal teeth. Merus of chelipeds unarmed, fingers dark-tipped.

Size:

Colour: The adult colour is dark red above and white ventrally. Immature specimens of this species show great variation in colouration, some being mottled, others having irregular longitudinal red and white stripes while still others are plain white in colour.

Distribution: From Kadiak, Alaska to Magdalena bay, lower California. Common on rocky shores throughout the west coast of Canada.

CANCER BRANNERI Rathbun

Diagnosis: First postero-lateral projection spiniform not projecting sideways beyond the carapace margin and followed by a minor tooth. Carapace strongly areolate.

Size:

Colour: Whitish marked with irregular but symmetrically-disposed reddish blotches, tips of fingers of chelipeds black, ambulatory legs light banded with red. (Weymouth).

Distribution: From Alaska to California. Apparently not as yet reported from Canada.

CANCER GRACILIS Dana

Diagnosis: Nine low antero-lateral teeth, one postero-lateral. Fingers of cheliped without dark colour. Merus of outer maxillipeds elongate, anteriorly rounded.

Size:

Colour: Olfactor overlaid with minute reddish spots, more numerous on the teeth of the antero-lateral margin and on the front, giving to the whole a brownish tinge; edges of the teeth, under parts, and greater portion of the legs yellowish. (Weymouth).

Distribution: From Prince of Wales island, Alaska to lower California, Mexico; Sidney, B.C. (Gertrude M. Smith).

CANCER MAGISTER Dana

The "common edible crab" or the "big crab".

Diagnosis: Carapace widest at last or tenth antero-lateral tooth.
Antero-lateral teeth with more or less prominent serrations anteriorly.
Fingers of chelipeds without dark colour.

Size:

Colour: Light reddish-brown, darkest anteriorly, lighter ventrally.

Distribution: From Unalaska to Monterey bay, California. Fished commercially throughout the British Columbia coast.

CANCER OREGONENSIS (Dana)

Diagnosis: Antero-lateral and postero-lateral margins not meeting at a distinct angle. Carapace widest at seventh or eighth tooth. Merus of outer maxillipeds with antero-external angle produced. (Rathbun).

Size:

Colour: Dark red above, lighter beneath, fingers black.

Distribution: From Pribilof islands and Kat islands, Alaska, to Santa Barbara, California.

CANCER ANTENNARIUS Stimpson

The "Rock Crab"

Diagnosis: Carapace widest at eighth antero-lateral tooth; two postero-lateral teeth. Under parts spotted or blotched with reddish. A single tooth or spine on wrist.

Size:

Colour: Dark red usually mottled with a lighter, more yellowish tinge; the under parts are yellowish white spotted with red. Fingers dark. (Weymouth).

Distribution: From Tomales bay, California, to west coast of lower California, Mexico, as far south as San Geronimo island, Magdalena bay. (Lochington).

CANCER JORDANI Rathbun

Diagnosis: Carapace hairy; antero-lateral teeth spiniform, curved, alternating in size; one postero-lateral tooth.

Size:

Colour: Carapace with brick red patches.

Distribution: Humbalt bay, California, to San Geronimo island, lower California, Mexico.

Genus TELMESSUS White

Carapace broader than long, more or less pentagonal; front divided into three lobes; median lobe cut into four teeth or denticles, lateral lobes forming the inner angles of the eyes. Chelipeds short, ambulatory legs moderately long.

TELMESSUS CHEIRAGONUS (Tilesius)

Diagnosis: Carapace broader than long. Epistome produced to a point on the median line. Lateral margins of sixth segment of female abdomen deeply incised. Lateral teeth of carapace six.

Size:

Colour: Yellowish with purple spots.

Distribution: Bering sea to Northern California. Siberia to Japan.

Family GRAPSIDAE

Palp of outer maxillipeds articulates at antero-external angle or at middle of anterior border of merus. A gap usually between maxillipeds of outer pair. Sides of body either straight or very slightly arched. Front brood male openings external.

Genus HEMIGRAPSUS

Carapace not markedly streaked; with two teeth behind the orbital angle. Outer maxillipeds without a rhomboidal gape, only moderately gaping; merus large and not produced at the antero-external angle; palp joined in a notch at about the middle of the distal margin; abdomen of male does not cover the sternum at its base.

HEMIGRAPUS NUDUS (Dana)

"The purple shore crab"

Diagnosis: Two side teeth. Sides subparallel behind. Epistome with two deep notches. Chela of male with hairy patch inside. Legs bare.

Size:

Colour: Subject to great variation. Usually mahogany red or purplish but sometimes dark red or partly or almost completely white.

Distribution: Sitka, Alaska, to the gulf of California. (Rathbun).
Abundant on rocky shores throughout the British Columbia coast.

HEMIGRAPUS OREGONENSIS (Dana)

The "yellow shore crab", "mud crab" or "hairy shore crab".

Diagnosis: Broad in front. Two side teeth. Surface uneven. Front with two prominent lobes. Palm of male with hairy patch inside. Legs hairy.

Size:

Colour: Yellow-grey with blackish or dark blue spots. Legs lighter in colour and similarly spotted. Hands of chelipeds whitish and unspotted.

Distribution: Prince William sound, Alaska, to gulf of California. (Robbin). Common on muddy shores throughout the British Columbia coast.

Family MAJIDAE

Fore part of body narrow, forming a distinct rostrum. Second article of antennae well decit, fused with epistome. Chelipeds very mobile. Ambulatory legs long. Hooked hairs present, which entangle foreign substances and lend to concealment and protection. Spider crabs.

Genus CHIONOECETES Kroyer

Carapace broad as long, rough with tubercles or spines. Rostrum divided into two short flat, triangular horns. No preocular tooth; postocular tooth large. Orbits and eyes large. Chelipeds much shorter than next legs; fingers long and narrow. Ambulatory legs compressed.

CHIONOECETES OPILIO (O. Fabricius)

Carapace chiefly tuberculate. Rostrum horizontal. Branchial regions far apart. Lateral margin of carapace exposed in dorsal view as far forward as first pair of ambulatory legs. Spines of pterygostomian-branchial row small, numerous and of nearly equal size. Meropodites of ambulatories broadly dilated.

Size:

Colour: Light brick-red.

Distribution: West Greenland to Casco bay, Maine; Arctic Alaska to Siberia and Bering sea. (Rathbun). British Columbia. (Taylor).

CHLONOECETES TANNERI (Rathbun)

Diagnosis: Carapace chiefly spinose. Rostrum ascending. Branchial regions nearly meeting on median line, interspace deeply depressed. Lateral margin of carapace exposed in dorsal view only as far forward as third pair of ambulatory legs. Meropodites of legs narrow, little dilated.

Size:

Colour:

Distribution: Bering sea to off San Diego, California (lat. 32° 17'N);
29 to 1,625 fathoms. (Rathbun).

CHIONOCEPES BAIRDI Rathbun

Diagnosis: Near opilio. Carapace a little wider than long (length measured to tip of rostral teeth). The spines in the row leading from the pterygostomian region backward to the branchial region become suddenly larger, the last three or four spines being of considerable size; in opilio these spines do not increase notably in size. Several other prominences of the antero-lateral regions are spinous instead of tuberculous. Outer orbital tooth curved more strongly inward than in opilio, rostral teeth narrower, interspace wider. Spines of legs longer.

Size:

Colour:

Distribution: Southeastern Bering sea and Aleutian islands eastward and southward to British Columbia. (Rathbun). Kingcombe inlet - Rathbun. Near mouth of Nass river - MacKay.

Genus PUGETTIA Dana

Carapace with upper surface furnished with spines or tubercles; margins behind eyes produced into an alate expansion, behind which it is somewhat constricted. Rostrum two-spined. Basal antennal joint enlarged at base and narrowing distally; flagellum of antennae not entirely covered by the rostrum. Preocular spine present, large.

PUGETTIA GRACILIS Dana

Graceful Kelp Crab

Diagnosis: Hepatic expansion very wide, the triangular postocular tooth and first antero-lateral tooth united by a leaflike expansion of the carapace. Merus of chelipeds with a prominent, irregularly dentate carina on the upper side; carpus cristate. Ambulatory legs with merus and propodus more or less carinate above. Ischium of maxillipeds with a longitudinal groove, exognath also grooved.

Size:

Colour: Greenish-brown dorsally, lighter ventrally; sometimes red or reddish.

Distribution: Aleutian islands to southern California, low tide to 40 fathoms. (Rathbun).

PUGETTIA RICHII Dana

Diagnosis: Hepatic expansion narrow; transverse, the narrow post-ocular tooth and first antero-lateral tooth acute and deeply separated. Merus of chelipeds with a few tubercles on the upper side but no acute carina; the inner side may become strongly ridged in adult males, but is generally rounded in young males and in females; the carinae of the carpus are not prominent. Merus and propodus of legs not carinate. Ischium of maxillipeds plane or obscurely furrowed, exognath not grooved.

Size:

Colour: Light to dark red and often matching certain of the encrusting corallines. (Weymouth).

Distribution: Clayoquot sound, Vancouver island to San Diego, California, low tide. (Rathbun).

PUGETTIA PRODUCTA

The Kelp Grab

Diagnosis: Lateral margin of carapace with two teeth, the first very prominent and winglike. A preocular and postocular tooth. Fingers of male gaping. Propodites of ambulatory legs naked and unarmed.

Size:

Colour: Dark brown to tan (in young or recently moulted); under parts reddish, often bright brick red, sometimes with light markings on coxae of legs or maxillipeds. (Weymouth). Colour reddish brown to olive brown, mottled with darker, small, round spots (Holmes).

Distribution: Vancouver island to Santa Rosalia bay, lower California.

Common in eel grass, tide pools and under docks clinging to brown algae.

Genus MIMULUS Stimpson

Carapace flattened, smooth or nearly so, subpentagonal; lateral portions laminate, much produced, winglike, antero-lateral margin cut by a narrow fissure into two closely approximate lobes. Rostrum short, bifid, horizontal. Basal antennal article enlarged at base and narrowing distally. Orbits incomplete below, but furnished above with a preocular and postocular spine. First pair of ambulatory legs much exceeding the others. There is probably only one species in this genus.

MIMULUS FOLIATUS Stimpson

Diagnosis: Carapace broader than long or very slightly longer than broad. Lateral projections continuous. Postorbital tooth small.

Size:

Colour: Dull purplish, tan or red. Legs banded. Variable.
(Rathbun).

Distribution: Unalaska to Monterey bay, California; Mazatlan, Mexico.
Low tide to 20 fathoms. (Rathbun).

Genus CHORILIA Dana

Carapace subpyriform, convex, spinous or tuberculate or both. Spines of rostrum long, slender, diverging from near the base. Preocular spine present; supraocular hood separated by a U-shaped sinus from the postocular cup; orbit open below; eye-stalks restricted at middle. Basal segment of antenna long and narrow; movable portion more or less exposed beside the rostrum. Chelipeds enlarged, manus compressed. Ambulatory legs slender, almost unarmed, first pair much the longest.

Pacific coast of North America from Alaska peninsula to San Diego, California; Japan. 18 to 650 fathoms.

CHORILIA LONGIPES Dana

Diagnosis: Hepatic spine when present smaller than lateral branchial spine. Preocular spine directed obliquely outward. Spines and tubercles of carapace numerous.

Size:

Colour:

Distribution: Shumigan Bank and Kodiak, Alaska, to San Diego, California; Japan. 18 to 650 fathoms.

Note: A subspecies C. turgida occurs from Monterey bay to San Diego.

Genus OREGONIA Dana

Carapace subtriangular or suboblong, moderately convex and tuberculate; a large postorbital, but no preorbital spine; rostral spines slender. Antennae visible in dorsal view at sides of rostrum, basal article narrow. Merus of maxillipeds distally truncate, bearing the palpus at its antero-internal angle. Chelipeds in male much elongated, somewhat enlarged; palm long, compressed and distally widened. Ambulatory legs of moderate length, slender, and decreasing regularly in length. Abdomen composed of seven distinct segments.

Bering sea and North Pacific ocean. Shallow water to 764 fathoms.

OREGONIA GRACILIS Dana

The Decorator Crab

Diagnosis: Rostral horns long, parallel, contiguous. Supraorbital arch prominently angled at posterior end. Body, including rostrum, subtriangular. (Rathbun).

Size:

Colour: Tan or grey. Small red markings. Much decorative material must be removed if colour is to be ascertained.

Distribution: Bering sea to Monterey bay, California and Honshu island, Japan. Shallow water to 212 fathoms.

Genus HYAS Leach

Carapace narrower than post-frontal length, lyrate or shield-shaped, tuberculate and pubescent. Rostrum triangular, flat, bifid, horns separated by narrow slit. Chelipeds stout, about as long as legs. Legs cylindrical.

HYAS LYRATUS Dana

The Blunt-Nosed Crab

Diagnosis: Carapace lyrate; angle of hepatic margin acute or subacute. Basal antennal article with a large, smooth, round tubercle at antero-external angle.

Size:

Colour: Dull pinkish red. (Rathbun).

Distribution: Bering sea to the state of Washington.

Genus SCYRA Dana

Carapace subpyriform, tuberculated, having a few or no spines. Rostrum composed chiefly of two flattened horns. Orbits small, with a fissure above and below, the lower and sometimes the upper one being open. Preorbital spine present. Basal antennal article rather narrow, with a small spine at antero-external angle, the two following articles compressed and not concealed by rostrum. Merus of maxillipeds distally truncate, notched at antero-internal angle. Chelipeds of male well developed, hand compressed and carinated above, fingers acute. Legs moderately long and narrow, diminishing rather regularly in length from first to fourth. Abdomen 7-segmented in both sexes. (After Holmes).

Inhabits the west coast of North America and the coast of Japan.

(Rathbun).

Note: Copied from Rathbun, who took it from Holmes.

SCYRA ACUTIFORMIS Dana

The Sharp-Nosed Crab

Diagnosis: Carapace of adult without a spine on hepatic or branchial margin. Margins of arm tuberculate, not cristate; dactylus of chela with a large subbasal tooth. Ambulatory legs subcylindrical, dactyli rather stout.

Size:

Colour:

Distribution: Kodiak, Alaska to San Diego, California, low tide to 45 fathoms.

Family PINNOTHERIDAE Dana

Carapace often more or less membranaceous, antero-lateral margins entire or very slightly dentate. Front, orbits and eye-stalks very small, corneal sometimes abscescent. Buccal cavity usually very wide, often semi-circular in outline. The merus of external maxillipeds, though often very large, is never quadrilateral, and never carries the palp distinctly at the antero-internal angle; ischium usually small, sometimes absent or indistinguishably fused with the merus, in which case the merus lies with its long axis directed obliquely or almost transversely inwards; exognath small and more or less concealed. The inter-antennular septum, when distinguishable, is a thin plate. Male abdomen very narrow. Male openings sternal. (Rathbun).

Small crabs frequently living as commensals in bivalve molluscs, worm tubes, ascidions, etc. Some are true parasites.

Genus PINNOTHERES LATREILLE

Carapace usually ill calcified in female, often calcified in male, generally convex with ill-defined edges; in shape transversely oval or circular or subquadrangular to suboctagonal, with rounded angles, sometimes longer than wide; generally surface smooth and regions not defined, occasionally surface uneven and regions indicated. Females larger than males. Young females similar to males.

PINNOTHERES PUGETTENSIS Holmes

Diagnosis: Female, carapace subpentagonal, widest anteriorly. Chela widest immediately behind fingers. Legs increasing in length from 1 to 4; dactylus of fourth pair much the longest.

Size:

Colour: Outer surface of palm brownish with light coloured reticulations.

Distribution: Departure bay; Puget sound. Lives in tunicates.

PINNOTHERES CONCHARUM (Rathbun)

Diagnosis: Carapace almost hard, posterior margin transverse. Anterior half of carapace, as well as chelipeds and legs, thickly margined with hair. Dactyli of legs falcate, similar.

Size:

Colour: In formalin, female grayish-white and tawny ochraceous (Rathbun).

Distribution: British Columbia to San Diego bay, California.

Genus FABIA Dana

Female near Pinnotheres. Carapace marked by two longitudinal sulci which extend backward from the upper margin of the orbits, inclosing between them the median area. The anterior portion of the carapace is so deflexed that the orbital and antennal area is ventrally situated; front orbital distance narrow; frontal margin flush with antennular surface, and not forming a projecting hood; orbits round, eyestalks spherical, corneas small. Terminal segment of palp of outer maxilliped articulating on inner margin of penult segment. Second ambulatory leg longest. Dactyli short. Male not known. Restricted to North American waters.

FABIA SUBQUADRATUS Dana

Diagnosis: Front with transverse, pubescent sulcus. Last segment of maxilliped reaches end of penult segment. Palm widens distally. Two rows of hair on lower surface of palm, the inner one continued to end of propodal finger.

Size:

Colour: Orange-chrome and whitish in a formalin preserved specimen. (Rathbun).

Distribution: Akutan pass, Alaska to Laguna beach, California, to a depth of 45 fathoms. Commensal in bivalve molluscs.

Genus PINNIXA White

Carapace much wider than long; integument usually firm. Front narrow, nearly transverse, with a median groove. Orbit broadly ovate or nearly circular, with a wide inner hiatus, which is partly occupied by the basal antennal joints. Antennules transversely or obliquely plicated in wide forsettes which communicate with each other beneath the front. Eystalks short. Epistome linear-transverse. Ischium of maxillipeds small, merus large, distal portion of outer margin convex; palp joined to summit of merus; third joint articulated on inner side of the preceding one near base. The genus occurs in America, Japan and Australia.

PINNIXA TUBICOLA Holmes

Diagnosis: Carapace two and one-half times as broad as long in female, twice as broad as long in male. Propodus of third leg wider at distal end than base of dactylus. Chelae smooth, fingers hooked.

Size:

Colour:

Distribution: Puget sound to San Diego, California. (Rathbun).

PINNIXA OCCIDENTALIS Rathbun

Diagnosis: Cardiac ridge biarcuate. Thumb deflexed. Dactyli of legs styliform. Merus of third leg narrow from two and one-half to three and one-half times as long as wide.

Size:

Colour:

Distribution: From Ilinlink harbour, Unalaska, to Magdalena bay, lower California; 10 to 238 fathoms. Commensal in burrows of the Gephyrean, Echiurus (Kinkaid).

PINNIXA FABIA (Dana)

Diagnosis: Carapace oblong. Orbits oval. Dactyli of legs strongly curved. Thumb horizontal, a little shorter than moveable finger. Fingers of female not gaping. Merus of third leg of male more than twice as long as wide.

Size:

Colour:

Distribution: Prince of Wales island, Alaska, to Humbalt bay, California. Commensal in clams.

Genus SCLEROPLAX Rathbun

Carapace transverse, subpentagonal, hard, very convex, regions scarcely indicated, lower or true antero-lateral margin curving gradually into postero-lateral margin, not forming an angle with it as in Pinnixa. Ambulatory legs similar, third longest but not unusually long, fourth not noticeably reduced. Ischium of outer maxillipeds rudimentary, merus oblique, palpus three-jointed, the last joint articulating near proximal end of preceding joint.

Only a single species known.

SCLEROPLAX GRANULATA Rathbun

Diagnosis: Carapace high, not areolated, less than twice as wide as long. Chela of male very wide, of female very feeble. Legs similar.

Size:

Colour:

Distribution: Departure bay, B.C. to Ensenada, lower California.

(Rathbun).