
Loxorhynchus crispatus

Masking Crab, Decorator Crab, Moss Crab

Phylum: Arthropoda
Class: Malacostraca
Order: Decapoda
Family: Epialtidae

Natalie Thompson

Taxonomy: Both the genus and species were originally described by Stimpson in 1857. The name has not changed since. (WoRMS 2020).

Description

Size: Average carapace width for females is 68 mm and for males is 88 mm. Max carapace width is 100 mm. (Chase & Knowlton 2007).

Color: Legs are red/pink with white patches and carapace is brown or green (McKittrick 2020). Color is obscured by attachments (Figure 1).

General Morphology:

Body: Pear-shaped body, with a narrow anterior end. One anterior pair of claws (chela) and four pairs of legs. (Chase & Knowlton 2007).

Mouthparts: Row of tactile setae above and below the mouth (Garth & Abbott 1980).

Eyes: Two forward-facing compound eyes at the most anterior position of the body (Chase & Knowlton 2007).

Other species-specific parts: A sharp spine above and next to each eye and rows of hooked setae all over the carapace (Wicksten 1978).

Sexual Dimorphism: Males have a longer carapace and larger chela (Garth & Abbott 1980).

Possible Misidentifications

Loxorhynchus crispatus is often confused with *L. grandis*, *Scyra acutifrons* and *Chorilia longipes* (McKittrick 2020). The legs in *L. crispatus* are much hairier than in *S. acutifrons* and shorter and broader than in *C. longipes*. The congener *L. grandis* reaches a maximum size close to double that of *L. crispatus*.

Ecological Information

Range: Eastern Pacific; Alaska to Baja California (temperate zone) (Hendrickx and Cervantes 2003, McKittrick 2020).

Local Distribution: In kelp forests and rocky areas or under man-made structures (Hines 1982).

Habitat: Prefers kelp and cover to hide (Hendrickx and Cervantes 2003).

Temperature: On average, between 5-15°C (Levy 2020).

Depth: 0-183 m (McKittrick 2020).

Associates: Algae, bryozoans, and sponges are attached to and live on the crab (Wicksten 1978).

Abundance: Exhibits seasonal variation with the greatest abundance in spring (Hines 1982b).

Life-History Information

Reproduction: *Loxorhynchus crispatus* copulates with throughout the year, with multiple partners. Females brood for about 2 months at a time and carry their fertilized eggs on their pleopodal setae until they hatch. (Hines 1982a). The brood size of a larger congener, *L. grandis*, is about 125,000-500,000 eggs (Chase and Knowlton 2007).

Larva: Protozoa for 30 days, develops into three free-swimming planktonic zoeae stages over 18 days, and metamorphoses into a megalopa for several molts (Hines 1986).

Juvenile: Starts with a 1.5 mm wide carapace and molts until sexual maturity (Hines 1982). Juveniles occupy the same regions as adults (Hendrickx & Cervantes 2003).

Longevity: Unknown for this species.

Growth Rate: Unknown for this species.

Food: Generalist scavenger on invertebrates and kelp (Hines 1982).

Predators: Various fish (sculpins, lingcod, rockfish, etc.), sea otters, and octopuses (Hines 1982).

Behavior: Generally slow moving. Attaches other organisms to its setae, though this

behavior decreases with each successional molt (Wicksten 1979).

Bibliography

1. CHASE, F., and R. KNOWLTON. 2007. Decapoda (Crustacea). *AccessScience*, 5:286-296.
2. GARTH, J., and D. ABBOTT. 1980. *Intertidal invertebrates of California*. Stanford, California: Stanford University Press.
3. HENDRICKX, M., and J. CERVANTES. 2003. A new species of *Loxorhynchus* Stimpson (Decapoda, Majoidea, Pisidae) from the Pacific Coast of Mexico. *Crustaceana*, 76: 103-113.
4. HINES, A. F. 1982. Coexistence in a Kelp Forest: Size, Population Dynamics, and Resource Partitioning in a Guild of Spider Crabs (Brachyura, Majidae). *Ecological Monographs*. 52:179-198.
5. HINES, A. 1986. Larval patterns in the life histories of Brachyuran crabs (Crustacea, Decapoda, Brachyura). *Bulletin of Marine Science*, 39: 444-446.
6. LEVY, R. 2020. Sea Surface Temperature. <https://neo.sci.gsfc.nasa.gov/view.php?datasetId=MYD28M>
7. MCKITTRICK, E. 2020. Moss Crab (*Loxorhynchus crispatus*). <https://www.inaturalist.org/observations/41828362>
8. WICKSTEN, M. 1978. Attachment of decorating materials in *Loxorhynchus crispatus* (Brachyura: Majidae). *Transactions of the American Microscopical Society*, 97: 217-220.
9. WICKSTEN, M. 1979. Decorating behavior in *Loxorhynchus crispatus* Stimpson and *Loxorhynchus grandis* Stimpson (Brachyura, Majidae). *Crustaceana (Supplement)*, 5: 37-46.
10. WoRMS. 2020. *Loxorhynchus crispatus* Stimpson, 1857. <http://www.marinespecies.org/aphia.php?p=taxdetails&id=441601>

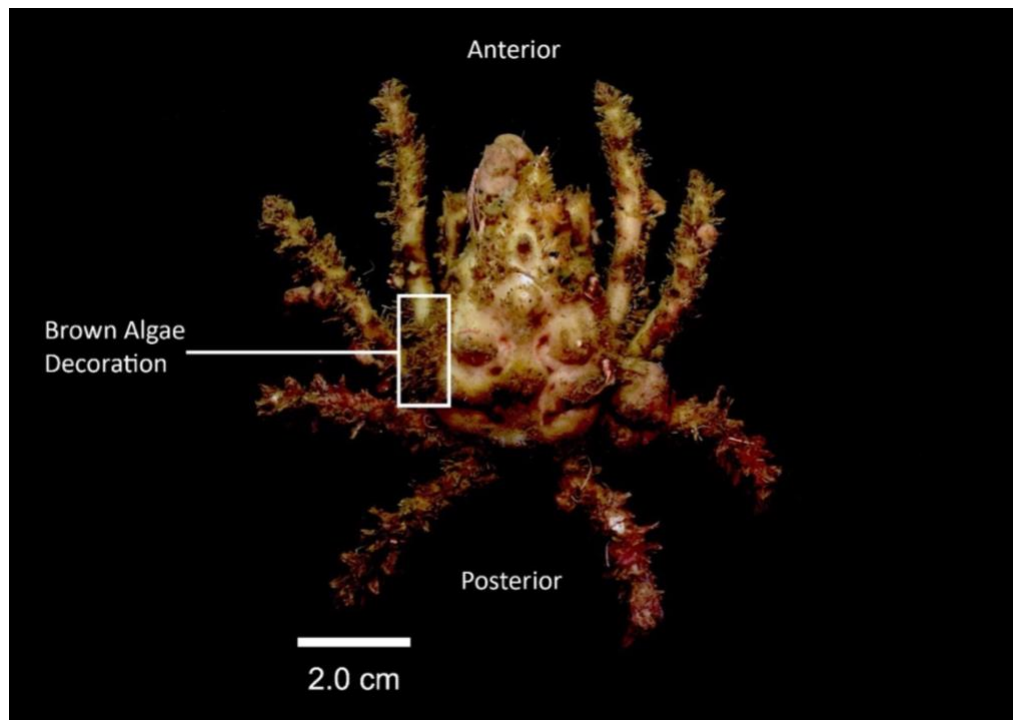


Figure 1. *Loxorhynchus crispatus* with light algal cover. A brown algae cluster is highlighted as one of the many decorations on this crab. Photo taken by MacKenna Hainey. Individual collected from 120 m depth near Stonewall Bank off the Oregon coast in September, 2019.