
Ramphogordius sanguineus

Phylum: Nemertea
Class: Anopla
Order: Heteronemertea
Family: Lineidae

Taxonomy: The species now known as *Ramphogordius sanguineus* was originally described as *Planaria sanguinea* in 1799 by Rathke. It was transferred to the genus *Lineus* (*L. sanguineus*) by McIntosh in 1873 and has been synonymized with several lineid taxa since then, including *L. nigricans*, *L. socialis*, *L. ruber*, *L. vegetus* and *L. pseudolactues* (Bierne et al. 1993; Riser 1994). Riser (1994) designated the genus *Myoisophagos* for *L. lacteus*, *L. pseudolacteus* and *L. sanguineus*, a genus name which was later determined to be invalid and species were reassigned to the genus *Ramphogordius* (Riser 1998; Runnels 2013).

Description

Size: Individuals 0.5–15 cm in length (Roe et al. 2007) and 0.5–2 mm in width (Coe 1943; Riser 1994).

Color: Smaller individuals tend to be whitish grey, while larger ones are variously olive, red, brown, or green (Coe 1943; Riser 1994). The brain region is reddish, and the posterior end is often paler than the rest of the body (Caplins 2011). Color variance may be attributed to diet (Riser 1994). No distinct pattern, but pale circumferential rings may give segmented appearance (Roe et al. 2007).

General Morphology: Long and narrow, reddish color and head that is not distinctly marked from the rest of the body. Common under rocks.

Body: Soft and slender and non-segmented (phylum Nemertea). Coils rather than contracts when disturbed (Roe et al. 2007).

Anterior: Head with pale edges and long cephalic grooves along either side (Coe 1943; Riser 1994).

Trunk:

Posterior: No caudal cirrus.

Eyes/Eyespots: Three to eight reddish brown ocelli present within both cephalic grooves, but not necessarily in equal numbers on each side (Coe 1943; Riser 1994;

Hayward 1995; Roe et al. 2007; Caplins 2011).

Mouth: Ventral and behind the brain and distinct from proboscis pore (order Heteronemertea) (Kozloff 1974).

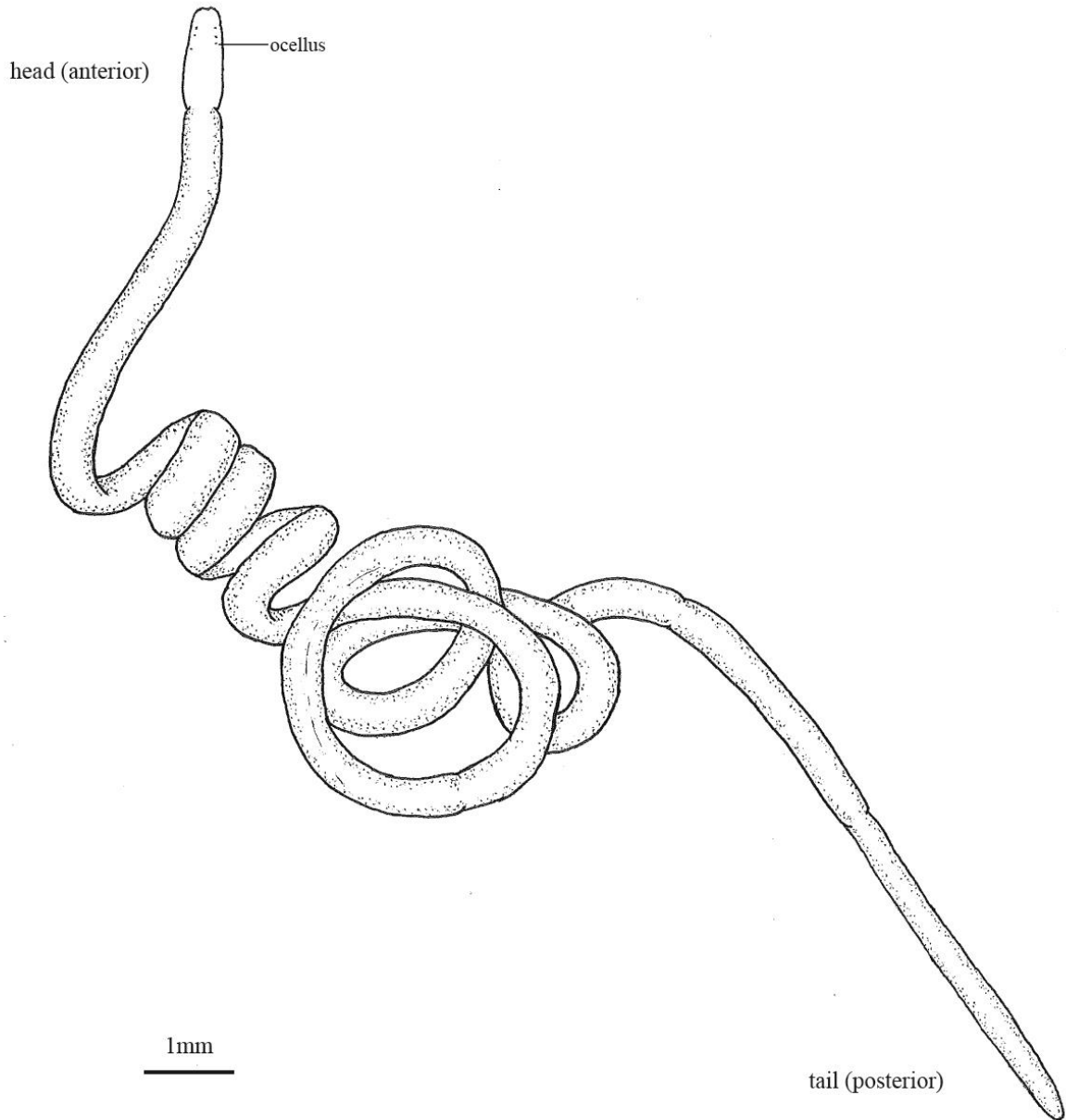
Proboscis: Eversible (phylum Nemertea) and, when not everted, coiled inside rhynchocoel (cavity). Proboscis wraps around prey, possibly delivering an immobilizing toxin (Caplins 2011) and is also everted when disturbed.

Tube/Burrow: None.

Possible Misidentifications

Ramphogordius sanguineus is the only member of this genus known to exist locally (Roe et al. 2007). However, the morphology of this species is similar to that of other local members of the genus *Lineus*. *Lineus ruber* is similar in color, but *R. sanguineus* is more slender when stretched, and coils spirally rather than contracting linearly when disturbed (Roe et al. 2007). *Lineus viridis* is also similar in color, but does not coil (Caplins 2011). *Lineus vegetus* may be red, green or brown in color (Kozloff 1974), has faint rings around the body, faint longitudinal lines (ibid), and coils. It extends south to Mexico (Corrêa 1964). *Lineus pictifrons* can be reddish to deep brown with a paler posterior end and is up to 12 cm in length and 3 mm in width, but has numerous yellow rings and longitudinal yellow lines, as well as two orange spots on the snout (Corrêa 1964). Its range is from Puget Sound to Mexico (ibid). *Lineus bilineatus* is dark brown or olive but has a yellow or white stripe (ibid). *Lineus torquatus* is dark reddish brown or

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purple with a single narrow whitish band connecting the posterior ends of its cephalic furrows. It is intertidal and occurs from Alaska to San Francisco, California (ibid). Finally, *L. flavescens* is small (8–120 mm), yellowish, pale yellow and orange, or ochre with pale head margins and 3–7 irregular red, purple or black ocelli, the largest being most anterior (Roe et al. 2007)

Because of the many identifying characteristics, which are internal and not visible, it is sometimes very difficult to distinguish among nemerteans without dissecting them. Ways in which the worms flatten, contract, and coil are useful as aids to identification of live specimens.

Ecological Information

Range: Range Atlantic and Pacific coasts of North America, Europe and Asia (Coe 1943; Riser 1994). Wide distribution likely due to transport in fouling communities on ships (Riser 1994). NE Pacific distribution includes California to Washington State (Roe et al. 2007).

Local Distribution: Coos Bay sites include Hayne's Inlet, the Charleston boat basin and various mudflats along the South Slough as well as coves of Cape Arago.

Habitat: Temperate subtidal and intertidal zones under rocks in sand, among rocks exposed to surf, in black mud with algae and other cover, or in mussel or oyster beds (Coe 1943; Riser 1994; Roe et al 2007; Caplins 2011). Also, found on submerged wood, buoys, and boat bottoms (Riser 1994; Caplins 2011). They frequently occur in intertwined clusters of many individuals (Roe et al. 2007).

Salinity: Tolerant of gradual salinity changes (Riser 1994).

Temperature: Tolerant of gradual thermal changes (Riser 1994).

Tidal Level: Intertidal, especially above mid-intertidal to high marsh tide pools (Roe et al. 2007).

Associates: Frequently found among mussels and oysters, and often with amphipods, annelids, and other nemerteans (Coe 1943; Riser 1994; Caplins 2011).

Abundance: Common throughout range.

Life-History Information

Reproduction: Asexual by spontaneous fragmentation (fissiparous) which is sometimes instigated by adverse conditions. Regeneration occurs in fragments containing a portion of the lateral nerve cords (Coe 1930, 1931, 1943; Riser 1994; Roe et al. 2007). Encystment often occurs, possibly as protection against predators and parasites during regeneration (Coe 1930, 1943), or to enable dispersal by currents (Caplins 2011). Sexual reproduction has not been conclusively observed, although individuals have been collected seemingly ripe with male or female gametes (T.Hiebert and Malsakova, pers. obs).

Larva: Presence of a free-swimming larval stage is unknown (Caplins 2011).

Juvenile:

Longevity:

Growth Rate:

Food: Carnivorous, feeding on protozoans and other microfauna of lesser or comparable size (Van Guelpen 2005). Under laboratory conditions individuals will eat dead shrimp, minced clams, polychaetes, and oligochaetes (Roe et al. 2007).

Predators:

Behavior: Tends to coil into a tight spiral when disturbed (Coe 1943; Riser 1994; Roe et al. 2007).

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