



## *Harmothoe imbricata* (Linnaeus, 1767)


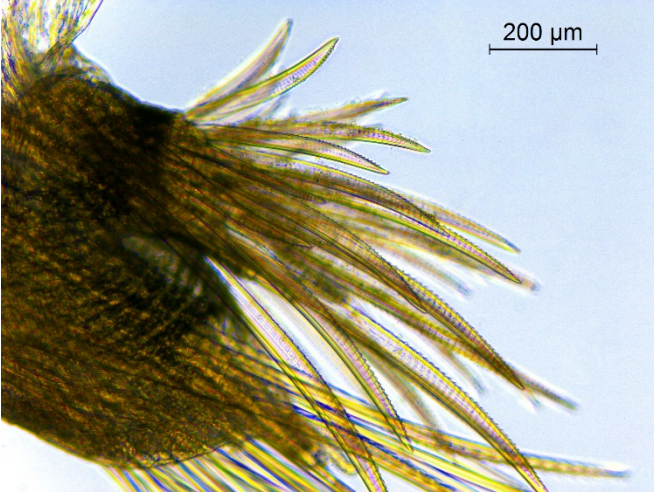
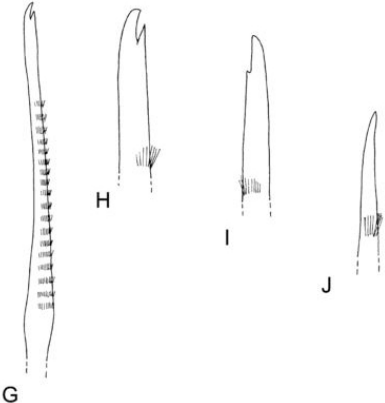
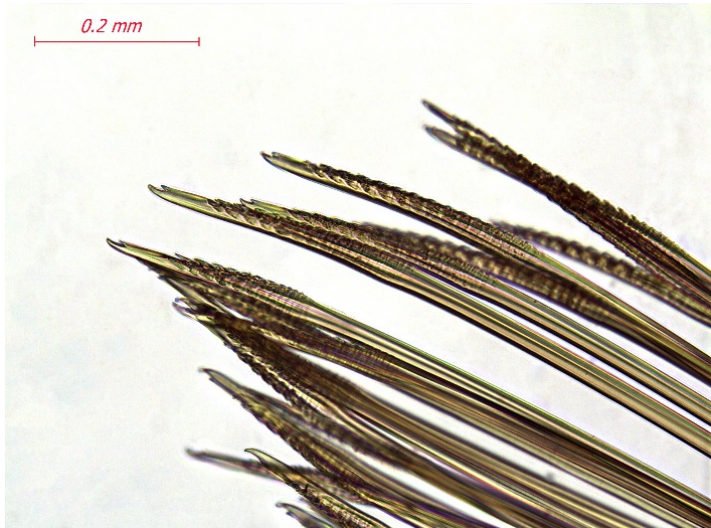
| Nomenclature |   |
|--------------|---|
| Phylum       | Annelida  |
| Class        | Polychaeta  |
| Order        | Phyllodocida  |
| Family       | Polynoidae  |
|              | <i>Aphrodita imbricata</i> Linnaeus, 1767<br><i>Harmothoe imbricata incerta</i> (Bobretzky, 1881)   |
|              | <b>Accepted, alternate representation:</b><br><i>Polynoe (Harmothoe) imbricata</i> (Linnaeus, 1767) |
| Synonyms     | SCAMIT Ed. 11 lists <i>H. imbricata</i> as a species complex (see comments section below).          |



| Distribution            |  |
|-------------------------|--|
| Type Locality           | Described based on material from Iceland, although possibly just a drawing and not an actual specimen (Ruff 1995). Type material considered to be lost (Barnich and Fiege 2009). |
| Geographic Distribution | Widespread throughout northern hemisphere; to Mediterranean and New Jersey in the Atlantic, and from the Yellow Sea around the Pacific Rim to southern California (Ruff 1995).   |
| Habitat                 | Abundant in the intertidal and shallow subtidal; also found in abyssal depths (Ruff 1995). Found free-living or commensal with terebellids (Hartman 1968).                       |

| Description (from Ruff 1995 unless otherwise noted) |   |
|---|---|
| <b>Size/Color:</b>                                  | Length to 65mm for 39 segments. Dorsum generally a mottled brown, although color pattern is variable (see comments section).  |
| <b>Prostomium:</b>                                  | Prominent, acute cephalic peaks present. 2 pairs of large eyes; anterior pair beneath cephalic peaks (but visible through prostomium). Median antenna with large pigmented ceratophore; long style with subterminal swelling, scattered papillae, and filiform tip. Lateral ceratophores short, inserted ventrally. Palps to 5x length of prostomium, tapered, papillate. |
| <b>Elytra:</b>                                      | 15 pairs (Barnich and Fiege 2009). Thick, suboval, completely covering dorsum. Surface with blunt microtubercles, scattered surface papillae. Lateral and posterior borders with fringe of marginal papillae (may be absent). Larger specimens with globular macrotubercles near posterior margin.  |
| <b>Parapodia:</b>                                   | Biramous. Notopodia rounded, tapering to pointed acicular lobe; neuropodia longer, extending to thick prechaetal lobe with emergent acicula. Dorsal cirri with long cylindrical cirriphores; styles with papillae and filiform tips. Ventral cirri short, with small papillae.  |
| <b>Chaetae:</b>                                     | Notochaetae stout, with spinules arranged in transverse rows. Neurochaetae more slender, with spinous subdistal region tapering to long, bare hooked tip with or without secondary tooth. Lowermost neurochaetae typically unidentate.  |
| <b>Pygidium:</b>                                    | Pair of anal cirri, 2x length of dorsal cirri.  |

## Diagnostic Characteristics

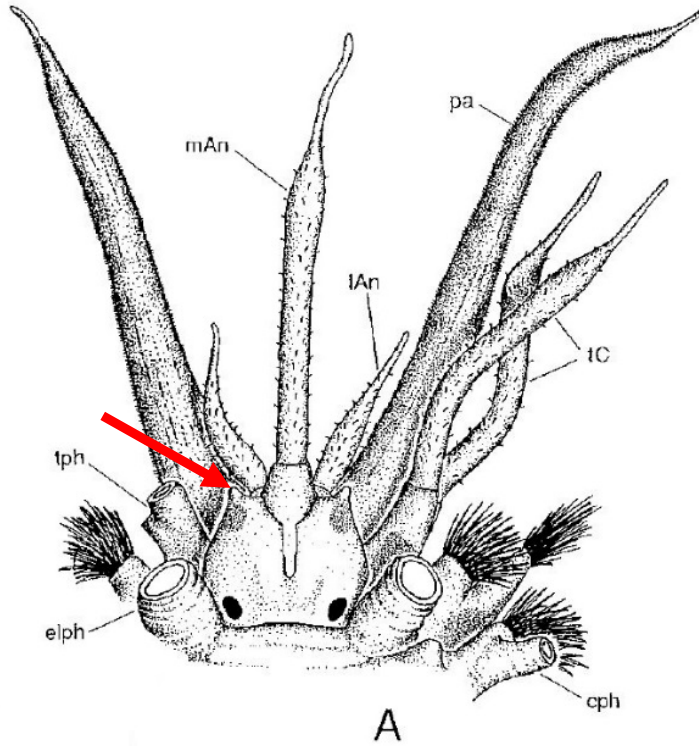
| Diagnostic Characteristics   | Photo, Illustrations   | Photo, Illustration Credit  |
|--|--|---|
| <p>All notochaetae with blunt (not capillary) tips (Ruff 1995); characteristic of genus</p> <p>Notochaetae with transverse rows of spinules (Ruff 1995); characteristic of genus</p>   | <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p><b>D</b></p> <p><i>Distal portion of median notochaetae</i></p> </div> </div> <div style="display: flex; align-items: center; margin-top: 10px;">  <div style="margin-left: 10px;"> <p><i>Notochaetae from middle parapodium; specimen from 2015 PSEMP Urban Bays Station 149 (Bainbridge Basin, WA)</i></p> </div> </div>  | <p>LEFT: Ruff 1995, p. 133</p> <p>RIGHT: Marine Sediment Monitoring Team</p>              |
| <p>Superior neurochaetae with bifid tips; secondary tooth close to tip</p> <p><i>Note: Bidentate neurochaetae may not be present in juvenile or subadult specimens, or may be very few in number; neurochaetae may appear unidentate (Ruff 1995)</i></p> | <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p><i>LEFT: (G) distal part of middle neurochaeta; (H) tip of same; (I) tip of upper neurochaeta, secondary tooth abraded; (J) tip of lowermost neurochaeta</i></p> </div> </div> <div style="display: flex; align-items: center; margin-top: 10px;">  <div style="margin-left: 10px;"> <p><b>G</b></p> <p><i>Neurochaetae from middle parapodium; specimen AN 366</i></p> </div> </div> | <p>Modified from Barnich and Fiege 2009, p. 47</p> <p>Marine Sediment Monitoring Team</p> |

Ruff 1995,  
p. 133

Acute cephalic peaks present (Banse and Hobson 1974); indicated by red arrow, right

Anterior pair of eyes situated anteroventrally, beneath cephalic peaks; may be slightly visible dorsally (Banse and Hobson 1974)

Lateral ceratophores (indicated by yellow arrow, right) attached ventrally (Ruff 1995)

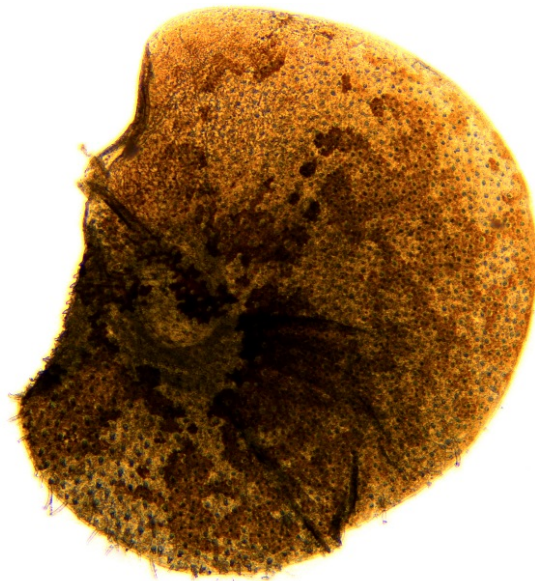
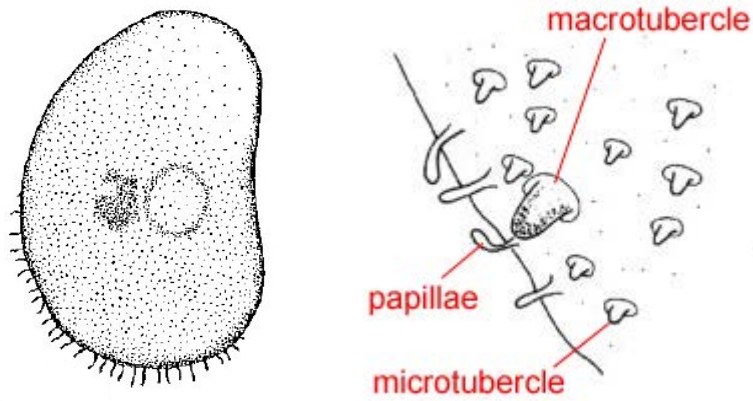


Prostomium (dorsal view), first pair of elytra removed; specimen from 2015 PSEMP Urban Bays Station 149

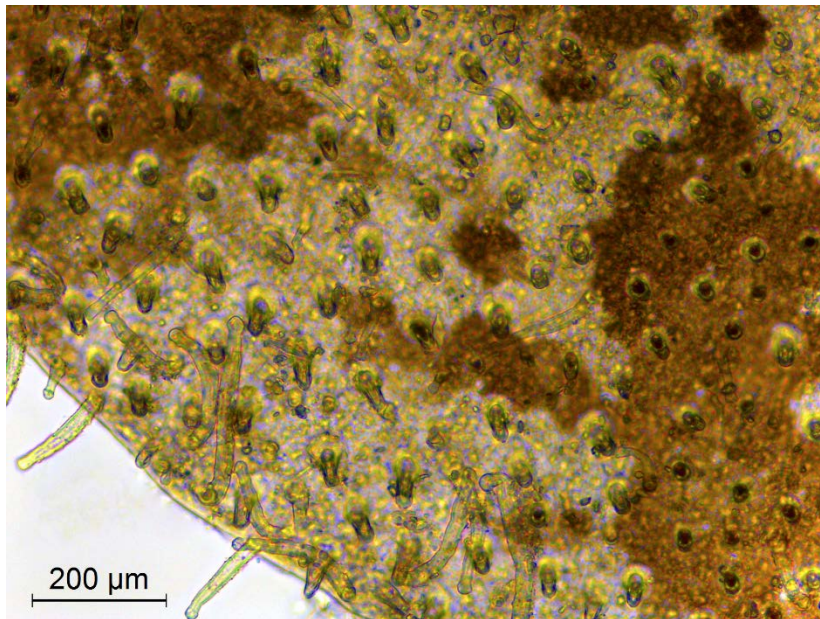
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Elytra with short marginal papillae; surface covered with conical microtubercles and a few scattered papillae (Barnich and Fiege 2009)

Macrotubercles (if present) are smooth and conical, without polygonal cells (Ruff 1995); not pictured



Whole elytra from middle segment (dorsal view); specimen from 2015 PSEMP Urban Bays Station 149

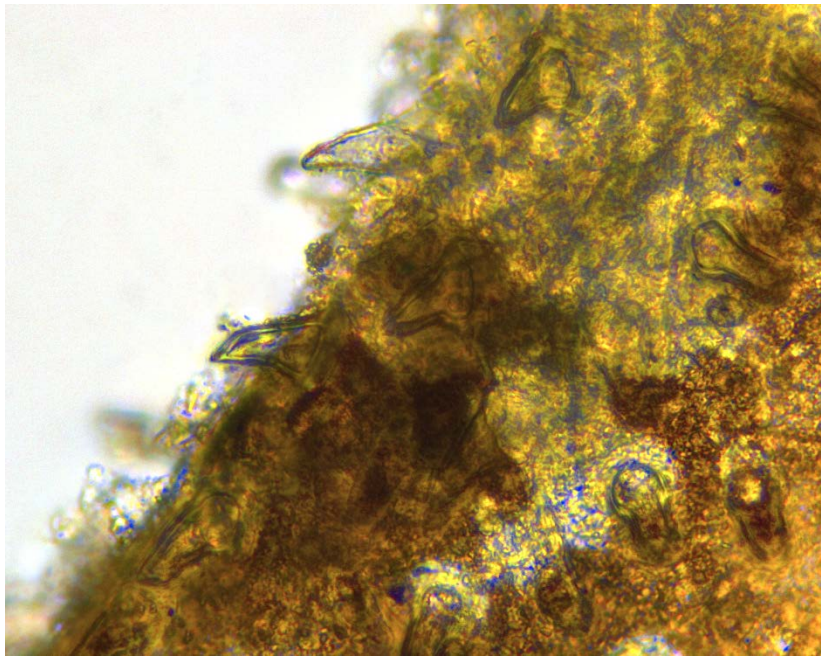


Posterior elytral margin (dorsal view); specimen from 2015 PSEMP Urban Bays Station 149

TOP LEFT:  
Modified  
from Ruff  
1995, p.  
133, figure  
B

TOP  
RIGHT:  
Barnich and  
Fiege 2009,  
p. 47, figure  
C

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Close-up of conical microtubercles from middle elytra; specimen from 2015 PSEMP Urban Bays Station 149

Dorsum slightly pigmented or mottled (Ruff 1995)

*Note: Color pattern is greatly variable in this species (see Comments section below)*



Anterior body region with first pair of elytra removed (dorsal view); specimen from 2015 PSEMP Urban Bays Station 149

Marine Sediment Monitoring Team

## Related Species and Characteristic Differences

| Species Name                 | Diagnostic Characteristics  |
|------------------------------|---|
| <i>Harmothoe fragilis</i>    | Anterior eyes located on lateral margins of prostomium; dorsum usually dark brown; elytra with fringing papillae long (Ruff 1995)   |
| <i>Harmothoe multisetosa</i> | Elytral surface with curved, thorn-like spines but without filiform papillae  |
| <i>Harmothoe extenuata</i>   | Anterior eyes located on lateral margins of prostomium; macrotubercles rounded and darkly pigmented (Barnich and Fiege 2009)  |
| <i>Harmothoe hirsuta</i>     | Elytra with multipronged macrotubercles surrounded by polygonal cells; neurochaetae with secondary tooth remote from tip; elytra with fringing papillae long, giving worm a shaggy appearance (Ruff 1995)<br><i>Note: This is a southern California species (Blake and Ruff 2007), not on the species list for Puget Sound.</i> |
| <i>Malmgreniella</i> spp.    | Notochaetae with longitudinal striations and spinules in 2 longitudinal rows.   |
| <i>Gattyana</i> spp.         | Cephalic peak and eye arrangement of some <i>Gattyana</i> spp. may look similar to <i>H. imbricata</i> , but lower notochaetae of <i>Gattyana</i> have capillary tips and the upper and lower neurochaetae differ in shape.   |

## Comments

The pigmentation of the elytra of *H. imbricata* can vary considerably (see photo, right), exhibiting a range of colors and patterns (Ruff 1995). This color polymorphism as well as the poor original description of the *H. imbricata* has led some taxonomists to believe that it may actually represent a species complex. However, the genetic research of Nygren et al. (2011) found *H. imbricata* to be a single, color polymorphic species. In addition, through the use of molecular tools, Carr et al. (2011) found *H. imbricata* to have a continuous amphiboreal-artic range extending from British Columbia to New Brunswick, providing evidence that it may truly be a cosmopolitan species.



## Literature

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## More Information

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