



<b>Common Name</b>	red algae
<b>Genus &amp; Species</b>	<i>Bangia atropurpurea</i>
<b>Family</b>	Bangiaceae
<b>Order</b>	Bangiales
<b>Class</b>	Bangiophyceae

**Diagnosis:** This species of red macro-alga may be branched or un-branched dependent upon the stage of its life cycle and is filamentous. It is characterized by a small thallus or plant body and has an over-wintering color of dark red that shifts to either rust colored or yellow by spring. Great Lakes populations vary in size but spore diameter has been measured at 15.5 micrometers ( $\mu\text{m}$ ) and asexual filament diameters at 75  $\mu\text{m}$ . Lake Erie observations of this species describe dense coverings found on hard substrate that appear as red-purple tufts and have been recorded up to several inches deep.



**Ecology:** *B. atropurpurea* is known to reproduce sexually and asexually within its native range but only the asexual form is known to occur within the Great Lakes. This asexual, freshwater form reproduces via the production of mono-spores and is likely a descendant from a marine variation. It can survive prolonged periods of exposure to the sun and has a known tolerance to warm waters with an upper survival limit of 24 to 31° C. It grows best with 16 hours of sunlight and at a temperature of 15°C with populations peaking in spring and fall, persisting at lower numbers through the summer.

**Habitat & Distribution:** The native range of *B. atropurpurea* is widespread within the Atlantic Ocean which includes the North American coast. This species is thought to have been introduced to the Great Lakes through the Welland Canal via boating traffic and has been recorded from Lakes Erie, Huron, Michigan and Ontario as well as Lake Simcoe in the Lake Ontario drainage basin. Within its introduced range, this species grows best at the littoral splash zone, about one meter above or below the surface, in elevated levels of salinity on hard substrate.

**Status:** This red algae species was introduced to Lake Erie in 1964 and spread rapidly with the aid of ballast water transfer and commercial and recreational boating. From its initial introduction to Lake Erie, *B. atropurpurea* has established populations in the surrounding Great Lakes and tributaries. This species has yet to displace native filamentous alga but has spread to occupy space higher in the splash zone that was previously not utilized.

**USGS Fact Sheets:** <http://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=1700>