

GUIDE TO MARINE INVADERS IN RI COASTAL WATERS

Rapana venosa

veined rapa whelk, Asian rapa whelk

Potential
Invader

PHYSICAL DESCRIPTION

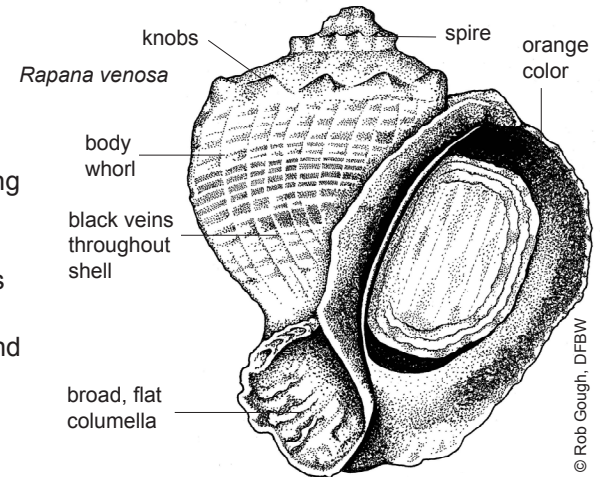
- Rounded, heavily ribbed shell with a short spire and large body whorl
- Can grow up to 7 in (18 cm) in length and is nearly as wide as it is long
- Pronounced knobs leading to the spire
- Gray to reddish-brown (often covered in mud in the field) with distinctive black veins throughout the shell
- Distinctive deep orange color on the columella and aperture

HABITAT PREFERENCE

- Young occupy hard substrate until reaching shell lengths greater than 2.7 in (7 cm)
- Adults migrate to sand and mud where they burrow and forage on bivalves (e.g. clams, oysters)
- Tolerates low salinities, water pollution, and oxygen deficient waters



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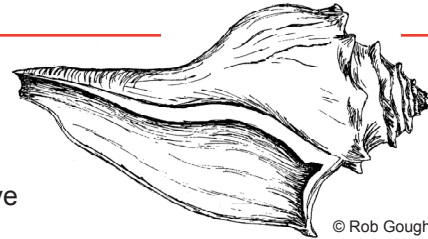
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INVASION STATUS & ECOLOGICAL CONCERNS

Not yet recorded in New England, this species is native to marine and estuarine waters of the western Pacific (Sea of Japan, Yellow Sea, East China Sea). It was introduced to the Black Sea (1940s), the coastlines of Romania, Bulgaria, and Turkey (1959 to 1972), and Brittany (1997). The Virginia Institute of Marine Science (VIMS) Trawl Survey Group collected the first specimen in the United States in 1998 at Hampton Roads, Virginia. Since then, over 18,000 specimens as well as egg cases (resembling small mats of yellow shag carpet) have been collected in the lower Chesapeake Bay. Strong evidence indicates larvae arrived by ballast water. Young *R. venosa* are generalist predators consuming large numbers of barnacles, clams, mussels, oyster spat, and small oysters. It grows rapidly during the first year of life, can reproduce after the second year, and may live over ten years. Its cryptic coloration, nocturnal habits, and preference for shellfish make this a serious intruder with potential for ecological and economic damage. A bounty for live and dead *R. venosa* is paid by VIMS in order to determine distribution rates and direction. Northward and southward flowing currents at the mouth of Chesapeake Bay, combined with *R. venosa*'s tolerance to wide temperature and salinity ranges, increase the chances for dispersal and survival in the estuaries in the northwest Atlantic Ocean.

SIMILAR SPECIES

Found on Cape Cod and southward, the knobbed whelk, *Busycon carica* (right), and the channeled whelk, *Busycon canaliculatum*, are the only larger whelks that would likely be confused for the veined rapa whelk. Neither have a broad flat columella nor the black veins.



knobbed whelk
Busycon carica

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This card is adapted from an original series produced by Salem Sound Coastwatch (www.salemsound.org). The original series was funded by the MA EOEPA Office of Coastal Zone Management with funding from the U.S.F.W.S. For more information please visit www.mass.gov/czm/invasives/monitor/reporting.htm. The production of this adapted card was funded by the RI Coastal Resources Management Council with funding from the U.S. Fish & Wildlife Service. To report findings please email kcute@crmc.ri.gov or call (401) 783-7772 or (401) 783-3370.