



Lioplax subcarinata (Say 1817)

ridged lioplax

Taxonomy & Systematics. *Lioplax* is a North American genus in the worldwide family Viviparidae, a strictly freshwater family of relatively large-bodied prosobranch gastropods, bearing concentric opercula. Viviparids have evolved specializations of the gill and mantle cavity allowing them to filter feed as well as graze. They are also distinguished by their ovoviviparity. Females brood eggs after fertilization in a "uterus," releasing young as crawling juveniles. The penis arises as a modified right tentacle.

Six nominal species of *Lioplax* are generally recognized, but only *L. subcarinata* occurs in Atlantic drainages. The genus attracted considerable attention in the mid-20th century, first from Clench, then from V. A. Vail, and has subsequently enjoyed a period of taxonomic stability. Vail has published a nice set of anatomical observations on *Lioplax pilsbryi* from north Florida.

Habitat & Distribution. The range of *Lioplax subcarinata* historically extended from South Carolina north to the Hudson River, but recent reports suggest that it may have been extirpated from New York. Our surveys of southern Atlantic drainages found populations of *L. subcarinata* patchily-distributed through Coastal Plain portions of the Lynches, Waccamaw, Lower Neuse, Tar/Pamlico, and Chowan Rivers. In Virginia we have records only from the Chowan and from Dragon Run in the Rappahannock River basin, as well as older (unconfirmed) records from the Potomac and James Rivers. The trend toward a reduction in sightings over recent years suggests that the conservation status of *L. subcarinata* may need to be downgraded. Our limited observations suggest that the animal burrows in flocculent silt.

Ecology & Life History. The ecological literature contains few studies specifically addressing *Lioplax*. But judging from its biological similarity to *Campeloma*, one might infer that *Lioplax* has the ability to filter feed or suspension feed on fine organic particles. Unlike *Campeloma*, however, there is no evidence of parthenogenesis in *Lioplax*. Vail reported a perennial, iteroparous life cycle for the population of *Lioplax pilsbryi* she studied in north Florida, animals requiring two years to mature.

Conservation Status. NatureServe G4G5/S5 - Secure.
Virginia Wildlife Action Plan Tier IV - Moderate Conservation Need.

