Littorina aspera in two characters, viz., the more globose form and the more elevated ridges; but among the Mazatlan specimens in the Berlin Museum there are several which combine the slender form of _aspera_ with the strong ridges of _puncticulata._

13. **Littorina aspera.** (Tab. XLIII. figg. 15, 16.)


*Littorina irrorida_ (Say), Reeve, Conch. Icon. x., *Litorina*, t. 11, fig. 56 (pec L. irrorida, Say, from the east coast of North America).

Near _L. lineata_, but with the spiral ridges stronger and somewhat rough; the last whorl usually differing from the upper ones in having the spiral ridges more prominent and somewhat knobbed; the basal keel more distinct in younger specimens, but sometimes almost disappearing in very old ones (fig. 16).

**Hab.** N.W. Mexico: Mazatlan, common (*Melchers* 38; *Reigen* 6); West Coast of Mexico (*Uhde, in Mus. Berol.*); Mexico, without nearer indication of locality (*Hegewisch* 12).

**Salvador:** Conchagua (*Cuming* 12); La Libertad (*Krause, 1881, in Mus. Berol.*).

**W. Costa Rica:** Punta Arenas, on stones (*Ersted* 8); Gulf of Nicoya (*C. Hoffmann, in Mus. Berol.*).

**S. Panama:** Taboga Island and Panama, on ledges and large fragments of rock at or above high-water mark (*C. B. Adams* 5).

Our figures are taken from a very old specimen, 19 millim. in length, in Paetel's collection (fig. 15), and from a young one from Nicoya (fig. 16).

Carpenter 6 is quite right, I think, in doubting the occurrence of this species so far north as Sitka, whence it has been recorded by Philippi 12. Von Middendorff [Malacologia Rossica, p. 66] has seen no specimen from thence in the Petersburg Museum, but mentions it only on the authority of Philippi.

The other species of *Littorina* mentioned by C. B. Adams in his valuable 'Catalogue of Panama Shells' live in somewhat deeper water, between half-tide and high-water levels (*L. atrata*), or have been found only as dead shells in sand, and they belong to the genus *Fossarana*, according to Carpenter (Moll. W. N. Am. p. 188).

*Littorina aberrans_, Philippi (P. Z. S. 1845, p. 142; Abbild. neuer Conch. iii. p. 11, t. 6, fig. 9; Reeve, Conch. Icon. x., *Litorina*, t. 12, fig. 59), from Panama, founded on a single specimen in Cuming's collection, probably does not belong to this genus also; Carpenter (Moll. W. N. Am. p. 60), however, says that it is a tall variety of *L. conspersa*, 74*