

speaks of it as giving simply a general view of the region without any attempt at accuracy of position. The patches of reef in the view are of this coral-head kind, though not all as slenderly supported as that above described. A vessel is represented passing through a passage between two of them. Prof. Hartt, after describing the fringing reefs of the Abrolhos, gives the following account of the outside coral formations (p. 199). "Corals grow over the bottom in small patches, *in the open sea*, and, without spreading much, often rise to a height of forty or fifty or more feet, like towers, and sometimes attain the level of low water, forming what are called on the Brazilian coast *chapeirões* (signifying *big hats*). At the top these are usually very irregular, and sometimes spread out like mushrooms, or, as the fishermen say, like umbrellas. Some of these *chapeirões* are only a few feet in diameter. A few miles to the eastward of the Abrolhos is an area, with a length of nine to ten and in some places a breadth of four miles, over which these structures grow abundantly, forming the well-known Parcel dos Abrolhos, on which so many vessels have been wrecked." "Among these *chapeirões* I measured a depth of sixteen to twenty metres, and once, while becalmed, I found twenty metres alongside of one and three metres on top. They are rarely laid bare by the tide. They do not coalesce here to form large reefs as they do to the west of the islands. . . . Sometimes vessels striking heavily on small *chapeirões*, break them off and escape without injury, as has been remarked by Mouchez. At other times a vessel may run upon one and stick fast by the middle of the keel, to the amazement of the captain, who finds deep water all around, the vessel being perched on the *chapeirões* like a weather-cock on the top of a tower."

"In the northern part of the Parcel the *chapeirões* so closely unite as to form an immense reef, which has grown upward to a level a little above low water, and is quite uncovered at low tide." "The north-eastern part of the reef is called the Recife do Lixo, that is, Reef of the *Lixo*, a shark-like Ray which is furnished with large crushing teeth and frequents the reef in search of shell-fish."