

to the Gulf, occur a small but beautiful *Fungia* (*F. elegans* V.), three *Porites*, a *Dendrophyllia*, a *Pocillipora*, some *Astrangids*, and many fine *Gorgoniæ*. The character of the species is that of the *cooler torrid* region, rather than that of the warmer torrid.

Owing to the cold oceanic currents of the eastern border of the Pacific—one of which, that up the South American coast, is so strong and chilling as to push the southern isocryme of 68° , the coral-sea boundary, even beyond the Galapagos, and north of the equator—the coral-reef sea, just east of Panama, is narrowed to 20° , which is 36° less of width than it has in mid-ocean; and this suggests that these currents, by their temperature, as well as by *their usual westward direction*, have proved an obstacle to the transfer of mid-ocean species to the Panama coast.

In the West Indies the reefs lie within the limits of the isocryme of 74° F., or the torrid region; and yet the variety of species and genera is very small compared with the same in the Central Pacific. The region contains some large *Madrepores*, the *M. palmata*, a spreading foliaceous species that forms clumps two yards in diameter; *M. cervicornis*, a stout, sparsely-branched tree-like species, which attains a height of fifteen feet; *M. prolifera*, a handsome shrub-like species, of rather crowded branches; besides others; and these are marks of the existence of the *warmer torrid* region; yet the sea has not as high a temperature as the hottest part of the Pacific. The species of the *Astræa* tribe are few in number, and among the largest kinds are the *Mæandrinæ* (the *Diploria* being here included). None of the free *Fungidæ* are known excepting the two species in deep water, and none of the *Pavoniæ* among the compound species; but the massive *Siderinæ* (*Siderastrææ*) are common, and the foliaceous *Agariciæ* and *Mycedia*. Of the *Oculina* tribe, species of *Oculina*, *Cladocora* and *Astrangia* are relatively more numerous than in the Central Pacific; but there are none of the *Pocilliporids*, which are common both in the torrid and subtorrid regions of the Pacific. *Millepores* are very common. *Gorgoniæ*, are of many species.