

of scales and fin-rays, but the latter appears to have constantly 8 gill-rakers on the lower part of the anterior arch, whilst the former has 7.

*Centropomus viridis* and *C. undecimalis* agree in the number of scales and gill-rakers, but the former appears to have a ray less in the second dorsal fin. A similar difference is found between *Philypnus maculatus* and *P. dormitator*, the former having a ray more in the anal fin.

The members of each pair of species in all cases differ from each other in at least one more or less tangible "substantive" character, such as the relative depth of the body, length of the head, size of the mouth, length of the fin-rays, or size of the teeth.

When there is agreement in all the characters which can be numerically expressed and the distinction appears to rest on a single feature, as in the case of *Dormitator latifrons*, separated from *D. maculatus* by the larger head, or *Gerres lineatus*, differing from *G. plumieri* in the less elevated dorsal fin, the two forms can scarcely be regarded as more than sub-specifically distinct.

In other cases the Atlantic and Pacific forms differ in two tangible characters, e.g. *Gerres olithostomus* and *G. peruvianus*, the latter of which is distinguished by the larger scales in the thoracic region and the somewhat smaller mouth. From such pairs of species we pass to others, the members of which may be separated by three, four, or more tangible characters.

From the data given above we may conclude that a greater or less amount of change may take place in a species when isolated for a considerable period, and that some of the changes which take place may be non-adaptive.

The fact that in so many cases species on opposite coasts may be paired is more in harmony with the view that there has been a gradual modification during isolation than with the supposition that a "mutant" has arisen which has replaced the parent form.

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