

origin may be I am not prepared to say, but they have no counterpart among birds and with a few possible exceptions none among other vertebrates.

I may say that I do not regard them as the result of mutation as the followers of de Vries apparently do, but think it likely that they may be due to the action of immediate local environment, the exact nature of which it is practically impossible for us to detect. The extremely sedentary nature of plants, especially some groups, and the ease with which isolation may affect them would tend to emphasize the effect of local environment in producing differentiation.

In terrestrial vertebrates we find among snakes certain forms with peculiar coloration occurring as colonies here and there within the range of the species which do not conform to any definite geographic habitat, and in some fossorial or semifossorial mammals similar extremely local forms occur, as '*Geomys colonus*' Bangs surrounded by the range of *G. floridanus* and *tuza* and in just the same sort of environment so far as we can see; also '*Microtus rufidorsum*' Baird, which occurs in colonies within the range of *M. pennsylvanicus*.

These may be parallel cases to those exhibited in *Viola*, *Cratægus*, *Aster*, *Panicum*, etc., and their sedentary nature seems to point similarly to elements in the immediate local environment as the probable cause of their differentiation.

WITMER STONE.

ACAD. NAT. SCIENCES, PHILADELPHIA.

ISOLATION BY CHOICE.

TO THE EDITOR OF SCIENCE: The recent discussion of isolation in SCIENCE reminds me of a popular article I wrote for *The Outlook*, emphasizing the psychic factor in evolution¹—the part that choice plays. We must, it seems to me, not forget the various factors that work together at the same time in producing species. A fish with weak eyes would naturally prefer cave life, and thus isolated breed with others similarly equipped, physically and mentally. Those that have the

¹ February 18, 1898.

physical variation without the mental would soon feel the effect of their want of sense.

The same principle applies in protective coloration. One may easily conceive of two habitats where the protective coloration would be quite different, and it is easy to see that the survival of those sensible enough to stick to the habitat best suited to them might quickly lead to intensification both of the tendency to seek the one habitat and of the coloration that adapts them to it. Indeed sexual selection may come in. Those having a willingness to accept mates with an erratic tendency to the other habitat or less protective coloration would have progeny less liable to prosper. Thus we may easily imagine two color races, species, arising, separated by a hereditary preference for different habitats, and for mates with all the peculiarities that those habitats have produced, while yet there is no physical barrier preventing the crossing, which may indeed go on to some slight extent.

ALFRED C. LANE.

LARVAL CONGER EELS ON THE LONG ISLAND COAST.

THE occurrence of larval conger eels in great abundance on the Atlantic coast has, as far as I am aware, not been recorded; accordingly the following note may be of interest.

On May 27, 1905, the '*Leptocephalus*' of a conger eel appeared in great numbers at Easthampton, on the south shore of Long Island, about twenty miles from Montauk Point. They were washed up by the waves, literally, in thousands, and continued to come ashore in greater or less quantity—being especially abundant again on June 3—for about a fortnight. It was evident that this interesting harvest was due in some measure, at least, to a local storm and change of currents, which also brought in a number of bottom forms—*e. g.*, *Natica* and its eggs.

The larvæ were all of a uniform length of about four inches, and in a few cases appeared to be in normal condition; most, however, were found to be either dead or dying. Dr. Bashford Dean, who has seen my specimens, tells me that they are probably *Leptocephalus*