

favorable one for the embryos than one containing only Na and Ca. The experiments on which this statement is based are tabulated below and can be compared with the earlier ones.

After	21	21	25	24	24	hours
in NaCl	.053125	.10625	.2125	.425	.85	per cent.
in CaSO ₄	.0028125	.005625	.01125	.0225	.045	per cent.
in MgCl ₂	.0053125	.010625	.02125	.0425	.085	per cent.
there were	15	15	15	15	12	survivors.
Time of acclimatization 120 hours.						
Average strength of preparatory solution in Na .199 per cent.						
Average strength of preparatory solution in Ca .0105 per cent.						
Average strength of preparatory solution in Mg .0199 per cent.						

Conclusion.—The ability of amphibian eggs to develop in sea water is dependent on the principle of ionic antagonism. In addition to this, however, their power of acclimatization plays an important rôle, for it not only enables them to withstand the passage from dilute to strong solutions, but the opposite process as well. Thus larvæ which have just reached a point where they fail to react to tactile stimuli in solutions which do not bring about dehydration, either because the solutions are too weak, or because the larvæ have been acclimated, will if transferred to fresh or distilled water recover in from one to two hours. If in addition to this we remember that the species found by Pearse is probably racially acclimated to the conditions under which it lives, his findings do not appear inexplicable.

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THE SCALES OF DERMOPHIS

IN SCIENCE, July 28, 1911, p. 127, I described the scales of the Asiatic amphibian *Ichthyophis*, pointing out their resemblance to certain fish scales. Early this year my wife and Mr. Earl Morris obtained a number of amphibians and reptiles at Quirigua, Guatemala,¹ and

¹These were very kindly determined for us by Dr. L. Stejneger. It may be worth while to give the list, as a contribution to the knowledge of their distribution: *Leptophis mexicanus* (Dum. & Bibr.), *Streptophorus atratus sebæ* (Dum. &

among them a specimen of the Cœciliid amphibian *Dermophis mexicanus* Peters. The scales of this animal are minute, oblong to suboval, superficially similar to those of *Ichthyophis*. The essential structure is also

the same, but the cell-like areas, instead of being more or less brick-shaped, are long and narrow, usually pointed at the ends, as though compressed. The scales of *Ichthyophis* are finely granular, but *Dermophis* shows little of this. The structure of the *Dermophis* scale is even more like that of the eel *Synphobranchus pinnatus* than is that of *Ichthyophis*.

On the whole, the correspondence in minute structure between the scales of the two Cœciliids examined, from opposite sides of the world, is very striking. It is evident that in the Cœciliids, as well as in the more primitive types of scaly fishes, scale-structure is extremely persistent. It is proper to say, however, that the two genera are otherwise rather close in structure, and it remains to be seen whether the scales of more divergent genera, such as *Cryptopsophis* or *Gymnophis*, present any marked differences.

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MINERAL CONTENT OF VOLCANIC ASHES FROM KODIAK¹

FOLLOWING the recent eruption from Mount Katmai (the first week of June, 1912) samples of the volcanic débris falling near the Agri-Bibr.), *Ameiva undulata* Gray, *Bufo valliceps* Weigm., *Hyla baudinii* Dum. & Bibr., *Dermophis mexicanus* Peters, *Spelerpes* (? *rufescens* Cope, condition poor).

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