THE OCCURRENCE OF TAURIN IN INVERTEBRATE MUSCLE.

A RECENTLY published paper by Agnes Kelly* on the occurrence of taurin in *Pecten opercularis* and *Mytilus edulis,* leads me to announce a similar observation on the occurrence of taurin among the muscle-extractives of *Sycotypus canaliculatus* and *Fulgur carica,* the zinc-bearing gastropods of Long Island Sound.†

Taurin has been described as a constituent of invertebrate muscle since 1845, when Karsten isolated a crystalline body from the watery extracts of certain molluscs, and identified it with the taurin separated from bile. Since that time the list has been largely extended by Krukenberg and others, until it includes the following molluscs: *Doriopsis, Turbo, Cassidaria, Mytilus, Ostræa, Pinna, Arca, Spondylus, Pectunculus, Pecten, Murex, Octopus, Loligo* and *Sepia.*

In a physiological-chemical study of various molluscs, which has been in progress in this laboratory for some time, under the direction of Dr. Mendel, taurin was separated in its characteristic crystal form, which, together with its sulphur content and chemical reactions, left no doubt in regard to its identity. This was further established by an analysis, which gave the following results:

	N.	S.
Calculated for $NH_2.CH_2.CH_2.SO_3H$	11.22%	25.62%
Found	11.37%	25.89%

Taurin has also been obtained from the muscles of *Haliotis,* the 'abalone' of the Pacific coast, by Professors L. B. Mendel and M. E. Jaffa, and likewise identified by analysis.

The finding of taurin—amido-ethyl-sulphonic acid—among the products of muscle katabolism in invertebrates is of particular physiological interest in view of the close relationship which has recently been shown to exist between taurin, cystin and the proteids.‡

The apparent association of taurin and glycocoll—amido-acetic acid—in molluscs, recalls the related occurrence of derivatives of these compounds in higher organisms.

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* Agnes Kelly, 'Hofmeister's Beiträge zur chemischen Physiologie,' V., p. 377, 1904.

† Cf. SCIENCE, Vol. XIX., No. 474, January 29, 1904.

‡ Friedmann, 'Ergebnisse der Physiologie,' 1902–3, I., 1, and II., 1.

THE PTERIDOSPERMAPHYTA.

SUCH is the name that I would propose to give to those plants, long extinct though they may all be, having the general character of Pteridophyta, but bearing seeds as in the Spermatophyta.* Such forms are now rapidly coming to light and are too well known to botanists to require enumeration. The name Cycadofilices which has been applied to them seems objectionable in several respects. While most of them do partake of the nature of both cycads and ferns, it is not certain that all do so, and additional ones may not entirely justify this designation. It is probable that they may, if some already known do not now, show affinities with the Pinales as well as with the Cycadales, and it is not at all improbable either that calamarian forms will be found with true seed vessels. A name is needed that shall express the broader fact that the ancient Pteridophytes occasionally developed so far in their reproductive system that they take on the characters of Spermatophytes. The term Pteridospermaphyta expresses this truth. It is somewhat long, but not longer than a number of the terms used in current systems of classification for which there are far less cogent reasons. It has the further advantage of denoting the true order or direction of development, and not the inverted order denoted by the term Cycadofilices.

The Pteridospermaphyta constitute a *phylum* coordinate with the Pteridophyta and Spermatophyta. They mark the progress of plant development from the standpoint of the reproductive organs. It is true that they bridge over a great chasm hitherto supposed to be impassable, but this is what we ought to expect as the knowledge of nature increases.

* This term is shortened by some writers to Spermaphyta.