The Lotmar-Picken Substance: Taurine.* By CAROLYN COHEN. (From the Biology Department, Massachusetts Institute of Technology, Cambridge, Massachusetts.)

The "Lotmar-Picken" x-ray diagram from dried muscle, which had been attributed to crystalline myosin (1, 2), was shown to be due to a water-soluble material whose nature as a small organic molecule was deduced from diffraction evidence (3, 4). The diagram has been reported obtained in separate instances from the following muscles: frog sartorius (5), Loligo funnel retractor (3), and Pecten adductor (3); it has twice been reported from Mytilus edulis adductor (1, 4). The clue to the identity of the Lotmar-Picken substance is its frequent occurrence in mollusks. Muscles of members of this phylum contain very large amounts of taurine (H₂NCH₂CH₂SO₃H), amounting to as much as 4 to 5 per cent in the Mytilus edulis adductor (6). That the diagram is, in fact, due to oriented crystals of taurine is demonstrated in Fig. 1, which shows the Lotmar-Picken pattern obtained by Bear and Cannan, and below this, a pattern from a frog sartorius muscle which had been washed with water, soaked in a 5 per cent solution of taurine, and air-dried. The spacings on these diagrams agree within an experimental error of 2 per cent. The function of taurine in muscle is not known.

**BIBLIOGRAPHY**

5. Herzog, R. O., and Jancke, W., Naturwissenschaften, 1926, 14, 1223.

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FIG. 1. Top half is the Lotmar-Picken x-ray pattern obtained by Bear and Cannan from *Loligo* funnel retractor muscle (3); the bottom half is a diffraction pattern obtained from a frog sartorius muscle which had been soaked in a 5 per cent solution of taurine and air-dried. First equatorial spacing at \( \sin \theta/\lambda = 0.076 \).

\(^1\) A negative for this pattern was kindly supplied by Professor Richard S. Bear.
Fig. 1

(Cohen: Lotmar-Picken substance)