different periods of soaking, one set placed on agar and nutrient salts only, the other set receiving 3 per cent sucrose in addition. All were kept at 1° C. for six weeks, at the end of which period sugar was added to the control set now kept at room temperature until large enough to transplant to soil. It will be seen that, in the absence of sugar during the low temperature exposure (upper photograph) almost complete failure of vernalization has resulted. Clearly, therefore, the vernalization effect is concerned with some change in the absorbed carbohydrate occurring at low temperature only (lower photograph).

Further work will be undertaken with different concentrations of various sugars and also on the effect of omitting inorganic nitrogen from the culture medium.

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¹ Gregory, F. G., and Purvis, O. N., *NATURE*, 138, 249 (1936).

² Gregory, F. G., and Purvis, O. N., *Ann. Bot.*, N.S., 2, 237-251 (1938).

Discovery of *Cæloplana* sp. at Krusadi Island Marine Biological Station, Madras

AFTER the silver jubilee session of the Indian Science Congress in Calcutta, to which I was a delegate was concluded, I went down to the south of India to the Marine Biological Station, Krusadi Island, at the kind invitation of the director of fisheries for Madras, Dr. Sundara Raj, to study the fauna of that coral island.

While there I was fortunate to collect a single specimen of *Cæloplana*, which I detected crawling in a dish containing seaweeds, chiefly *Halimeda opuntiades*. The specimen was about 5 mm. in length, translucent and faintly suffused with green to tone in with the weed on which it was living. I made several observations on and sketches of the living animal, but was unable to preserve it as it fragmented when I attempted to kill it with corrosive sublimate. Unfortunately, I had to leave for Colombo the next day and was unable to obtain and study any further material.

The animal resembles *C. bocki* Komai, described from Japan, but certain differences compel me to think that it represents a new species. The work of describing the animal has been entrusted to Dr. D. W. Devanesan, assistant director of fisheries for Madras, and his research assistant, Mr. S. Varadarajan. I have since heard that these two workers have secured a good deal more material and we may hope for a full description before long. In the meantime, it seems desirable to place on record this interesting find, the first from Indian waters, and in a locality far removed from any other in which the genus has been found. The species is evidently not uncommon and the clue to its habitat may be useful to others who may have the opportunity of biological work in the tropics.

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Function of the 'Gills' in Mosquito Larvæ

It has been assumed until quite recently that the 'gills', or anal papillæ, of mosquito larvæ serve for respiration, and I accepted this view in a previous publication¹, though with some misgivings in view of Dr. Wigglesworth's demonstration², that the respiratory function is at most secondary.

Wigglesworth (1938)³ has summed up work of his own and of others, and has shown beyond doubt not only that the main function of the 'gills' is the absorption of chloride but also that the size of these structures in a given species of mosquito is largely governed by the concentration of chloride in the water, the 'gills' being considerably larger in water of low chloride-content than when the concentration of chloride is comparatively high.

Though, however, Wigglesworth mentions that this phenomenon provides an explanation for the large sausage-shaped type of 'gill' characteristic of larvæ breeding in small containers (tree-holes, plant-axils, etc.) and, by inference, for the small rounded 'gills' of those which breed in saline waters, he has omitted to note that it also explains the anomalous case of those larvæ which breed in small containers but which are predaceous. These latter have very short rounded papillæ (ref. 1, p. 21) instead of the large sausage-shaped type which is found in nearly all other species occurring in small containers. In the light of the discovery that the chief function of the anal papillæ is to absorb chloride, the explanation of this apparent anomaly becomes obvious: predaceous larvæ obtain their chloride from the bodies of their victims and thus do not require large 'gills' wherewith to absorb it independently.

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¹ Hopkins, "Mosquitoes of the Ethiopian Region", Part 1 (1936), p. 12.

² Wigglesworth, "The Function of the Anal Gills of the Mosquito Larva", *J. Exp. Biol.*, 10, 16-26 (1933).

³ Wigglesworth, "The Regulation of Osmotic Pressure and Chloride Concentration in the Hæmolymp of Mosquito Larvæ", *J. Exp. Biol.*, 15, 235-247 (1938).

A Curious Atmospheric Phenomenon

ON July 23, at 5 p.m., while visiting Ranelagh, a friend and I were sitting in the small temple which is at the highest point in the grounds. It was a bright day with little wind, but there were haze and some cloud. I do not know the bearings from this temple, but considering a line at right angles to the door of the temple as zero, the phenomenon to be described occurred at an angle of azimuth of 45° or 50° to our left, which may have been E.S.E.

The occurrence was first noticed at 5 p.m. and went on until 5.15 and later, and was again seen at 6.15 from another station at the general ground-level.

What we saw was a tall and very narrow, vertical, grey column subtending a vertical angle of 20° or 25°. In the foreground about a quarter of a mile away were tall trees and the column appeared behind these at perhaps a third of a mile away from us. There was a slight wave motion up the column, the amplitude of the waves being say two or three diameters of the column, which was perhaps fifty or more diameters high. The diameter was constant all the way up. The column persisted for a time always in the same place except when there were two (? three) columns separated by an angle of azimuth of say 2° or 3°.