green in some of the froth traces. A pretty shade of lemon yellow was frequently visible from the pier of the Scripps Institution of Oceanography.

The color reached its greatest prominence, both as to apparent density and as to width of streaks on August 7, but it had attracted considerable attention at the La Jolla Beach Club on July 30, the bathers complaining that the water was covered with oil. At that time, in response to a request of the club management I made a direct examination of conditions at their beach, which showed that considerable areas in and near the surf did have an oily appearance to the eye, although samples of the water did not have an oily feeling. On the wet sand, receding breakers left rows of yellowish material, one to six inches wide and sometimes a quarter inch deep, which consisted of "pure cultures" of the organisms concerned.

Careful microscopic examination of samples from the water as well as from the sand showed the condition of "pure culture" to be general. No one at the Scripps Institution has been able to identify the organism, beyond showing that it was a true flagellate possessing four flagella. All specimens appeared to be very lively, dancing about in the surface film of bubbles or in the water with a movement much like "Brownian movement." As might be expected, the color of individuals was very slight, with yellow a little more prominent than green. The shape was about like that of a flat, neckless flask and the dimensions were about six thousandths of a millimeter in length by four in width.

Following the peak of abundance of the yellowish organisms on August 7 complaints began to be heard of bad odor in sea water, especially after most of the yellow color had been displaced on the beaches by one of very light brown in the traces of foam. Special examination of the brownish material showed the almost exclusive prevalence of a nearly colorless flagellate organism much larger than its predecessor, mostly three or four times as long. Its shape and action were also distinctly different. The form was more like that of a common potato, and the swimming action was very swift, though spasmodic, much like that of certain flagellates often found in stagnant or foul water on land. No satisfying identification was found for it.

Aside from the questions concerning its identity and its taxonomic relationships, the most remarkable points concerning this occurrence of "yellow water" were the exceptionally small size of the flagellate and the absence of all other plankton organisms. In the several cases of "red water" in the La Jolla region mentioned by me in SCIENCE for July 7, 1933, many other kinds of organisms were associated with the one causing the color. In this 1935 case of "yellow water" fishes near the pier seemed to be entirely indifferent to the condition, and no harm to sedentary animals was noticed.

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GROWTH PROMOTING EFFECT OF FLAVINE ON THE CHICK

ELVEHJEM and Koehn[1] have recently demonstrated that flavine is powerless to prevent a pellagra-like syndrome in chicks caused by feeding a heated diet of yellow corn meal, 58 per cent.; wheat middlings, 25 per cent.; commercial casein, 12 per cent.; supplemented with salts and cod liver oil. The syndrome was prevented by the filtrate from liver extract after the flavines were removed by adsorption on fuller's earth.

We have repeated and confirmed these results. We found that our fuller's earth adsorbate, containing flavine, failed to alleviate symptoms or to restore growth in chicks on the heated diet. The filtrate cured the syndrome.

In addition, chicks were fed an unheated diet of the same composition, except that purified casein replaced commercial casein. Slow growth took place. The growth was markedly accelerated by the addition of our fuller's earth adsorbate to the diet.

Thus it has been demonstrated that in liver extract there are present two water-soluble factors which promote growth in the chick. The first of these is the factor of Elvehjem and Koehn, which promotes growth when added to a heated diet of yellow corn meal, wheat middlings and commercial casein, supplemented with salts and cod liver oil. The second factor is flavine, which has no effect when added to this diet, but which promotes growth when added to an unheated diet of yellow corn meal, wheat middlings and purified casein, supplemented with salts and cod liver oil. The two factors are distinct from vitamin B (B_1). Growth promotion in chicks has also been obtained with crystalline flavine (vitamin G), prepared as described by Lepkovsky, Popper and Evans.[2]

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A NEW VARIETY OF BLACK LOCUST

IN New England, New Jersey, and especially on the northern and western portions of Long Island, there has been noted a variety of *Robinia pseudoacacia* L. that differs decidedly from the common types so widely spread over eastern and central North America. Because of its especially straight form of growth and its adaptability for planting in erosion control work

[1] *Jour. Biol. Chem.*, 108: 709, 1935.
[2] *Jour. Biol. Chem.*, 109: liv, 1935.