infection in the population, concurrent with the antibody increase, was a marked increase in apparently typical coryza.

It is realized that controls in a study of this sort are difficult. At present we are engaged in studies on sera that had been collected before and after this increase in antibodies became apparent. In addition, throat washings have been obtained from several individuals with this antibody increase, and attempts at virus isolation are being made.

Addendum: Since submission of this report an epidemic of influenza has occurred in this area. Studies are now in progress as to the etiology of this epidemic and its relationship to the above findings.

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A Bacterial Disease of the Lobster (*Homarus americanus*)

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During the summer of 1946 lobster dealers in Maine suffered considerable losses due to heavy mortality of lobsters held in pounds and tanks. A spot survey indicated that losses attributable to a new disease varied from 20 to about 50 per cent and that the disease was widely distributed along the coast of Maine.

It was suspected at first that these losses might be caused by the use of DDT in some of the fish canneries. Some of the offal from the canneries, which is used as bait and food for the captive lobsters, might contain toxic amounts of DDT. Microscopic and bacteriologic examination of the diseased lobsters indicated, however, that it was more likely that the disease was caused by a bacterium belonging to the genus *Gaffkya*. Wherever there was a considerable mortality of the lobsters at the time of examination, micrococci of the *Gaffkya* type were found in the blood smears and the blood culture. The blood needed for the microscopic examination and for isolation of bacteriologic media was removed by a puncture from the ventral abdominal sinus with a sharp, pointed, Pasteur pipette following surface disinfection of the thin membrane between the somites of the abdomen.

The diseased lobsters had a pink discoloration of the ventral side of the abdomen; the blood was also pink, less viscid, and usually with much-prolonged clotting time. In advanced cases, in which there was a large number of bacteria in the blood stream, the number of blood corpuscles was sharply reduced.

The severity of the disease appeared to be decreasing with the onset of colder weather. At certain pounds the infected lobsters predominated in September, but in October they could not be found in the same pounds. However, an outbreak of the disease with typical symptoms, high mortality and the presence of *Gaffkya*, was reported in December.

The organism, which was regularly isolated from diseased lobsters in pure culture, could be grown fairly easily on the standard media. Solid and semisolid media prepared with the tryptic digest of casein and yeast extract gave very satisfactory results. On these the growth was reliable, but the amount of growth was always small. Colonies about 1 mm. in diameter, circular, convex, and grayish-white, were produced. In semisolid and liquid media scant granular sediment was produced. The organism neither changed litmus milk nor liquefied gelatin. It produced acid, but no gas, from mannitol, dextrose, sucrose, maltose, and lactose.[1]

In the fresh blood of the infected lobsters the organism was found to be present in tetrads surrounded by a wide pseudocapsule around the group. In media it produced irregular conglomerations without capsules. In stained preparations it was gram positive. It was also nonmotile.

A series of lobsters was inoculated intramuscularly and intravenously with the pure cultures of this microorganism. All inoculated lobsters died within two weeks with the typical symptoms of the disease, and from the blood of these lobsters the organism was reisolated in pure culture.

Two randomized experiments were made on the effect of the inoculation of normal lobsters and on the treatment of infected lobsters with sulfonamides, which have been found effective against some bacterial diseases of fishes (*1*). The lobsters were distributed, two to a tank, in randomized blocks. They were fed ground herring or redfish mixed with gelatin, to which sulfonamides or bacteria were added. Some were fed infected lobster.

The results, compiled in Table 1, indicate that the injection of pure culture of *Gaffkya*, isolated from diseased lobsters, invariably killed the lobsters within two weeks, even if they were treated with sulfonamides. Introduction of bacteria with food was ineffective, and sulfonamides seemed to reduce the mortality only among the lobsters which contracted the disease in a natural way.

TABLE 1

THE EFFECT OF ARTIFICIAL INFECTION OF LOBSTERS AND OF TREATMENT WITH SULFONAMIDES

Treatment	Initial No. of lobsters	No. 2 mortalities
Normal controls	30	2
Diet with bacteria (*Gaffkya*)	30	4
Normal controls		
Sulfamerazine	10	1
Sulfamethazine diet	10	1
Diseased controls	10	5
Diseased		
Sulfamerazine diet	10	1
Sulfamethazine diet	10	1
Normal		
Injected with bacteria	30	29
Injected with bacteria, sulfamerazine diet	10	10
Injected with bacteria, sulfamethazine diet	10	10
Injected with sterile medium	20	2
Fed infected lobster	10	1
Fed normal lobster	10	1

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[1] Detailed study of the organism is in progress at the Department of Bacteriology, University of Maine; the results will be published elsewhere.