Professor John N. Couch kindly examined the infected eggs and identified the fungi as *Lagenidium callinectes* Couch, the primary parasite, and *Rhizophidium,* sp., which may be either parasitic or saprophytic (Couch, 1942).[1]

Experimental data indicate that infected eggs are usually below the normal size. Whereas uninfected eggs under optimum conditions in the laboratory gave a 70 to 90 per cent. hatch of normal first-stage zoeae, fungus-infected eggs under similar environmental conditions either failed to develop to the hatching stage or hatched into prezoeae, considered to be abnormal. The prezoeae rarely survived longer than forty-eight hours.

In 1942 infected and uninfected egg masses were suspended in the York River to determine the effect of the fungi on egg development under natural conditions. The infected eggs failed to hatch, and the fungus grew considerably. The uninfected egg masses showed an abundance of empty egg cases, indicating a fairly normal hatch.

The fungus appears to be quite uniformly distributed throughout the egg masses and is present in eggs in all stages of development.

Random samples of eggs have been examined from widely separated parts of Tidewater Virginia, namely, Rappahannock River, York River, Hampton Roads and Lynnhaven. The results to date indicate marked regional variations in the per cent. of infection.

The parasitic fungi represent an important biological factor that occupies a place with certain physical factors, such as low salinity, that are known to greatly reduce the per cent. of hatch (Sandoz and Rogers).[2] In light of the hatching results obtained, the value of protecting heavily infected egg-bearing crabs against commercial use appears questionable. Therefore, in selecting and evaluating a crab sanctuary for the protection of brood stock, attention should be given to determining the extent of parasitic fungus infection present as well as the suitability of the physical and chemical conditions that characterize the area.

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VITAMIN C IN THE NEEDLES OF SOME CONIFERS

SINCE the report of Shishkin published recently in SCIENCE[1] "that needles of ordinary pine trees contain large quantities of vitamin C," some authors (Dunham,[2] B. Schick,[3] Ch. Macnamara[3] and M. Donnelly[4] have called attention to the fact that the decoction of the needles of the evergreen tree was used with success against scurvy in the early expedition of Jacques Cartier in 1535 and further in the war between Sweden and Russia (1708–09).

This fact has suggested to us the investigation of the vitamin C content of the decoction of some conifers (needles), principally those growing largely in Southern Brazil (Araucaria, Podocarpus).

The determinations were performed on a 5 per cent. extract prepared by boiling the ground leaves with water, as is generally done in the preparation of tea. In other cases the leaves were ground and extracted with 2 per cent. metaphosphoric acid. The determinations were carried out before and after the treatment with H_2S and CO_2.

Tillmans' 2,6-dichlorophenolindophenol titration method was employed. We are indebted to Dr. F. R. Milanez, of the Biological Department of the Rio de Janeiro Botanical Garden, for the samples used in these analyses.

A brief summary of our results is shown in Table 1.

TABLE 1

No. of samples	Species	mg per 100 ml of the extract	
		ascorbic acid	dehydro-ascorbic acid
5	*Araucaria augustifolia (brasiliensis)*	2.7	1.0
5	*Podocarpus Sellowii*	3.3	1.3
1	*Podocarpus Lambertii*	2.8	1.9
2	*Araucaria excelsa*	0.5	0.8
1	*Pinus excelsa*	2.3	1.0

Although ascorbic acid is not present in the decoction in large amounts, the use of the pine-tea would be helpful in some countries where the vitamin C is not readily available.

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THE TWILIGHT CEREMONIES OF HORSEFLIES AND BIRDS

IN a recent number of SCIENCE[1] Leonard Haseman published an article on "The Courting Flights of Tabanids," describing a humming, hovering flight of horseflies which is performed by the males alone and only at the twilight hour. I wish to point out that

[1] John N. Couch, *J. Elisha Mitchell Scien. Soc.*, Vol. 58, No. 2, December, 1942.
[2] Mildred D. Sandoz and Rosalie Rogers, *Ecology* (in press).

[1] SCIENCE, April 16, 1943, pp. 354–355.
[2] *Ibid.*, August 6, 1943, p. 132.
[3] *Ibid.*, September 10, 1943, pp. 241–242.
[4] *Ibid.*, October 8, 1943, p. 325.
[1] L. Haseman, SCIENCE, 97: 285, 1943.