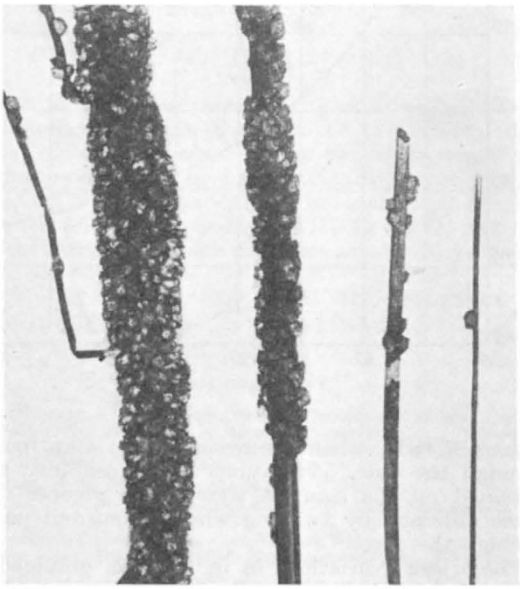
the following species were found amongst the reeds on which the *Balanus* occurs: *Hydrobia jenkinsi* Smith*, *Bythinia tentaculata* (L.)*, *Theodoxus fluviatilis* (L.)*, *Gammarus zaddachi* Sexton*, *Corophium volutator* (Pallas)*, *Sphæroma* sp., *Membranipora monostachys* Busk, var. *fossularia*. The only aquatic insects found were larvæ and pupæ of *Donacia cinerea* Herbst, which were fairly numerous on the roots of the reeds.

In Horsey Mere the barnacles appear to be distributed all over the reed beds and are very abundant. The greatest density occurs next to the open water, where thick stems and rhizomes of *Phragmites communis* and *Typha* are often completely covered in barnacles from a depth of six inches downwards, as on the left of the accompanying photograph Inside the reed beds they become more scattered,



but they occur right inshore on littoral stones, and on thin stems down to 0·2 cm. in diameter as on the right of the photograph. The reeds are mostly alive, and have green shoots showing. Barnacles are present also in Hickling Broad and Heigham Sound, but in very small numbers compared with Horsey Mere. Near Whiteslea Lodge we found them mainly down near the roots of the reeds, and there was no dense coating on the stems.

Most of the barnacles were sexually mature on August 2, containing either ripe sperm and ova, or nauplius larvæ, and many *Balanus* nauplii were found in the plankton of Horsey Mere. Taking the carino-rostral diameter as the index of size, the specimens are up to 1·1 cm., and the average of fifty examples, which were chosen as not being deformed through overcrowding, is 0·83 cm. The maximum size of the specimens collected on July 15 is 0·9 cm., but the average of fifty is only 0·57 cm. A few young individuals, less than 0·3 cm., were found on both dates, and these must represent the first of the second generation.

Gurney[1,2] records this species in the Bure opposite Muck Fleet, where the water is "generally almost fresh". It is possible that the nauplii reached Horsey by the Thurne, which is a tributary of the Bure, on an abnormally high tide, but the fact that the adults are so abundant in Horsey, and comparatively scarce in Hickling, suggests that they came direct from the sea during one of the break-throughs in the spring. A few *Balanus* nauplii were found in a sample of the plankton from Horsey Mere on February 20. Nauplii of *B. improvisus* have been recorded in the Zuider Zee as early as January 6, and so they may have reached Horsey during any one of the three break-throughs. Breemen[3] has shown that individuals of this species may contain embryos three months after they have settled.

It seems that *B. improvisus*, which is a southern species, is killed by too low temperatures, so the barnacles may be killed off if there is a sufficiently severe frost at Horsey this winter. On the other hand, it is a very euryhaline species, and occurs in Holland in water of salinity down to 1·65 per mille, so that so far as salinity is concerned this species will probably survive in Horsey Mere and Hickling for several years. Now that it is so well established, it might even survive there under normal conditions, since the water is always slightly salt.

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* Species kindly identified by Mr. G. I. Crawford.

[1] Gurney, R., *Trans. Norfolk and Norwich Nat. Hist. Soc.*, **7**, 645 (1904).
[2] Gurney, R., *Trans. Norfolk and Norwich Nat. Hist. Soc.*, **8**, 437 (1907).
[3] v. Breemen, L., *Zool. Anz.*, **105**, 247–257 (1934).

Irritant Exudation from a Millipede

WHILE working at Sigi, 1,500 feet below the East African Agricultural Research Station at Amani, Tanganyika Territory, one evening in June, I came across one of the giant black millipedes—a species of *Spirobolus*—which are fairly common in this region of tropical evergreen rain-forest. It was an unusually large specimen, fully twelve inches in length. Having no box capable of holding it, I buttoned it up in my hip-pocket and continued my work for an hour or so.

I felt the millipede moving about in my pocket and noticed that I was becoming rather sore in that neighbourhood, but paid little attention to it. However, whilst bathing shortly afterwards I was surprised to find that my skin had become completely blackened over an area of about nine square inches, with further red inflammation spreading rapidly down my thigh. Four days later all this blackened skin sloughed away, leaving a raw wound. This happened in June 1937; at the end of August 1938 the site of the injury is still visible.

I have since examined millipedes of the same and other species on several occasions, and noticed that, when one is molested by being turned about in the fingers, small drops of liquid are exuded from pores, one on the side of each segment. This liquid is rich yellow brown in colour and stains the fingers like iodine; it has a characteristic pungent odour recalling that of nitrogen peroxide, but is neutral to litmus. The fumes cause marked watering of the eyes. Mere contact of the fluid with the tough skin of the fingers produces no injurious symptoms, although when some was rubbed on to the skin of the leg, smarting was experienced and the skin eventually became hard and scaly.

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