the enzyme system present in the fruit tissues. Details will be published elsewhere.

Our thanks are due to the authorities of the University for financing this project and for the award of a research assistantship to one of us (T. N. S. V.). Our thanks are also due to B. N. Patel and Sons for the generous supply of citrus fruits and to Dr. V. G. Pathak and Mr. Y. K. Sane, of the Botany Department, for taking the photograph of the chromatograms.

T. N. SEKHARA VARMA
C. V. RAMAKRISHNAN

Department of Biochemistry,
University of Baroda,
Baroda.
Aug. 27.

¹ Sinclair, W. B., and Emy, D. M., *Bot. Gaz.*, **107**, 231 (1945).

² Saffran, M., and Denstedt, O. F., *J. Biol. Chem.*, **175**, 849 (1948).

³ Sekhara Varma, T. N., and Ramakrishnan, C. V. (communicated to *Current Science*).

Dormancy in Barley

A RECENT communication¹ suggests that high results in germination tests on barley, carried out in moist sand for 7–10 days, necessarily indicate the absence of 'dormancy' in the sample. It further claims that the 'dormant' condition in barley can be eliminated by desiccation.

The purpose of the present communication is to point out that a live barley corn must be regarded as 'dormant' if conditions can be found under which it fails to germinate but which permit the germination of fully mature grain. A convenient test which meets the latter requirement is as follows²: Two filter-paper circles (9.0 cm. diam.; Whatman No. 1 or No. 29) are firmly flattened into the bottom half of a Petri dish (4 in. diam.). The papers are next wetted evenly with water (4 ml.) added from a pipette or burette. One hundred corns of the sample to be examined are then added in such a way that each corn makes full contact with the moist paper. The covered dish is kept in the dark at 18° C. The final count is made after 72 hr.

The result obtained in this test is referred to as the 'germinative energy' of the sample. In the case of a fully mature sample not only is this high but the result is not affected by varying within wide limits the quantity of water available³. Less mature barleys frequently respond adversely to increases in the amount of water present during germination and such barleys are termed 'water-sensitive'.

On the above basis, a barley may have low germinative energy⁴ even though most of the corns germinate in the prolonged test described by Wellington¹. Moreover, even if its germinative energy be high, a barley may still prove to be 'water-sensitive' and so appear 'dormant'. For example, in material which had been rigorously dried for seven days at 40°–24° C. and then stored for eighteen days, only 56 per cent of the corns germinated in a water-sensitivity test² even though the germinative energy was 95 per cent. Indeed, although it is recognized⁵ that desiccation has a marked influence on the 'rate' of disappearance of dormancy in barley during subsequent storage, it is my experience that drying

by itself is almost invariably insufficient to convert a dormant barley into a fully mature one.

J. R. A. POLLOCK

Brewing Industry Research Foundation,
Nutfield, Redhill, Surrey.

¹ Wellington, P. S., *Nature*, **178**, 601 (1956).

² Essery, R. E., Kirsop, B. H., and Pollock, J. R. A., *J. Inst. Brew.*, **61**, 25 (1955).

³ Essery, R. E., Kirsop, B. H., and Pollock, J. R. A., *J. Inst. Brew.*, **60**, 473 (1954).

⁴ Pollock, J. R. A., Kirsop, B. H., and Essery, R. E., *J. Inst. Brew.*, **61**, 301 (1955); *Proc. Eur. Brew. Conv.*, Baden-Baden, 203 (1955).

⁵ Essery, R. E., and Pollock, J. R. A., *J. Inst. Brew.*, **62**, 327 (1956).

WHEN applied to germination, 'dormancy' and 'maturity' are not precise terms, and their meaning therefore depends on the particular test which is used. The data in my communication¹ relate to tests in which the conditions were optimal, in all respects, for the germination of barley grains. Complete germination was obtained immediately after the drying treatment, and must necessarily be attributed to the removal of inherent dormancy in the grains which would not otherwise germinate. There is the further significant fact that this response was not only obtained during storage after harvest, but also when the grains were ripening, and at the harvest-ripe stage.

P. S. WELLINGTON

Official Seed Testing Station,
Cambridge.

¹ Wellington, P. S., *Nature*, **178**, 601 (1956).

A New Species of *Branchiocerlanthus* from a Norwegian Fjord

A SPECIMEN of the remarkable hydroid genus *Branchiocerlanthus* was caught on July 6, on muddy sand at about 210–240 m. depth in the inner part of the Hardangerfjord on the Norwegian west coast. Previously this genus was known only from the Pacific (Japan, northern Pacific, Gulf of Panama), the Indian Ocean (Somali coast, coasts of Oman and Baluchistan), the Mediterranean (Naples), and the Atlantic (Davis Strait). The new record is thus the first from the eastern Atlantic.

The measurements of the specimen were taken after it had been fixed; but as it did not contract when alcohol was gradually added to the sea water, the measurements are probably valid also for the living animal.

The specimen is apparently fully grown. The hydrocaulus is 110 mm. long and about 2 mm. in diameter, ending below in a small bulb with numerous filaments. The hydranth is diskiform and has the outline of a tennis racket. Its longitudinal diameter is 9 mm., its transverse diameter about 7.5 mm. It is very distinctly bilateral and is attached to the hydrocaulus by its pointed ventral end.

Along the margin of the hydranth are found 54 filiform proximal tentacles. The whorl is interrupted ventrally. The tentacles at the broadest part of the hydranth are about 65 mm. long, the dorsal ones about 30 mm. Towards the ventral margin the tentacles grow gradually shorter, the shortest being almost microscopical.

From the distal third of the hydranth the hypostome emerges. It is about 5 mm. high and ends in numerous filiform distal tentacles 4–5 mm. long, around the transversally placed mouth opening. These tentacles