

there is not so striking a difference between the behaviour of protoplasm in growing cells of plants and animals as is generally believed.

In the growing coleoptile considerable amounts of water-soluble and protein nitrogen migrate upwards, whilst the auxins migrate downwards. So long as the coleoptile is growing its content of total nitrogen is increasing. Only in the withering coleoptile a decrease of nitrogen does take place. But the coleoptile is not completely emptied of nitrogen before it dries. In this way every germ loses about 2 per cent of the nitrogen originally stored in the seed.

A. FREY-WYSSLING.  
F. BLANK.

Laboratory of Plant Physiology,  
Swiss Federal Institute of Technology,  
Zurich.  
May 9.

<sup>1</sup> *Ber. Schweiz. Bot. Ges.*, 50b (1940).

### Algæ in the Bed of the Dead Sea

THE presence of living micro-organisms—algæ and bacteria—in Dead Sea water was demonstrated by me some time ago.<sup>1</sup> It seemed, therefore, probable that life was also abundant in the sediment bed of the Dead Sea. To throw light on this point an investigation on a sample of sediment obtained from the sea bottom has been carried out.

The sediment sample was taken by means of a Fischer bottle at a point 23 km. west-south-west of the mouth of the Jordan and c. 8 km. off the east coast on December 28, 1939. The depth of the sea at this point is 350 m. The total salt concentration in the water near the sea bottom is 32 per cent. The specific gravity at 20° C. is 1.212. The percentage of different salt species in the sea water is as follows :

NaCl	..	..	..	..	9.42
KCl	..	..	..	..	1.42
MgCl <sub>2</sub>	..	..	..	..	14.41
CaCl <sub>2</sub>	..	..	..	..	4.78
Br	..	..	..	..	0.46

After storage for about three months at room temperature, the sample of sediment was examined microscopically for signs of life. These were abundantly in evidence. So far 17 species of algæ, living and dead, among them 4 or 5 Chlorophyceæ and 12 Diatomeæ, have been detected. The following have been identified :



Fig. 1. × 900.

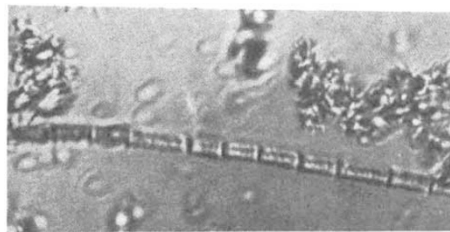


Fig. 2. × 900.



Fig. 3. × 900.

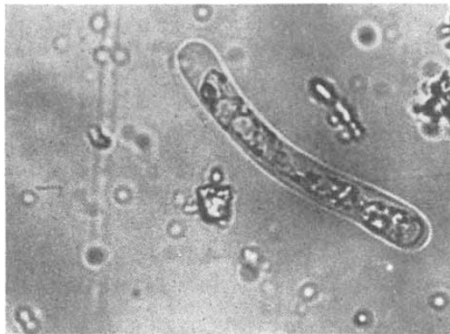


Fig. 4. × 900.

Chlorophyceæ : (1) *Scenedesmus quadricauda* (Fig. 1); (2) a filamentous alga of the order Ulothrichales (Fig. 2).

Diatomeæ : (1) Pennatæ, including Naviculoidea (Fig. 3); (2) Centricæ, including Melosira.

A species of Chlorophyceæ most commonly observed was of an elongated type with a greenish-yellow chromatophore, occasionally seen in pairs (Fig. 4). In several diatoms the chromatophore was visible. It seems likely, therefore, that the diatoms found in the sea bed are at least in part alive.

A full description of the Dead Sea bed algæ will be published elsewhere.

Thanks are due to the Palestine Potash, Ltd., for submitting the sample and the water analysis.

B. ELAZARI-VOLCANI.

Daniel Sieff Research Institute,  
Rehovoth, Palestine.  
March 19.

<sup>1</sup> Wilkansky, B. (Elazari-Volcani), *NATURE*, 138, 467 (1936). A full description will be published shortly.