their sucker. If the circulation is then restarted, the lampreys recover completely within two or three hours.

My tanks are of heavily galvanized iron and rest on a stone floor in a basement room which is kept cool by a through draught of air. Last winter the outside windows were closed in error one week-end. This caused the temperature of the water to rise from 13° C. to 22° C., and despite the fact that the water was still circulating all the lampreys had died.

The high sides of the tank cut out direct light and keep the lampreys from jumping out when they are being netted.

Details of the apparatus and experiments will be published elsewhere.

Note added in proof. The pump mentioned above has since been replaced by a $\frac{1}{3}$ h.p. A.C. centrifugal pump which needs little servicing.

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Feeding-Rates of Sponges, Lamellibranchs and Ascidians

MANY water-living animals obtain their food from suspended material, micro-organisms or fine dispersed detritus occurring in the surrounding water. Sponges and ascidians, for example, are typical filtering animals. Most lamellibranchs belong to the same group. But filtering forms may also be found among gastropods, crustaceans, insects, polychætes, vertebrates, etc. Apart from lamellibranchs, little information is available regarding the rate and efficiency with which particles are retained from water passing the filtering organs. Bidder[1] calculated the water propulsion through *Leucandra aspersa* (a sponge), whereas investigations on the rate of feeding of ascidians seems to be lacking. During a stay at the Plymouth Laboratory, I was offered an opportunity of determining the feeding-rates of species of sponges and ascidians. The feeding-rates have been calculated from the rate of disappearance of particles from the surrounding water[2]. Suspensions of colloidal graphite were used, namely, 'Prodag' grade C and 'Aquadag' grade S, manufactured by E. G. Acheson, Ltd., London; the former has an average particle size of 4–5 μ, whereas the latter has an average particle-size of 2 μ. The concentrations of the graphite suspensions were determined photometrically by means of a portable Eel photometer.

The results of the experiments are given in the accompanying table. The feeding-rates are expressed as per mgm. of amino-nitrogen of the experimental animals instead of the normally used weight and length or similar measurement, which provide an unsatisfactory basis for comparisons between animals. In the table are also included results obtained on *Mytilus edulis*, which will be published in greater detail elsewhere[3]. It is seen that—when expressed in relation to the amino-nitrogen content, which may be regarded as a measure of the amount of protoplasm in the animals—the feeding-rates of the species investigated are all of the same order of magnitude, *Halichondria* and *Mytilus* showing somewhat lower values. However, the experiments on *Halichondria* were carried out on a fragment weighing about 50 gm., whereas the calcareous sponges used were all smaller intact specimens.

Species	Number of animals in each experiment	Length (cm.)	Average content of amino-nitrogen (mgm.)	Feeding-rate ml./hr., per mgm. amino-nitrogen
Ascidians				
Molgula sp.	20	1–2	1·8	138, 124, 285, 118, 149, 115
Ciona intestinalis (L.)	2	6–7	6	125, 92, 104
,, ,, ,,	3	6–7	5·3	125
Sponges				
Grantia compressa (Fabricius)	1	7	8·5	135
,, ,, ,,	9	3–7	3·3	180
Sycon coronatum (Ellis and Solander)	9	4–6	2	200, 145 170
Sycon + *Grantia*				
Halichondria panicea (Pallas)				65
Lamellibranchs				
Mytilus edulis (L.)		*c.* 3	25	36
,, ,, ,,		*c.* 1·5	2	80

The feeding-rates of sponges and ascidians were found to be independent of the particle-size, which varied from about 2 μ and 4·5 μ respectively and upwards. The upper limit of the particle-size in the suspensions was not known, as the graphite did not form fully dispersed suspensions in sea water. A certain amount of aggregated particles was always observed when the suspensions were examined under the microscope.

As regards the ascidians, the independence of feeding-rate and particle-size is in good agreement with the view held by MacGinitie[4] concerning the feeding mechanism of ascidians. He observed that ascidians when feeding are covering the gill basket with a continuous layer of mucus which retains all particulate matter in the water transported through the gills.

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Varagu Poisoning

Varagu (Tamil), *kodo*, *kodaka* (Hindustani), *Paspalum scrobiculatum* (Linn.), is a millet largely used by the working and poorer classes of people in all parts of India as a staple article of food. More than 300,000 tons of this millet is produced in the Madras Presidency alone. In 1946, when rice was rationed and millet eaters were compulsorily asked to take a portion of their requirements in rice and millets in the form of *varagu*, complaints were received that consumers in several parts of the Presidency developed symptoms of food poisoning as a result of eating *varagu* in the cooked as well as the raw state.