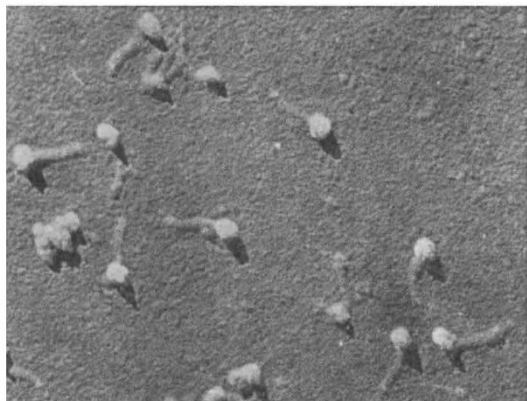


Dr. Cowles, and concentrated preparations of phage were prepared as follows.

Technique. Broth culture of *B. megatherium* incubated at 37° C. for 5 hours was inoculated on 2 per cent nutrient agar plates, and allowed to dry. Thereafter 1/200 c.c. volumes of phage were placed on the surface of the inoculated media, allowed to dry, incubated at 37° C. for 24 hours, and lysed areas transferred with a loop to broth. The suspension of phage was centrifuged at 2,500 r.p.m. for 30 minutes, to deposit vegetative forms, and the supernatant removed. After repeating this procedure eight times, a concentration of No. 1 phage active to a dilution of 10⁻⁶ against *B. megatherium* No. 1 was eventually attained.

This suspension was centrifuged in narrow flat-tube tubes (3 mm. by 10 cm.) in the Swedish angle centrifuge at 4,200 r.p.m. for 2 hours, and the deposit was resuspended in a few drops of saline. Electron microscope mounts were made on 'Formvar' films and rinsed in distilled water to remove salt after the customary manner. The mounts were then shadow-cast with about 50 Å. of chromium at such an angle that shadow-length to object height ratio was 3.5 : 1.



Results. The accompanying photograph shows a group of *megatherium* phage photographed on an R.C.A. model EMU microscope without an objective diaphragm. Using a microscope calibrated by the use of a grating replica, our measurements show that the circular head of the phage is approximately 100 μ in diameter and 40 μ high. The 'tail' is 260 μ long by 40 μ wide. It will be noted that the tail is flat and somewhat undulating in comparison with the straight rod-like tail of the *T₂* coliphage. *B. megatherium* is one of the larger bacteria susceptible to phage action, and its No. 1 phage probably one of the largest bacteriophages.

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¹ Luria, S. E., Delbrück, M., and Anderson, T. F., *J. Bact.*, **46**, 57 (1943).

² Baylor, W. R. B., Severns, J. W., and Clark, G. L., *J. Bact.*, **47**, 277 (1944).

³ Hofer, A. W., *J. Bact.*, **53**, 781 (1947).

⁴ Cowles, P. B., *J. Bact.*, **20**, 15 (1930).

⁵ Cowles, P. B., *J. Bact.*, **22**, 119 (1931).

Two New Antarctic Leeches

I SHOULD like to give here a short preliminary note upon two new antarctic fish leeches. A paper on them has been prepared, but as printing conditions in Norway at present are very difficult, rather a long time may pass before it will be published.

Trullioddella capitata n. g. n. sp. was collected from *Parachænichtys georgianus* (Fischer) and *Chaenocephalus bouvetensis* Nybelin. A paper on the latter fish is in the press. The leeches were located to the dorsal part of the fishes' heads, between the eyes. The parasite is dorso-ventrally flattened, showing two body regions, a shorter and more slender præclitellar part, and a postclitellar part which is twice as long and broad. Eyes are present on the oral sucker as well as on the most anterior annuli. The normal somite possesses three primary and six secondary annuli. The mouth opening of the cup-shaped oral sucker is subterminal; the stomach is without posteriorly directed gastric cæca. A 'fold organ' is inserted between the intestine and the rectum. Somital vascular lacunæ are found outside the dermal musculature. The length of the animal is 10–39 mm. As the present species cannot be grouped within any hitherto known genus, a new genus had to be established. Its nearest relatives seem to be the genera *Pteroddella*, *Pteroddellina* and *Phyllobdella*, as these genera are characterized by the absence of posteriorly directed gastric cæca. On the other hand, it seems related to the genus *Branchellion*, because both genera show a 'fold organ' between the intestine and the rectum.

Cryoddellina bacilliformis n. g. n. sp. was collected from the oral cavity of *Parachænichtys georgianus* (Fischer). There can be no doubt that this leech is closely related to the genus *Cryoddella* Harding, 1922. Common characteristics to both genera are the presence of four testes sacs, the arrangement of posteriorly directed cæca, the diminutive size and the antarctic distribution. As the present species, however, possesses eyes, both on the oral and posterior sucker as well as on the most anterior annuli, and four distinct lateral intestinal pouches, it cannot be assigned to the genus mentioned, and a new provisional genus had to be established. A further characteristic of the animal is the central position of the mouth in the bell-shaped oral sucker, the latter being heptagonal in outline because of dorso-marginal short broad papillæ. Only two specimens were at my disposal, and both seem not to be fully mature, as questionable signs of ovisacs only could be traced. Four pairs of testes sacs were, however, present. The length of the animal was 7–8 mm.

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Wild and Cultivated Rice

THE systematics of rice is, as systematists will agree, a matter of more than academic or departmental interest. The improvement of this important cereal depends on its sound classification. To this end the remarks of Dr. D. Chatterjee¹ seem to fall short of what is needed.

One part of Dr. Chatterjee's article consists of unacknowledged verbatim extracts from the first two chapters of a popular essay written twenty years ago by the late Harold Peake². The passages on the