

Soil Toxicity in the Dorset Heaths

A MEETING of the British Ecological Society, presided over by Prof. A. G. Tansley, was held on April 20, in the Department of Botany, Bedford College, Regent's Park, London, N.W.1. The entire meeting was given to consideration of the problems of soil toxicity and its amelioration in the Dorset heaths. The researches now in progress have come about as a result of observations and experiments initiated by Dr. M. C. Rayner in the Wareham neighbourhood in 1931 on the lands of the Forestry Commission now known as Wareham Forest.

A considerable tract of country around the town of Wareham in Dorset is occupied by heathland. Certain areas of this were acquired by the Forestry Commission and sown with several species of pine in 1924-27. These original sowings gave very poor results, the seedlings for the most part showing no growth or dying outright. In addition, there were many puzzling inconsistencies of behaviour.

The meeting was opened by an informal account by Prof. Neilson Jones of some of the characteristics, including that of apparent toxicity, associated with Wareham soil, and was followed by a general summary by Dr. Rayner of the field and laboratory researches at Wareham Forest that have led to the present situation. Some of the exhibits, relating to mycological and mycorrhizal problems arising from the field experiments, have an important bearing on the nutrition and healthy growth of conifers in

cultivation, for example, those on Sitka spruce and Lawson's cypress.

The accounts of the work were supplemented by a large number of well-displayed demonstrations illustrating various phases of the research work in progress. Among these were demonstrations of the inhibition of seedling and fungal growth by soil factors, growth effects produced by the addition of raw cellulose to soils, epinastic curvature reactions induced by soil constituents, the incidence of 'fused needle' disease, and the effects on seedling growth produced by soil inoculation with humus or mycelium from pure cultures.

Also illustrated were the remarkable effects on growth brought about by the use of certain organic composts on Wareham soil, with some of the evidence supporting the hypothesis that led to their use and now put forward to interpret their action. Pure cultures of a number of mycorrhizal and associated soil fungi were displayed.

A general discussion followed inspection of the demonstrations, in which a number of visitors and members of the Society took part.

In his concluding remarks, Prof. Tansley pointed out that a meeting such as that just held, in which the Society visited an institution to hear about the research work in progress there, was an innovation; the results of the experiment led him to hope that other meetings of the kind would be arranged in the near future.

Faunistic and Hydrographic Changes

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THE following faunistic records are of interest in connexion with recent hydrographic changes as described in the reports of the International Council for the Exploration of the Sea. Abnormal activity of Atlantic waters around the north of Scotland will bring oceanic and western species into the northern North Sea. When this activity is followed by a southerly extension of the influence of the Norwegian sea the recent additions to the fauna can be expected to retreat to the Atlantic or to move southwards before the influence of the colder waters. In this southerly movement before the advance of cold conditions they will be followed by the fauna of the colder waters. Records of a mixed fauna may be found still farther south after a suitable interval. The above outlines the probable cause for the following records which have been obtained for the Northumberland coast. Unless otherwise stated, the specimens mentioned have been obtained from North Shields trawlers.

Geryon tridens Krøyer. 25-30 years ago this crab was commonly called the Fair Isle pilot by North Shields skippers, who did not find it in their trawls until reaching the vicinity of Fair Isle. To the best of our knowledge it has not been recorded for the

waters off Northumberland. The first specimen was obtained April 29, 1935, 31 miles N.E. $\frac{1}{2}$ N. of the Tyne, which is to the east of Coquet Island. The second specimen was found on March 10, 1936, and the trawler had been fishing 10 miles N.E. $\frac{1}{2}$ N. off the Tyne. No further records were obtained until October 1937, and from then until the end of the year 49 specimens were brought to the Laboratory from trawlers fishing off our coast. Some of these crabs are living in our tanks.

Chimaera monstrosa L. As a general rule, North Shields trawlers do not get the rat-fish until reaching the latitude of Aberdeen or thereabouts, and then not frequently. One was taken 10 $\frac{1}{2}$ miles N.N.E. of the Tyne, January 22, 1938.

Urophycis blennoides (Brünnich). The greater fork-beard has never been a local fish and its presence in the catch of a North Shields trawler was associated with fishing in more northerly waters and often in the vicinity of the Norwegian deep water. One was caught 14 miles east-north-east of the Tyne, June 15, 1936.

Pristiurus melastomus (Rafinesque). According to Smitt the black-mouthed dogfish has a wide range and has been taken occasionally off the Norwegian