

Larvæ of Decapod Crustacea*

THE first contribution to the study of the decapod larvæ of the "Discovery" expedition deals with the Stenopidea, Amphionidæ and Phyllosoma. The whole collection is so large that the easiest and best way to treat it is by taking the groups separately irrespective of systematic order. The three sections chosen are of peculiar interest, and their elucidation has entailed an enormous amount of labour, eminently worth while.

Most of the plankton samples were taken far out to sea, and one of the features of the collection is the abundance of late larvæ, whilst early larvæ are comparatively scarce. For this reason, it is rarely possible to complete a life-history of any form. In Part 1, Stenopidea, the author was fortunate in obtaining larvæ hatched from the egg of *Stenopus hispidus* from Bermuda (previously somewhat inadequately described by Brooks and Herrick), which has enabled him to recognize later larvæ and to establish certain generic characters. Two further species (presumably) of *Stenopus* are described and six more belonging to the Stenopidea, and a key is given to the stenopid larvæ described.

Part 2, on the Amphionidæ, is of special interest, for *Amphion* is a form which has led to much controversy both as to its systematic position and as to whether it is a larval or adult animal. There can be now no doubt that the oldest specimens known are immature, and Dr. Gurney is almost certainly right in referring *Amphion* to the Caridea (as Korschelt and Heider had previously suggested). Given that it is a carid, then he believes that the only known

genus to which it can be referred is *Amphionides*, three specimens of which were found in the "Discovery" material, from a depth of 2,500-2,700 metres. This most extraordinary decapod is so tender that in all instances known it is much damaged; but a construction of one of them certainly shows a distinct likeness to *Amphion*. Zimmer, who first described *Amphionides*, regarded it as a larva and observed that it closely resembles *Amphion*. Dr. Gurney remarks that he might have gone further and claimed it as an adolescent post-larval stage in the development of that crustacean, for, as he shows, *Amphionides* is certainly a post-larval form. All this is most interesting and suggestive.

Part 3 deals with the Phyllosomas, and here the work is remarkable, for no fewer than four hundred specimens have been examined and measured, and about a dozen forms recognized. No series, unfortunately, is complete, and no very early stages are present. Nevertheless, generic larval characters are described which distinguish *Palinurus*, *Panulirus*, *Jasus*, *Scyllarus* and *Scyllarides* and, probably, *Palinurellus*, *Themis* and *Parribacus*. A very large amount of information is given in connexion with these Phyllosomas which will help enormously in future work.

This first section of the expedition's decapod larvæ promises well for future parts.

* Discovery Reports, vol. 12, pp. 377-440. Issued by the Discovery Committee, Colonial Office, London, on behalf of the Government of the Dependencies of the Falkland Islands. Larvæ of Decapod Crustacea. (1) Stenopidea. (2) Amphionidæ. (3) Phyllosoma. By Dr. Robert Gurney. (Cambridge: At the University Press, 1936.)

Forestry in Great Britain

THE progress of the afforestation work being carried out by the Forestry Commission in Great Britain for the year ending September 30, 1935, is detailed in the sixteenth annual report (London: H.M. Stationery Office, 1936). During the year, the programme of work was that laid down by Government at the time of the financial crisis of 1931. In January 1935, the Commissioners reported to Government that it was desirable to review the position generally and to extend the current five-year programme, so that the work might be organized to the best advantage.

The Commissioners consider that a steady development is preferable to a sudden large increase of work which might lead to waste. They suggested therefore: (1) that the acquisition of land and the supply of plants should be speeded up; (2) to work up the annual planting programme from 21,000 acres to 30,000 acres over the next four years; (3) to continue expanding the programme up to 45,000 acres per annum. Of interest are the remarks made upon Jubilee forests, unemployment training camps, national forest parks and home timber trade.

With the permission of the late King George V,

three forests have received Royal designations to commemorate the jubilee, namely, the King's Forest in Suffolk, the Coed-y-Brenin (the King's Forest) in Wales, and the Queen's Forest in the Cairngorms.

In co-operation with the Ministry of Labour, sites of training camps and work such as road-making, etc. have been provided. During the year there were in all thirteen permanent camps and fifteen summer camps, with accommodation for 5,000 men. The camps were distributed at different centres throughout Great Britain.

The question of the formation of national parks has been under consideration by various bodies and individuals for some years past. The Commissioners appointed a committee, under the chairmanship of Sir John Stirling-Maxwell, to consider a specific example. The Commissioners have already, as a result of their land purchases, a considerable area of unplanted land. The Committee took a Scottish example consisting of unplanted land in the Forests of Ardgartan, Glenfinart, Benmore and Glenbranter in the County of Argyll. This area, including the adjacent Ardgool Estate belonging to the Glasgow Corporation which the Corporation is willing to

bring into the scheme, extends to 100 square miles and has now been earmarked as a national park to be used for campers, the youth movement body, and so forth. Funds have been obtained to provide camping sites, alpine huts and for the acquisition of Ardgartan House and policies.

A record is being prepared of the exceptional May frosts of the year 1935, which did a serious amount of damage in different parts of the country. The chief frosts occurred between May 13 and 19. The record of the susceptibility of the numerous species, conifer and broad-leaved, given in the report corresponds with previous statistics in this matter.

During 1935, the question arose as to whether afforestation could be of use in assisting the Special Areas. As a result of investigations, it has been found that a certain amount of land could be purchased for forestry purposes within fifteen miles of certain Special Areas, and that, as a preliminary, 1,000 forest workers holdings could be established and a certain amount of work provided. Grants have been made by Government both to speed up the afforestation programme and to assist the schemes in connexion with the Special Areas.

The information on the 1934 seed crops is of interest. During that year, the Sitka spruce crop was only moderate in Canada and the United States, and therefore the Commissioners (and others) were unable to obtain their full requirements. Douglas fir was good and Japanese larch seed abundant in Japan. In Europe, Norway spruce, European larch and Corsican pine were not too plentiful. Oak seed was in fair quantities, but beech was scarce. Of home-collected seed, the supplies of the chief forest species were sufficient to abundant.

Of the net total area of land acquired by lease, feu and purchase in Great Britain to September 30, 498,146 acres were classified at the time of acquisition as plantable, and of this area 301,133 acres (60 per cent) were in England and Wales and 197,013 acres (40 per cent) in Scotland. In addition to the above-mentioned areas, Crown woodlands extending to about 120,000 acres (of which some 60,000 acres are plantable) have been transferred to the Forestry Commissioners. The total area of land in the Commissioners' control thus approximated to 929,000 acres.

The Commissioners' seventeenth report for the year ending September 30, 1936 (London: H.M. Stationery Office, 1937) recently issued, shows the progress made. The Argyll National Park was inaugurated and a camping ground, car park and buildings for the use of campers were formally opened at Ardgartan. The question of instituting a similar park in Wales is now under consideration. The Special Area afforestation scheme received the sanction of Government and the Commissioners were authorized, as a first instalment covering three years and largely as an experiment, to acquire and begin to plant 100,000 acres and to establish 500 holdings. These plans were made public in February 1936 and the remaining months of the year under report were concerned with the preparatory work—acquisition of land and staff and provision of the necessary trees for planting purposes. Steps were being taken to cultivate a larger area of nursery ground. By May 1937, says the report, some progress had been made.

Owing to the wet year there were fewer fires. The total area of land under the Commission amounted to 954,500 acres and the area planted to 296,452 acres.

Science News a Century Ago

The Franklin Institute

THE fifty-fifth quarterly meeting of the Franklin Institute, Philadelphia, was held on October 19, 1837, when the usual quarterly report of the managers was read. Although the period covered by the report had not been marked by any new undertakings, the several sub-divisions of scientific and practical subjects had been encouraged with all the means at the disposal of the Society.

The interesting investigations on the cause of explosions of steam boilers had been concluded and the Government and the community had been put in possession of the results of the experiments and of ample directions tending to prevent the occurrence of accidents. The final report of the committee on the value of water as a moving power was expected to be ready shortly. The experiments made under the authority of the Institute were of the most perfectly practical character, and the application of a sound theory, deduced from practical results, would be put at the command of those interested.

The committees on science and the arts had sedulously prosecuted inquiries desired by inventors and others; the department of instruction had arranged for regular courses in chemistry, natural philosophy and mechanics. In addition to the usual augmentation to the library, "about one hundred volumes have been received from our esteemed member, Professor Bache, President of the Girard College, now in Europe. These books have been purchased out of a fund placed in the hands of Dr. Bache by the subscriptions of the members, and have been selected by a mind distinguished by its discrimination and devoted to practical science. . . ."

Launch of S.S. *Liverpool*

ON October 18, 1837, the wooden paddle-wheel steamship *Liverpool* was launched in the Mersey. The largest vessel built at Liverpool up to that time, she was constructed for Sir John Tobin, but became the property of the Transatlantic Steam Ship Company. She was built by Humble and Milcrest, and was 235 ft. long, 35 ft. beam and about 1,150 tons. Her engine, made by Forrester and Co. at the Vauxhall Foundry, had two cylinders, 75 in. diameter and 7 ft. stroke, and was of 468 horse-power. She is said to have cost £45,000. The *Liverpool* was the fourth of the steam vessels by which, in 1838, regular steam communication was maintained with America. The *Sirius* and *Great Western* made their first passages in April 1838, and the *Royal William* first crossed in July 1838. The *Liverpool* sailed from Liverpool on October 22, 1838, had to put into Queenstown, and finally reached New York on November 23. Her return voyage began on December 6 and ended on December 21.

Civilization and Insanity

THE *Gazette medicale de Paris* of October 21, 1837, contains the following information: At a meeting of the Academy of Sciences on October 10, M. Brière de Boismont dealt with the different countries in which he had been able to obtain information as to the figures of insanity. "What we have shown," he said, "gives us the right to regard insanity as a product of civilization. We have seen it reach its greatest development in the most enlightened nations, diminish as we penetrate into despotic governments