chæte worm (not yet determined) and five species of mites of the family Halacaridae have been isolated. Among these mites *Scaptognathus tridens* Trouess. and *Halacarus bisculus* Viets are new to Britain according to Mr. G. O. Evans, of the British Museum (Natural History), to whom I am indebted for checking the identifications.

But the most notable feature of the Eddystone shell gravel is its rich fauna of small crustaceans, as first noticed by Prof. J. E. Harris during an unsuccessful search for young stages of *Amphioxus*. The smaller Malacostraca have been sorted from two separate major samples of gravel (using magnesium sulphate flotation technique), and so far 56 species have been listed. Of these some 20 are new to the Plymouth fauna[2] and five or six are new to science.

The many Amphipoda include a new species of *Metopa* and one of probably a new genus of Syrrhoidae, both among the more numerous species present in both major samples. (Two other new species of special interest are mentioned later.) Tanaidacea proved fairly numerous, dominated by *Typhlotanais microcheles* Sars and *Strongylurella indivisa* Hansen, both species new to Britain and rarely encountered anywhere. Among Isopoda, by far the most frequent have been *Paramunna bilobata* Sars and *Eurycope pygmaea* Sars, both well figured originally[3], but apparently the latter not previously known as British. Of special interest was the occurrence of a single example of *Microjaera anisopoda* Bocquet and Lévi[4], a particularly small blind janirid of 1·2 mm. described recently from two examples taken off Roscoff. Nothing else is known of this genus. More is known of another blind colourless genus, *Microcharon*, which is represented in the gravel by a new species, *M. harrisi* Spooner[5]. Six of the nine species of *Microcharon* so far discovered live in terrestrial ground-water in southern and eastern Europe, and two in coastal sand[6]. It is a genus belonging to the sub-family Microjanirinae, which is a typical element of the interstitial (phreatic) ground fauna, of which the bathynellids were the first to attract attention.

Two other blind 'interstitial' genera have now been found to be represented in the same shell gravel. One is a new genus of the amphipod family Bogidiellidae, so far represented by six species of *Bogidiella* from subterranean fresh water of coastal sand of southern Europe and Brazil. This is the first offshore occurrence of the family. The animal is very fragile, and only one of the fourteen specimens isolated is entire : this one shows a peculiar development of the seventh peræopod.

The remaining discovery is *Ingolfiella*, a genus which for long has stood as a separate sub-order of Amphipoda. Two specimens have so far been found, in a sample of gravel collected on March 30. The six species of this little-known genus show an extraordinary scattered distribution, ranging from the deep water of the North Atlantic (*I. abyssi* Hansen[7]) to caves in the Belgian Congo (*I. leleupi* Ruffo[8,9]). The newly found examples, the first from European seas, differ in small ways from four of the described species, but are clearly very close to *I. acherontis* Karaman from the ground-water of the Macedonian uplands (though presumably will not prove to be identical with it).

The occurrence of three phreatic genera in a marine deposit raises an interesting zoo-geographical issue. Each separately belongs to a taxon of at least sub-family status which is confined to the subsurface domain, and has no normal (that is, eyed and pigmented) representative in the surface waters. These seem to belong to a slow-breeding (and slow spreading) faunistic element which is dispersed through the water held in the rocks and deposits below the lighted surface—not confined to continents, but continuously distributed both through them and under the sea bed. This view supposes that genera arise, disperse gradually in their native medium, and evolve, irrespective of whether air, fresh water, or ocean lie above the strata they inhabit. Any aquatic group, whether marine or fresh water, is a potential ancestor to members of such a fauna.

This idea will be followed up in future work, and the descriptions of new species mentioned above, it is hoped, published in the near future.

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Early Formation of Sperms in the ey² Mutant of *Drosophila*

The testis of the newly hatched larva of wild-type *Drosophila* contains only spermatogonia which give rise to primary spermatocytes at the beginning of the second larval instar[1,2]. The primary spermatocytes which represent the early prophase of the first meiotic division have bigger nuclei and are larger in size and lie in the posterior end of the testis. This stage in the differentiation of the testis remains unchanged throughout the rest of the larval life. More advanced stages begin to appear after the formation of the puparium, so that 20-hr. old pupæ contain fully mature sperms.

The appearance of sperms in the larval testis has been reported as of rare incidence in the wild type[3]. On the other hand, sperm bundles showed up most frequently in the larval testis of some lethal mutants with prolonged larval life[4]. However, these usually disintegrate and give rise to patches of histolysed germ tissue.

In the present investigations, it has been found that the majority of *ey*² late third instar larvæ, irrespective of the type of the eyeless phenotype which the larvæ will develop, contain stages up to and including sperm bundles. In some specimens, these advanced stages have become degenerate. 3-hr.-old eyeless prepupæ, without any exception, showed fully mature sperms. This shows that *ey*² specimens reach sexual maturity at least 17 hr. before the normal time.

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