

that the *Amphioxus* had never had, at any period of its existence, branchial clefts ;—that it was an animal which had arrived at its perfect development before the branchial clefts had appeared, and, consequently, with an undeveloped osseous and nervous system, without a liver, and with an unilocular heart.

After examining the generative organs, and other departments of its anatomy, the author entered upon the consideration of the zoological position of *Amphioxus*, which he observed could no longer be ranked with *Petromyzon* and *Myxine*, but must take an ordinal place in any new arrangement of the class. In conclusion he remarked, that although genera allied to *Amphioxus* might now be rare, yet in the ages which have passed since the development of organic forms commenced, *Abranchiated* fishes may have been more common, and may yet afford subjects of research to the palæontologist.

XXXVII.—*Information respecting Zoological and Botanical Travellers.*

May 27.—The subjoined letter, giving news of our friends Mr. Forbes and Mr. Thompson, has arrived just in time for insertion; and our wish to communicate it to our readers must be our excuse for omitting several articles. A letter from Mr. Schomburgk, dated Demerara, April 6, informs us that he was just setting out on a two months' expedition, intending to return in June, and to start again at the latter end of August.

To Richard Taylor, Esq.

My Dear Sir,

Syra, 7th May, 1841.

According to my promise, I send a letter for the *Annals*, giving a sketch of our natural history proceedings, so far. I hope the news may interest my brother naturalists at home.

Best respects to all friends for myself and Mr. Thompson.

Believe me ever, dear Sir, most sincerely yours,

EDWARD FORBES.

On the 17th of April Mr. Thompson and I arrived at Malta, and found the *Beacon* about to sail for the Archipelago. During the four days we remained at Valetta we made some short excursions into the country, and were rewarded, amongst other things, by finding *Clausilia syracusana* in abundance, a species hitherto unrecorded out of Sicily. We left on the 21st, and directed our course to the Morea, proposing to water the ship at Navarino, and were a week on the passage, the winds being very light, and the weather delightfully fine, which afforded a favourable opportunity for making observations on the pelagic animals of the Mediterranean. The tow-net was overboard, and the hand-net in requisition whenever it was possible, but hitherto we have not met with that abundance of floating life which so delights the explorers of more northern seas. *Medusæ* have been few and far between, three or four species only having been seen, and but few individuals of each. Few floating creatures ap-

peared in the morning or midday, however fine or calm the sea might be; but towards sunset they became more numerous. *Salpæ*, some single, and some united together in long chains, were by no means uncommon; sometimes very numerous towards the close of day; and the opportunity was not lost of observing the habits and structure of those interesting mollusca, of which four or five species have been caught. In the beginning of the night, when the sea was smooth, the curious animal named by Forskahl *Salpa democratica*, came to the surface in considerable numbers, and the microscopic examination of them has furnished some interesting results. About the same time, *Pteropoda*, chiefly an acicular species belonging to Rang's genus *Criseis*, were taken in the tow-net, and numerous minute Crustacea. The Pteropods taken gave me an opportunity of observing some points in their organization under a high power whilst the creatures were alive. I found the respiratory organ in the form of a curved process, projecting from the right side of the neck and clothed with large vibratile cilia. There were no cilia on their wing-like fins, but in some species there were rows of minute prickles regularly arranged. One morning six shells of a species of *Atlanta* were found in the tow-net, but the animals had perished.

On Wednesday, the 28th, we entered the fine bay of Navarino, and remained there three days, which were fairly divided between Zoology, Geology and Botany. The first was given to fossil-gathering on the tertiary banks which line the bay. These banks are full of well-preserved fossils, and during our short visit they yielded us fifty species of Testacea and several Echinidæ. Beds of beautiful amber were not uncommon in the tertiary, but where the amber prevailed there were no fossils. Generally the clay was reddish, and there the larger Zoophaga, the Arcæ, and the Oysters were most abundant: here and there were tracts of a dark blue clay, in which *Naticæ*, *Cerithia*, *Dentalia*, *Corbula Nucleus* and *Ringicula*, with a species of *Mytilus*, were associated together. In one limited spot, a beautiful species of *Neritina*, with all its colours as vivid as if recent, was not uncommon. It was possibly a freshwater species, washed by some ancient stream into the ancient sea. As an able ally, Mr. Spratt, one of the Beacon's officers, had previously collected the same species in Rhodes, associated with *Paludina clathrata* and a *Unio*. The abundance of *Rissoæ* in some places indicated a weedy bottom, and such parts as contained *Echinidæ* were harder than the others, containing few shells, and presenting the appearance of consolidated sand, as we might look for on seeing its inhabitants.

A day's dredging, and a search along the shore, turned up fifty-one living Testacea and three naked Mollusca, one of them a very beautiful little blue *Doris*. The number, state, etc. of the products were duly registered in the dredging papers of the Association. In the deeper parts of the bay the bottom was muddy, and it was interesting to find the same or representative species associated together in the mud which were grouped in the corresponding portion of the Pliocene. Only sixteen of the recent inhabitants of the bay were identical with the fossil species collected the day before.

By means of the seine seventeen species of fish were procured, several of which are not noted in the French account of the Morea.

Our botanical excursions to the mainland, and to the island of Sphacteria, filled the vasculum with a number of beautiful plants, most of which, however, were species common in the south of Europe. *Chrysanthemum coronarium* abounded around the town; *Psoralea bituminosa*, several species of *Cistus* and *Helianthemum*, *Phlomis fruticosa*, *Pistachia Lentiscus*, *Salvia officinalis*, *Poterium spinosum*, and Myrtle were the most abundant plants upon the hills. It was interesting to see how the botany corresponded to the geology, the vegetation of the tertiary being of a vivid green, while the prevalence of *Cisti* on the older limestone gave a brown hue to the country.

From Navarino we sailed round Cape Matapan to the islands of the Ægean, and our next anchoring-place was Syra, where we now are. In the sea among the isles, our tow-net furnished us with two species of *Firola* and a beautiful *Beroë*. A microscopic examination of the former exhibited no traces of vibratile cilia on their branchiæ or any part of their bodies. One of them exhibited considerable ferocity, attacking and swallowing a smaller species with all the zest of a practised cannibal.

During the voyage, favourable opportunities have occurred for making observations on the phosphorescence of marine animals. So far, the results have been, that none give out light unless irritated; that the *Salpæ* give out no light, though they sometimes appear so to do in consequence of luminous Crustacea taking up their abode in their interiors; that minute Crustacea are the chief source of the phosphorescence of the sea at night; and that the phosphoric light of *Aurelia Forskaliana* is given out from the bases of the tentacula, and that of *Beroë* from the vessels beneath the ridges of cilia.

More zealous allies than Captain Graves and his officers in the good cause of Natural History can nowhere be found; and with such aids, results of greater importance than those I have sketched out, will, I trust, soon turn up.

EDWARD FORBES.

MISCELLANEOUS.

Motacilla alba of Linnæus.—Two pairs of this White Wagtail, which is distinct from the common Pied Wagtail of this country, were seen by Mr. F. Bond of Kingsbury, near the reservoir, in the early part of the present month, and although these birds were very shy, Mr. Bond succeeded in shooting three of them, two males and a female. The female is distinguished from the male by the purer pearl-grey colour of the plumage on the back; and the black on the back part of the head does not extend so far down the back of the neck. The differences between the Pied and the White Wagtails were first pointed out by Mr. Gould, and figures representing the distinctions will be found in his 'Birds of Europe,' and in my own work on our British Birds.—WM. YARRELL, 18th May, 1841.



Forbes, Edward. 1841. "XXXVII.—Information respecting Zoological and Botanical Travellers." *The Annals and magazine of natural history; zoology, botany, and geology* 7, 348–350. <https://doi.org/10.1080/03745484109442706>.

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DOI: <https://doi.org/10.1080/03745484109442706>

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