

observations on recent specimens gathered in Sussex, in company with Mr. Bower, confirm the statement of Mr. Brown as to the existence of scales in the tube of the corolla, a fact denied both by Sir J. E. Smith and Sir W. Hooker, who, however, appear to have examined dried specimens. These scales are transparent, closely pressed to the corolla, and very minute, so that they are easily overlooked, even in recent specimens, and in dried ones it is scarcely possible to discern them. They are bicuspidate, erect, and situated at the inner base of the filaments, which they partially inclose. Their form and position appear to have been first accurately described by Raymond, as recorded by Römer and Schultes. Reichenbach describes and figures them as palmate, and as situated at the base of the tube, so that it is probable his plant is different from ours, as Mr. Babington suggests. The nature of these scales is not well understood: by most botanists they are regarded as a vortical of abortive stamens, and by Reichenbach as petals; but their situation always within the stamens, and opposite to them, appears to refute both these opinions. Analogous scales occur in *Hydrophyllææ*. The following characters are given by Mr. Babington of our British species:

*C. europæa*, florum glomerulis bracteatis sessilibus, squamis bifidis erectis, tubo corollæ per anthesin cylindrico, fructiferæ ventricoso, adpressis.

*C. Epithymum*, florum glomerulis bracteatis sessilibus, squamis palmato-sectis conniventibus, tubo corollæ cylindrico limbo campanulato.

A third species of this curious genus has very lately been added to our Flora by Mr. J. E. Bowman, F.L.S., namely the *C. Epilinum* of Weihe. (*Reich. Ic. t. 500. f. 693.*)

Feb. 6, Mr. Forster, V.P., in the Chair.—Mr. Newman, F.L.S., exhibited a specimen of a variety of *Nephrodium dilatatum* gathered in Ireland, and remarkable for the great size of its sori.

Mr. Henry Doubleday exhibited a specimen of *Lavatera Olbia*, from the banks of a road lately cut through Epping Forest, where the plant was growing in abundance, and apparently naturalized.

Read the commencement of a paper by John Hogg, Esq., M.A., F.L.S., on the classification of Amphibia.

#### ZOOLOGICAL SOCIETY.

September 12th,—Dr. Bostock in the Chair.—Some observations were made by Dr. Andrew Smith, Corresp. Member, on the necessity for a revision of the groups included in the Linnæan genus *Squalus*.

Dr. Smith commenced with stating that in the course of his examination of the Sharks which he had obtained while at the Cape,

he found that although they could all readily be referred to the genus *Squalus*, as defined by Linnæus, yet there were many forms among them which would not admit of being placed in any of the subdivisions proposed by Cuvier. This led him to perceive the necessity of either altogether remodelling Cuvier's groups, or of establishing additional ones for the reception of the new species. After mature consideration, he determined upon the adoption of the latter course, finding the new forms so distinct and numerous that they could not with propriety be included in any divisions which only ranked as sub-genera.

Dr. Smith stated that he could not attempt to indicate the higher groups of the family of *Squalidæ*, but he was satisfied that all the sub-genera of Cuvier would receive such alterations and additions as would raise them to the rank of sub-families. In the very first sub-genus *Scyllium*, he had detected nine distinct minor groups, most of which included several well-marked species. Since fixing upon names for these groups, he had learned that several of them had been described as genera about a month previously by Prof. Müller and Dr. Henle of Berlin, and he had consequently adopted their nomenclature in preference to the terms under which it was his intention to have characterized them, with only this difference, that he regarded these divisions as sub-genera rather than genera.

Dr. Smith enumerated the sections above referred to of the genus *Scyllium* as follows :

1. *Scyllium*, restricted, includes four species, *Scyl. stellare*, Linn., *Squalus Canicula*, Bloch, *Scyllium capense*, Smith, *Scyl. bivium*, id.
2. *Catulus*, Willoughby, (three species,) *Squalus Canicula*, Linn., *Scyl. marmoratum*, Bennett, *Catulus Edwardii*, Smith.
3. *Poroderma*, Smith, (four species, all found in the Cape seas,) *Scyllium Africanum*, Cuv., *Poroderma pantherinum*, Smith, *Por. submaculatum*, id. *Por. variegatum*, id.
4. *Ginglymostoma*, Müller and Henle, (one species) *Squalus Gata*, Garra.
5. *Chiloscyllium*, Müller and Henle, (two species) *Scyllium plagiosum*, Bennett, *Le Squale dentelé*, Lacep.
6. *Stegostoma*, Müller and Henle, (two species) *Squalus fasciatus*, Bloch, *Squal. maculatus*, id.
7. *Hemiscyllium*, Müller and Henle, (one species) *Squalus ocellatus*, Bloch.
8. *Chrossorhinus*, Müller and Henle, (one species) *Squalus lobatus*, described in Phillips's Voyage to Botany Bay.

9. *Pristiurus*, Bonaparte, (one species) *Scyllium melanostomum*, Bonap.

Some drawings were exhibited by Dr. Smith, of the forms presented by the teeth of the species composing several of the above sections, and he remarked that on a future evening it was his intention to lay before the Society some further observations upon other groups of the cartilaginous fishes.

Professor Müller of Berlin being present confirmed the views entertained by Dr. Smith as to the number of divisions which might properly be made of the family *Scyllium*, several of which he had already published, as mentioned by Dr. Smith. As to the rank which these groups should hold in a systematic arrangement, he considered this a point upon which we are hardly in possession of sufficient evidence to justify a decided opinion.

ROYAL SOCIETY OF EDINBURGH.

Dec. 4, 1837.—Sir Thomas Brisbane, Bart., President, in the Chair.

*On the Food of the Vendace, Herring, and Salmon.* By JOHN STARK.

1. *Food of the Vendace (Coregonus Marænulla, Jardine).* The author observed, that fishes in lakes, and feeding on animal food, must necessarily subsist on the small aquatic animals found in these lakes; that there is no reasonable analogy between the vendace and herring, because they live in different mediums, the one in salt the other in fresh water, and that their food cannot therefore be the same, none of the animals upon which fishes feed being common to both; that writers on Natural History state the animalcules which are found in the stomach of the vendace, and other minute animals found in lakes, to be the food of freshwater fishes generally; and that Leuwenhoek had even figured the identical animal lately found in the stomach of the vendace more than 130 years before, stating that it and the other minute animals in similar localities formed the food of the larger fishes.

2. *Food of the Herring (Clupea Harengus, Linn.).* The author stated that the food of the herring was better known than that of any other fish: that the food of the herring was, in particular, known to and described from personal observation by Paul Neucrantz previous to the year 1654, by Leuwenhoek in 1696, by Muller in 1785, by Bloch about the same period, by Fabricius in 1781, by Latreille and Lacépède in 1798, by the Rev. Dr. Scoresby in 1820, by Pennant and others, and in fact is mentioned by every writer who treats of the natural history of fishes; and that what had been stated by all writers on

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