

Nomenclature of Nudibranchiate Mollusca

WANTON changes in the nomenclature of animals are so injurious to zoology by confusing its literature, and so heavily handicap the study of systematic problems, that I seek the publicity of NATURE for the exposure of a particularly flagrant case. This is the synonymic List of British Nudibranchiate Mollusca by Iredale and O'Donoghue¹, the nomenclature of which was adopted in the last edition of the "Plymouth Marine Fauna" of the Marine Biological Association (1931). My attention was directed to it by noticing that some extraordinary names for these animals were being used by recent workers at Plymouth, who naturally followed the guidance of the Association's official "Fauna".

The revolutionary nature of the scheme may be seen from the fact that in its familiar names like *Doris*, *Triopa*, *Tritonia* and *Doto* have completely disappeared, and that no less than 40 out of the 71 species recorded bear names different from those in Alder and Hancock's "Monograph", as revised for the Ray Society by the late Sir Charles Eliot in 1910. No reasons were given in the "Fauna" for the rejection of Eliot's nomenclature, and no opinion was expressed as to the validity of the new scheme. As an old student of the group, familiar with the careful workmanship both of Alder and Hancock and of Eliot, I have thought it desirable to subject Iredale and O'Donoghue's paper to a critical examination, and submit herewith a few examples of their treatment.

(1) *Doris (Archidoris) tuberculata*, Cuvier, 1804.—Our largest and most familiar species of *Doris* has been known exclusively by this name for nearly a century. Iredale and O'Donoghue assert, but without evidence, that it is not Cuvier's species. Their statement traverses the unanimous testimony of Alder and Hancock, Bergh, Eliot, Fischer, Cuénot and Vayssière, in fact of every expert investigator. Their change of its name to *A. britannica* (Johnston, 1838) is baseless.

(2) *Doris (Jorunna) johnstoni*, A. and H., is another well-known species which has been universally known under this name since Alder and Hancock first accurately defined it in their monograph. Iredale and O'Donoghue change the specific name to *tomentosa*, Cuvier, 1804, on the ground that Fischer (1869, 1870) "pointed out this synonymy" and that Cuénot (1903) "confirmed" it. The facts are that Fischer claimed that *tomentosa*, Cuvier, was distinct from *johnstoni*, while Cuénot said that the synonymy of *johnstoni* with *tomentosa* was at most a "possibility" which could not be established, since Cuvier's description was "*absolument insuffisante*"! Fischer had made a superficial examination of some specimens labelled *D. tomentosa*, Cuv., in the Paris Museum, but the single authentic type was not among them.

Moreover, Iredale and O'Donoghue omit the fact that Bergh conclusively identified as *D. johnstoni* some specimens in the Leyden Museum which Cuvier himself had authenticated as *D. stellata*, Gmel. (Bergh, *Verh. z. b. Ges. Wien*, 1893)—a species of antiquarian interest only, but from which Cuvier had expressly distinguished his own *tomentosa*. Thus, if we assume that *tomentosa* really was identical with *johnstoni*, Cuvier could not recognize his own species when it was before him. Enough has been said to show that the only indisputable name for Alder and Hancock's species remains *Doris (Jorunna) johnstoni* A. and H.

(3) *Doris verrucosa*, Linn. (Cuv.). This, the type-species of the Linnæan genus *Doris*, had remained unrecognized until Cuvier's "Mémoire sur le genre *Doris*" (1804). Iredale and O'Donoghue dismiss Cuvier's identification with the assertion that Linnæus's species was "based on a specimen described by Rumph and figured by Séba, which is indeterminate", thus begging an important question and brushing aside essential facts. It is generally admitted that Linnæus's first attempt, in the tenth edition of the "Systema" (1758), to define the sea-slug *Doris* was both erroneous and confused. Cuvier pointed out that Linnæus's citations from Rumph and Séba indicated an "Oscabron", that is, a Chitonid (Séba's plate suggests a *Cryptochiton* with reflected mantle), but the generic diagnosis included statements about appendages of which there was no indication either in Rumph or Séba ("*Tentacula ad os circiter octo*"). This suggested to Cuvier that, in addition to Séba's figure, Linnæus had a true *Doris* before him, though wrongly orientated, and Bergh, long afterwards, reached the same conclusion. Anyhow, after Bohadsch had cleared up the anatomical errors (1761), Linnæus corrected his diagnosis in the twelfth edition, changed *os* to *anum*, distinguished the true tentacles as "retractile within foramina", and nevertheless retained *verrucosa*, along with three new species of indubitable *Doris*, as members of the revised genus. Cuvier had found some specimens in the old "Cabinet d'Histoire Naturelle" which in fact combined the verrucosity of Séba's figure with the revised generic characters. He accordingly claimed the species, which he described and figured, as in all probability Linnæus's hitherto unrecognized type, and it has since happily proved to be the commonest Mediterranean species.

Cuvier's identification was in every sense legitimate and has been admitted without exception by every subsequent investigator. It was tantamount to a fixation of the type for all time. Accordingly the old genus *Doris* stands, in spite of its original ambiguity, and includes five British species at least, as detailed in Eliot's Revision.

These few examples, out of many similar, show that Iredale and O'Donoghue draw no distinction between proved conclusions and mere opinions. Until the changes of nomenclature introduced by them have been confirmed independently, I would advise serious investigators to record their discoveries under the more stable and historic names of Eliot's authorized Revision.

18 Apsley Road,
Oxford.

WALTER GARSTANG.

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Chromosome Structure as Observed in Root Tips

THERE are some features of the structure of the somatic chromosome which can be observed without any special technique. These are the primary and the secondary constrictions (the last including the SAT- and the NO-SAT-constrictions) and also the heterochromatin and the euchromatin.

Recently, Darlington and La Cour¹, by means of a special technique, have observed a "new differentiation" in the chromosome which appears as a decrease in its thickness owing, they suggest, to these parts of the chromosome "being coiled in a finer thread of smaller diameter than the rest of the thread".