

Zoological Regions.

WITH reference to the paper of Mr. Wallace in NATURE (vol. xlix. page 610), I agree with Mr. Wallace's aim and with his estimate of the importance of the subject.

A naturalist, who deals with a single large genus as *Pedicularis*, makes his own map, showing the distribution of the species and his own view of the lines of descent of his sections in geologic periods. He cannot do this on a map showing the division of the world into six biologic regions according to the Mammalia in them. Or, at all events, none of our monographers, so far as I know, has done it. The difficulty in dealing with a whole natural order is still greater.

The consequence is that, if some other botanic writer wishes to compare the distribution of *Pedicularis* with that of some allied genus, or to give a view of the distribution of the sub-order to which *Pedicularis* belongs, he cannot make any use of the results of the *Pedicularis* monograph without taking it all to pieces and re-arranging the whole material. This is in every case a laborious, in many cases an impossible task.

I therefore agree with Mr. Wallace that we require a division of the globe into "areas absolutely defined, easily remembered," so that, after the monographer has treated his genus or order in natural regions, he may also "tabulate" his facts on these standard areas; in order that his numerical results may be (at least in the rough) accessible for immediate use by others who may not have time (or sufficient special knowledge) to get up the monograph.

It is evident that Mr. Wallace has overlooked my paper on biologic regions and tabulation areas in *Trans. Linn. Soc.* vol. clxxxiii. [1892] (B) pp. 371-387. Otherwise he could hardly have written (NATURE, vol. xlix. p. 612) that his regions readily enable us to tabulate the distribution of a group (and many other statements). In my paper I have pointed out that where I know, as in the case of many Sikkim plants, the exact boundary line of distribution of many species, I cannot tell whether these should be tabulated in Wallace's Region 1, or in his Region 3, or in both. The number of species which are in this predicament is so great that by exerting a choice how I would tabulate them I could bring out any result that might be wished. The more accurately I know the distribution of a species the more impossible is it for me to tabulate it on Wallace's map. And the more perfectly a region is biologically laid down (with peninsulas, islands, &c.) the more impossible it is to use it as an "area" for tabulating on. But, I must not trouble you with a recapitulation of my paper above cited, to which I refer Mr. Wallace and others who may be interested.

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