

WHAT ARE TREESHREWS?

Comparative Biology and Evolutionary Relationships of Tree Shrews.

Edited by W. Patrick Lockett. New York and London: Plenum Press. \$39.50. xv + 314 pp.; ill.; index. 1980.

Treeshrews are among the most misinterpreted of mammals. To the extent that this is based on facts, the excellent volume under review should help greatly. But it is also based on ignorance of even the rudiments of phylogenetic inference.

For a long time, until the mid 1960's, treeshrews were considered to be primitive primates because of several similarities to lemurs. These similarities proved to be absent in more primitive primates or else common in primitive mammals, in either case being useless phyletically. (Some other supposed resemblances proved nonexistent.) Nevertheless it has been common, even among people who have heard of this later work, to think that it means that treeshrews could be equally well assigned to the Primates or Insectivora. This is incorrect. If the later work has merit, there is no special relationship between treeshrews and primates.

This volume contains good reviews of all the kinds of evidence which have proved useful in assessing treeshrew relationships. I think this has not been done competently for any other group of extant organisms. The skeleton, teeth, arteries, reproductive biology, brain, and proteins are all well represented. (Treeshrews are no more a kind of shrew than butterflies are a kind of fly, so a single word is preferable to two, by the entomological convention.)

Controversy remains, at a different level from that a few years ago. This is sharpest in a broadly significant exchange between Goodman's and Sarich's groups on the methodology of protein analysis. A minority of the papers propose relatively new evidence for a special relationship between treeshrews, colugos, primates, and perhaps bats. Although voting is irrelevant in such matters, there are problems with this evidence and I agree with the majority that there is no good reason to associate treeshrews closely with any other extant mammals. Because they have not diverged strongly from ancestral eutherians, it is reasonable to retain them in the ancestral order Insectivora.

Leigh M. Van Valen
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This review was seriously garbled by the Quarterly Review of Biology (56: 487 [December, 1981]), whose editor declined to print an erratum. Evolutionary Theory is generally available for such corrections, and other documentable cases of irresponsibility by editors, when they can be fitted in.

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