

Dinosaurs: present state of knowledge

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David B. Weishampel, Peter Dodson, & Halszka Osmólska (eds). 1990. *The Dinosauria*. 735 pp, 306 text-figs. University of California Press, Berkeley.

Twenty three expert dinosaur workers from nine countries contribute to this important volume which is the first comprehensive monograph of the dinosaurian group as a whole.

The book consists of two parts. The general part deals with the origin of the Dinosauria and their position within the Reptilia (40 pages), their paleobiology (31 pages) and distribution (76 pages). The systematic part (almost 80 per cent of the text) contains the updated well-illustrated descriptions, as well as 24 tables of revised materials referred to particular groups, including the geographic and stratigraphic data, synonymies of particular species and lists of nomina dubia. A great bulk of new data on ankylosaurs, pachycephalosaurs and small theropods and on some completely new groups (e.g. segnosaurs) is for the first time presented in a single manual. The cladistic approach prevails. The discussions are usually illustrated by cladograms, not always corresponding with the text.

The traditional bipartition of the Dinosauria has been shaken by a discovery of the opisthopic condition in some members of the Saurischia. This case, similar to the avian one, is not as much confusing in view of the fact that the proopic condition, typical of Saurischia, is primitive in reptiles.

The thermoregulatory strategy probably specific for the Dinosauria (heterometabolism) is discussed in the book along with various aspects of the dinosaurian behaviour (gregariousness, communications, territoriality, antagonistic behaviours, nesting and paternal care) and the problem of the dinosaur extinction at the K/T boundary. The paucity of Lower Paleocene terrestrial formations along with the uncertainty about their chronostratigraphy makes the studies on K/T extinctions rather difficult. Neither is there any consensus as to whether the reasons of this event were specific to the Dinosauria or common to all organisms that got extinct with the end of the Cretaceous, or ever. The hypotheses preferred to-day revoke abiotic and even extraterrestrial factors. Most probably, different factors interfered, but much fundamental work remains to be done to elucidate this problem.

The long held opinion about the extra-large body size of the dinosaurs turned out to be exaggerated. Specimens about 2 m in length, or even smaller, are very common. Only the ankylosaurs, iguanodontids, sauropods and carnosaurs were subject to gigantism. The lack of any review of the body-size problems, either in general or in systematic chapters, is a real drawback of this volume. The lack of scales, or wrong scales in many figures is even worse.

The traditional view that the quadrupedal posture was secondary in the Dinosauria is supported. The genus *Lagosuchus* close to the dinosaurian ancestor was facultatively bipedal. The same was true of the most primitive dinosaurs and ornithischians.

All the above subjects are broadly and deeply covered by this volume which is an irreplaceable source-book for every dinosaur worker from advanced undergraduate on up.