



Figure 10.10. **A, B**, Fore and hind fins of the osteolepiform fish *Eusthenopteron* showing the endochondral bones of the proximal portion of the fin and the covering of small, jointed, lepidotrichial scales more distally (reproduced by permission of the Royal Society of Edinburgh and of Andrews and Westoll from *Transactions of the Royal Society of Edinburgh*, volume 68 [1970], pp. 207–329). **C**, Forelimb of the Upper Devonian amphibian *Acanthostega*; **D**, Hind limb of the Upper Devonian amphibian *Ichthyostega* (C and D with the permission of Michael Coates). Abbreviations as in Figure 10.8.

way alters or blocks signals that previously reached the mesenchyme, so that its function in generating the distal portion of the limb changes. He suggested that differences in the timing of formation of this fold could be responsible for the differences in the nature of the fins of actinopterygians and sarcopterygians, as well as the formation of the tetrapod limb. Later formation of the fold in sarcopterygians could account for the much greater extent of endochondral ossification in their fins, compared with most actinopterygians. Developmental changes leading to the complete elimination of the fold could provide the mechanism by which ancestral