



**FIGURE 10.23.** The millipede *Pneumodesmus newmani* is the earliest definitive terrestrial animal capable of air breathing, as evidenced by the spiracle-like structures found in these fossils (A,B). This fossil was discovered in the Silurian Cowie Formation, Stonehaven, Scotland. A portion of the body with appendages is shown facing to the right. The reconstruction (C) shows what a younger form, *Palaeodesmus* from the Devonian of Ayrshire, Scotland, might have looked like.

10.23A,B, reprinted from Wilson H.M. et al., *J. Paleontol.* **78**: 169–184, © 2004 Paleontological Society; 10.23C, adapted from Gray J. et al., *Am. Sci.* **80**: 444–456, © 1992 Sigma Xi, The Scientific Research Co.