

The classification and evolution of the Heterostraci

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An outline classification is given of the Heterostraci, with diagnoses of the following orders and suborders: Astraspidiformes, Eriptychiiformes, Cyathaspidiformes (Cyathaspidida, Poraspidida, Ctenaspidida), Psammosteiformes (Tesseractaspidida, Psammosteida), Traquairaspidiformes, Pteraspidiformes (Pteraspidida, Doryaspidida), Cardipeltiformes and Amphiaspidiformes (Amphiaspidida, Hibernaspidida, Eglonaspidida). It is shown that the various orders fall into four main evolutionary lineages - cyathaspid, psammosteid, pteraspid and amphiaspid, and these are traced from primitive tessellated forms. A tentative phylogeny is proposed and alternatives are discussed.

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