奇迹秀山鱼

最早的完整保存有颌脊椎动物

奇迹秀山鱼生活于约 4.36 亿年前的志留纪早期，全长约 3 厘米，属于早期盾皮鱼类。它具有宽阔的头甲、发达的背棘和覆盖细小鳞片的躯干，身体背腹扁平，鳍和尾部结构保存完整。奇迹秀山鱼的头甲融合了多个盾皮鱼类群的特征，并呈现出向硬骨鱼类头顶骨片构型转变的若干特点。它的发现将完整有颌脊椎动物的化石记录向前推进了约 1100 万年，表明有颌脊椎动物在早志留世已经发生了显著的多样化，为认识有颌类早期身体构型与演化提供了关键证据。

Xiushanosteus mirabilis

The Earliest Complete Gnathostome Vertebrate Fossil

Xiushanosteus mirabilis was a tiny jawed vertebrate that lived in the Early Silurian. Measuring approximately 3 centimetres in total length, it had a broad, semicircular head shield and a short trunk enclosed by dermal armour. Its body was dorsoventrally flattened, with paired fins and a nearly complete tail preserved in remarkable detail.The dermal skeleton of *Xiushanosteus mirabilis* combines features found in several major placoderm groups. The discovery of complete specimens—pushing back the fossil record of complete jawed vertebrates by approximately 11 million years—provides direct evidence that jawed vertebrates had already undergone substantial morphological diversification early in their evolutionary history and offers an unprecedented view of their early body plans.