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Based on phenetic features alone, around 120 early Cambrian form-species are known. However, because some species produced various, morphologically distinct stages in their life cycle, which may be preserved and thus recognized as separate form-species, the apparent number of species is overestimated. Conversely, convergence among some sphaeromorphic taxa, which belong not only to different biological species but also algal orders as shown by their wall ultrastructure, leads to underestimation of the actual number of species. Acritarch form-species reflect morphological disparity of phytoplankton, displayed by ornamented cysts, internal dormant/reproductive cells and external vegetative envelopes that may pertain to a single species, and ecological variants of discrete species.

Predatory boreholes in Tournaisian (Lower Carboniferous) spiriferid brachiopods

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A brachiopod fauna picked from bulk samples from the uppermost part of the Tournaisian Tournai Formation (Belgium) contains several taxa, but only the shells of an unidentified species of *Crurithyris* (Spiriferida, Ambocoeliidae) display a high frequency of boring. 8.1% of the 432 specimens with conjoined valves display single, small (≤ 1 mm) boreholes. The holes are smooth-sided, cylindrical or weakly conical, circular to slightly elliptical in plan view, perpendicular to the shell surface and generally complete. Of the 35 bored articulated specimens, 27 were drilled on the ventral valve. Most of the boreholes are located in the posterior half of the shell and no case of edge-drilling has been observed. The strong stereotypy of the location of the drill holes as well as their close resemblance to those in recent bivalves lead us to interpret them as predatory drill holes, probably made by gastropods. *Crurithyris* sp. may have represented an attractive (in terms of energy cost) and easy prey for a small-sized predator that is suggested by the small diameter of the boreholes. The shell of *Crurithyris* is thin (< 0.5 mm thick) and only covered by minute spines, which seem to have been ineffective in deterring the drilling predator.

A juvenile skull of the ornithischian dinosaur *Heterodontosaurus tucki* from the 'Stormberg' (Early Jurassic) of South Africa

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Heterodontosauridae is an enigmatic clade of primitive ornithischian dinosaurs, the taxonomy, systematics and palaeobiology of which are highly controversial. We describe a new partial skull of a juvenile *Heterodontosaurus tucki* from the 'Stormberg Group' (Early Jurassic, South Africa), with an estimated maximum length of 50 mm indicating a total body length of less than 400 mm. The skull is relatively complete anterior to the left orbit, well-preserved, and referred to *H. tucki* on the basis of numerous dental and cranial autapomorphies. Direct examination of the specimen, combined with information from CT and X-ray imaging, provides new information on the cranial anatomy of *H. tucki* as well as new insights into cranial ontogeny and sexual dimorphism in heterodontosaurids. Ontogenetic changes largely involve skull proportions and fusion; few ontogenetic changes in dental morphology occur, supporting previous suggestions that tooth characters are informative for species-level