

The first column marks the last appearance of several genera which are characteristic of Paleozoic strata. The second shows those genera which are characteristic of the Upper Trias, either as peculiar to it or as reaching their maximum of development at this era. The third column marks the first appearance of genera destined to become more abundant in later ages.

As the *Orthoceras* has never been met with in the marine Muschelkalk, much surprise was naturally felt at first when 7 or 8 species of the genus were detected in the Hallstatt beds. Among them are some of large dimensions, associated with large Ammonites with foliated lobes, a form never seen before so low in the series, while the orthoceras had never been seen so high; although the latter genus has since been met with in the Adnet, or Lower Lias strata of Austria. We can now no longer doubt that, should we hereafter have an opportunity of studying an equally rich marine fauna of the age of the Bunter sandstone or Lower Trias, the great discordance between Paleozoic and Neozoic forms would almost disappear, and the distance in time between the Permian and Triassic eras would be very much lessened in the estimate of every geologist.

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ON THE SUPPOSED EVIDENCE OF PHÆNOGAMOUS PLANTS (NOT GYMNO-SPERMS) IN THE COAL FORMATION (p. 371).

It has been questioned whether hitherto the botanist has obtained from strata older than the Wealden a single well-determined specimen of any flowering plants except Gymnosperms, such as Conifers and Cycads. Hence some imagine that the most highly organized structures of the vegetable kingdom were first created or developed in geological periods comparatively modern, although the antholite of the coal (of which a figure is given at p. 371) was classed by Lindley, so long ago as 1835, as allied to the Bromeliaceæ. Mr. Charles Bunbury called my attention lately to an antholite in his collection from the Newcastle coal-field, which he compared to *Antholyza*, an Irideous genus, and on which Dr. Hooker, to whom I have shown it, has sent me the following remarks.

“Kew, Feb. 18, 1857.

“After a careful examination of the beautiful specimen of *Antholithes Pitcairniæ* which you have placed in my hands, I have no hesitation in withdrawing the opinion which I formerly expressed to you (Manual, 5th ed., p. 371) of the possible coniferous relation of the genus *Antholithes*. All the specimens I had previously examined were very imperfect, and suggested to me the possibility of the so-called flowers being tufts of young leaves like those of the larch. In the specimen now before me, these organs are far more perfect, and confirm (as positively as such materials can) Lindley's idea that *Antholithes* is the spike of a very