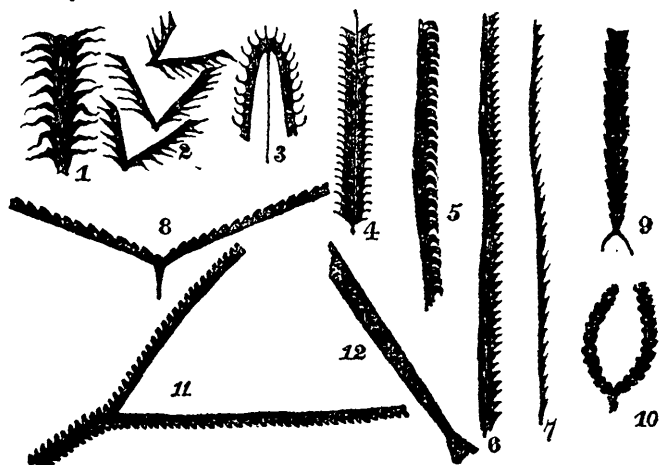


skeleton; and occur either free, or as an incrustation on stones, shells, sea weeds, and other bodies. The common form of the graptolite is that of an extremely narrow band, dentated or toothed on one or on both of its edges. The so called teeth constitute the cells or dwelling chambers of the separate animals (or vital centres) of the organized mass. The band itself, or stipe, is occasionally expanded into a leaf-like form; or narrowed, on the other hand, into a mere thread. Many specimens exhibit also a filiform central axis, often extending beyond the stipe.

These fossils have been grouped in several genera, of which the more important comprise:—*Graptolithus* (teeth on one side only, but close together, stipe unbranched). *Rastrites* (teeth far apart; stipe unbranched, but often convoluted). *Didymograpsus* (teeth on one side; stipe branched). *Diplograpsus* (teeth on each side of stipe). Certain branched forms, however, have a single row of teeth on the branches, whilst the main stem is toothed on both sides: and hence, in cases of this kind, fragments of one and the same form might be referred to different genera. The deeply recurved species of *Didymograpsus*, again, constitute transitional forms between that genus and *Diplograpsus*. The non-occurrence of doubly-toothed forms, as pointed out by Sir Roderick Murchison, in the Upper Silurians of England, does not militate against these objections: because, (so far as regards species) graptolites are never abundant in these upper rocks, and doubly-toothed species are found in them in other localities. There can be no doubt, moreover, as shewn by Sir W. Logan's discovery in the Point Levi district, that our common specimens exhibit merely a fragmentary condition of the original graptolite structure. The genus *Rastrites* does not appear to have been discovered in America. The other genera are included in this note, under the common term of *Graptolithus*.



§ 1. *Graptolites with mucronate serratures.*

*G. mucronatus*, Hall. Unbranched; flattened; doubly-toothed; teeth with mucronate and more or less wavy tips. Fig. 1. Hudson River group: Albany.

*G. sextans*, Hall. Branched; the branches separating from the base, and exhibiting teeth on the outside only; tips delicately mucronate, but often badly preserved. Fig. 2. Hudson River group.