been recognized: (1) the Buchenstein beds, consisting of flaggy and nodular limestones, with hornstone concretions. These strata have not yet been found in the northern Alps. Among their fossils are Orthoceras Bockhi, Arcestes trompianus and other species, Ptychites angusto-umbilicatus, Sageceras Zsigmondyi, Lytoceras, cf. wengenense, Trachyceras Curionii, T. Reitzi and other species, Spiriferina Mentzeli, Daonella Taramellii, and other species. (2) The Wengen beds comprise all the strata lying between the Buchenstein beds and the base of the St. Cassian group. Their most important material consists of a dark sandstone with shaly partings, derived chiefly from volcanic detritus. In South Tyrol and in Carinthia sheets of lava and tuff lie at the base of this group, and thicken out round the centres of eruption. With these interbedded igneous rocks are associated bosses and dikes of augite-porphyry and melaphyre. A characteristic feature of the Wengen beds is the great development of reefs formed by calcareous algæ (Gyroporella, including Diplopora), and built up into enormous masses of limestone and dolomite with corals, large Naticas, and Chemnitzias. Among the characteristic fossils of the Wengen beds are Trachyceras Archelaus, and numerous other species, Arcestes tridentinus, Pinacoceras daonicum, Halobia Lommeli, with in some places remains of land-plants—Equisetites arenaceus, Calamites arenaceus, Neuropteris several species, Sagenopteris, Pecopteris, Thinnfeldia, Pterophyllum, Tæniopteris, Voltzia.

4. Carinthian Stage.—The geographical distribution of the two marine provinces lasted beyond the early part of this stage. The separation between these areas gradually disappeared, and some of their peculiar ammonites began to migrate from the one territory to the other. In the southern area Mojsisovics has noted three distinct Carinthian groups: (1) the St. Cassian beds, consisting of brownish calcareous marls, limestones, and oolites. This group has long been celebrated for the astonishing abundance and variety of its organic remains. The Echinoderms are particularly prominent. Abundant also are the species of Halobia (Daonella) (H. cassiana and H. Richthofeni). Corals abound in the neighborhood of the dolomite-reefs, and the coral banks, like the beds of echinoderms, can be traced laterally into these reefs. The St. Cassian beds are represented in other parts of the Alps by fossiliferous limestones (Marmolata and Esino limestones in South Tyrol and Lombardy, Wetterstein limestone in North Tyrol) and nearly