tiers of walled cells are organized, the uppermost being the "rosette," the next developing the suspensor, the third forming the embryo, and the terminal one developing the "penetrating cap" characteristic of the genus. The embryo may reach the 16- or 32-celled stage before the suspensor begins to elongate. After the full development of the suspensor a series of long "embryonal tubes" arise from the proximal cells of the embryo. An interesting observation is the budding out of small secondary embryos from the main group of embryo cells, though ordinarily but a single embryo is produced by the fertilized egg.—J. M. C.

Coastal plain of Georgia.—Concerning none of the older settled portions of the United States has there been so much difficulty in obtaining accurate information on plant distribution as for the extreme southeastern coastal plain. Because of its recent origin as a land area, its proximity to one of the most ancient land masses, and its connection with the tropics by way of the Florida peninsula, it forms one of the most critical regions on the continent for the investigation of plant origin, migration, and acclimatization. R. M. HARPER[23] has recently published the results of his investigations in southern Georgia and has made an important contribution to North American phytogeography. The classification of his observations, the clearness with which the results are presented, and the excellence of the illustrations add much to the value of the paper.

The first part of the volume is devoted to a brief summary of the geological divisions of eastern North America and the subdivisions of the Georgia coastal plain. The Altamaha Grit forms a strongly marked physiographic region. It is probably Pliocene in age, occupies the middle third of the coastal plain of Georgia, and its topography is typically rolling. Rock outcrops are rare, the soil being formed mostly by the overlying LaFayette (sand and clay) and Columbia (sand) formations. The vegetation is discussed under nineteen "habitat groups," among which are rock outcrops, dry pine-barrens, moist pine-barrens, swamps, cypress ponds, sand hills, and hammocks. In each case the plant list is most carefully analyzed and shows at a glance the trees, shrubs, vascular and non-vascular herbs, their relative abundance, duration, flower color, and evergreen or deciduous habit. Each list is accompanied by a phenological diagram exhibiting the times of flowering. The accompanying descriptions give the characteristics of the habitat, ecological notes, geographic ranges of the plants, and their taxonomic relationships. In the final summary the relations of the typical habitat groups to each other and to other regions are represented by diagrams; some exceptional habitats are described, the weeds are listed, and the effects of civilization discussed.

The second part of the paper presents a history of botanical exploration in the region, an annotated catalogue of the species, a summary of the catalogue, and a list of the papers consulted.—E. N. TRANSEAU.

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[23] HARPER, ROLAND M., A phytogeographical sketch of the Altamaha Grit region of the coastal plain of Georgia. Annals N. Y. Acad. Sci. 17[1]: 1–415. *pls. 1–28.* 1906.