

Burmah, etc. Subathú of sub-Himalayas, Indus or Shingo beds of Western Tibet.

Ranikot beds—sandstones, shales, clays with gypsum and lignite, 1500 to 2000 feet; abundant marine fauna, including *Nummulites spira*, *N. irregularis*, *N. Leymeriei*.

Lower Nummulitic group of Salt Range.

**North America.**—Tertiary formations of marine origin extend in a strip of low land along the Atlantic border of the United States and Mexico, from the coast of New Jersey southward into Florida and round the margin of the Gulf of Mexico, whence they run up the valley of the Mississippi to beyond the mouth of the Ohio. On the western seaboard they also occur in the coast ranges of California and Oregon, where they sometimes have a thickness of 3000 or 4000 feet, and reach a height of 3000 feet above the sea. Over the Rocky Mountain region Tertiary strata cover an extensive area, but are chiefly of fresh-water origin.

In the States bordering the Atlantic and Gulf of Mexico the oldest Tertiary deposits are referred to the Eocene series, and in some places (New Jersey) appear to follow conformably on the Cretaceous rocks. They have been subdivided into four groups, which in the State of Mississippi are well developed, with the following characters:<sup>50</sup>

4. Jackson beds ("White Limestone" of Alabama), white and blue marls underlain by lignitic clay and lignite (80 feet) with *Zeuglodon macrospondylus*, *Cardita planicosta*, *Cardium Nicolleti*, *Leda multilineata*, *Corbula bicarinata*, *Rostellaria velata*, *Voluta dumosa*, *Mitra dumosa*, *Conus tortilis*, *Cypræa fenestralis*, etc.
3. Claiborne beds, white and blue marls, and sandy beds with numerous shells which indicate a horizon equivalent to that of part of the Calcaire Grossier of the Paris basin.
2. Buhrstone (Siliceous Claiborne), sandstones and siliceous impure limestones with Claiborne fossils (400 feet and upward).
1. Lignitic sands and clays, with marine fossils, and with interstratified lignites and plant-remains (*Quercus*, *Populus*, *Ficus*, *Laurus*, *Persea*, *Cornus*, *Olea*, *Rhamnus*, *Magnolia*, etc.).

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<sup>50</sup> A. Heilprin, "Contributions to the Tertiary Geology and Palæontology of the United States," 1884; Proc. Acad. Philadelph. 1887.