

2. CHIPOLA. — *Orthaulax Gabbi* Dall, *Strombus Aldrichi* Dall, *Turritella subgrun-difera* Dall, *T. Chipolana* Dall, *Pollinices Burnsii* Dall, *Ampullina Fischeri* Dall, *Clava Chipolana* Dall, *Bittium Chipolanum* Dall, *Modulus compactus* Dall, *Turritella indenta* var *mixta* Dall, *Tuba acutissima* Dall.

3. YORKTOWN. — *Ostrea percrassa* Con., *O. disparilis* Con., *Pecten Jeffersonius* Say, *P. Madisonius* Say, *P. Clintonius* Say, *Mytiloconcha incurva* Con., *Arca idonea* Con., *A. subrostrata* Con., *A. incilis* Say, *Striarca centenaria* Say, *Pectunculus subovatus* Say, *P. quinquerugatus* Con., *Astarte undulata* Say, *Crassatella undulata* Say, *C. melina* Con., *C. Marylandica* Con., *Lucina anodonta* Say, *L. cribraria* Say, *Diplodonta acclinis* Con., *Carditamera arata* Con., *Cardium laqueatum* Con., *Venus cortinarea* Rogers, *Cytherea Marylandica* Con., *C. staminea* Con., *Isocardia fraterna* Say, *Dosinia acetabula* Con., *Maetra delumbis* Con., *Petricola centenaria* Con., *Panopaea reflexa* Say, *P. Americana* Con., *Pholadomya abrupta* Con., *Corbula idonea* Con., *Tellina biplicata* Con., *Terebra simplex* Con., *Ephora quadricostata* Say, *Fasciolaria rhomboidea* Rogers, *Typhis acuticosta* Con., *Urosalpinx trossulus* Con., *Fusus parilis* Con., *F. exilis* Con., *F. strumosus* Con.

The Miocene species of the Ashley Marl bed, South Carolina, determined by Dall (1894) include *Astarte vicina* Say, *Ephora quadricostata*, an *Amusium* not distinguishable from *A. Mortoni*, *Lucina contracta*, *Dentalium attenuatum*, *Pecten decennarius*, with others of *Corbula*, *Leda*, *Yoldia*, *Tellina*, *Marginella*, *Solen*, *Modiola*. The species show closer relations to the Yorktown epoch than to the Chipola. Dall adds that the change in the rock to the phosphate condition probably took place in Pliocene time like that of the similar phosphatic pebbles of Peace River, Fla.

The Miocene of Gay Head, Martha's Vineyard, afforded Dall: *Carcharodon angustidens*, *Hemipristis serra*, *Oxyrhina hastalis*; the Crustacean *Archæoplax signifera* Stimson; the Mollusks, *Yoldia limatula*, *Y. sapotilla*, *Cardium Virginianum*, *Nucula Shaleri* Dall, *Gemma purpurea* var. *Totteni*, *Mya arenaria*, *Mya truncata*, *Glycimeris reflexa*, *Chrysodomus Stonei* Pilsbury. The overlying Pliocene contained, according to J. B. Woolworth, *Corbicula densata*, and *Venericardia borealis* of Pliocene type.

PLIOCENE.

FLORIDIAN. — *Arca scalarina* Heilp., *Arcoptera aviculæformis* Heilp., *Arca crassicosta* Heilp., *Chama crassa* Heilp., *Cardium Dalli* Heilp., *Venus rugatina* Heilp., *Cythara terminata* Dall, *Strombus Leideyi* Heilp., *Siphocypræa problematica* Heilp., *Vasum horridum* Heilp., *Fasciolaria scalarina* Heilp., *Liochlamys bulbosa* Heilp., *Turbinella regina* Heilp.

The above lists of Atlantic border and Gulf border species are from G. D. Harris. The species are "characteristic" in being found "either exclusively, typically, or most abundantly, in the group where mentioned."

Characteristic Genera of Vertebrates.

In this list of genera the names of those which occur in corresponding beds abroad are put in small capitals; those which are represented by existing species are followed by an interjection mark.

EOCENE.

PUERCO GROUP. — **Monotremes** or **Marsupials** (Multituberculates): *Ptilodus*, *Neoplagiaulax*, *Chirox*, *Polymastodon*. **Tillodonts**: *Psittacotherium*. **Ungulates**: *Haploconus*, *Periptychus*, *Protogonia*, *Protogonodon*; *Pantolambda*. **Creodonts**: *Oxyclonus*, *Pentacodon*, *Triisodon*, *Microclenodon*, *Dissacus*, *Deltatherium*, *Didymictis*. **Quadrumanæ** (Lemuroids): *Mixodectes*, *Indrodon*.

WASATCH GROUP. — **Rodents**: *Paramys*. **Tillodonts**: *Dryptodon*, *ESTHONYX*, *CALAMODON*. **Ungulates**: *Phenacodus*, *Trispondylus*, *Meniscotherium*, *Hyracops*; *Coryphodon*,