PLANT FOSSILS OF THE WARRIOR COAL FIELD

By

Henry L. Barwood
Florida Institute of Phosphate Research
P.O. Box 877
Bartow, Florida 33830

PREVIOUS BIOSTRATIGRAPHIC WORK

Early studies of plant fossils from Alabama included many species undoubtedly obtained from mines within the Warrior coal field; however, few localities were recorded and accurate information on these fossils is nearly unobtainable at present. Lesquereux examined a collection of fossils for the Alabama Geological Survey and included in this collection were Calamites approximatus, Schloth and Sphenopteris latifolia, Brgt. from Finley’s mine near Tuscaloosa (Lesquereux, 1876). Later work by Lesquereux lists Callipteridium aldrich; Lesq. from the Black Creek seam (Lesquereux 1879). Few fossils were reported from the Warrior coal field until Butts presented an analysis of a collection of plant fossils from the Cahaba coal field (Butts, 1927). Butts apparently sent David White a collection containing both Cahaba and Warrior coal field fossils. A few specimens from this collection still exist in the Alabama Geological Survey collection. Those with specific locality information are: Calamosrachys lanceolata, Lesq. from the American seam, Mariopteris inflata, White from the Mary Lee seam, Oligocarpia crenulata, White from the Brookwood group, Whittlesea campbellii, White from the Brookwood group, and Whittlesea integrifolia, Lesq. from the Brookwood group. Butts also included some figured specimens from the Warrior field in the Special Report on the Geology of Alabama. The specimens figured were: Neuropteris smithsii Lesq., Neuropteris cf. N. pocahtona var. inequalis, White, and Mariopteris pottsvillea, White are present (Lyons and Messner, 1982).

Ages previously assigned to coal seams within the Warrior field were from Pocahontas to early New River (Smith, 1979). Although beds of Kanawha age were detected through palynological analysis of subsurface beds in Mississippi, no outcrops were definitely assigned this age in the Warrior field of Alabama (Upshaw, 1967).

BIOSTRATIGRAPHIC RANGE OF THE SPECIES COLLECTED

SPHENOPSIDS AND LYCOPODS

These principal inhabitants of the coal swamps, the sphenopsids and lycopods, are found through the Warrior Coal Field and most have such long ranges that they are nearly useless for stratigraphic work. Detected in this study were: Calamites suckowi, C. undulatus, Asterophyllites longifolius, A. charaeformis, Annularia asteris, Calamostachys sp., Sphenophyllum cuneifolium, S. emarginatum, Lepidodendron obovatum, Lepidodendrols sp., Asolanus sp., Sigillaria elegans, S. scutella, Lepidophyloides, Lepidotostrobophyllum, and Stigmaria ficoidea. Of these, only the following have some stratigraphic significance:

Asterophyllites charaeformis (Sternbg.) Goepp, (fig. 1A).—This dimunitive species ranges from the Blue Creek coal to the Brookwood coal and is often quite abundant. The species is characteristic of the Pottsville.

Sphenophyllum cuneifolium Sternb. (fig.1B).—This species ranges from the Blue Creek coal to the Johnson coal. It is considered an upper New River and Kanawha species. Nowhere is the plant abundant in the Warrior coal field.

Sphenophyllum emarginatum Brgt (fig. 1C).—This species is found sparingly above the Johnson coal of the Brookwood group. Considered an upper Kanawha species.