World Academy of Science, Engineering and Technology
International Journal of Bioengineering and Life Sciences
Vol:13, No:01, 2019

Report of Gangamopteris cyclopteroides from the Rajmahal Basin, India: An Evidence for Coal Forming Vegetation in the Area

Authors : Arun Joshi

Abstract : The present study deals with the report of Gangamopteriscyclopteroides from the Barakar Formation of Simlong Open Cast Mine, Rajmahal Area, Rajmahal Basin, Jharkhand, India. The genus Gangamopteriscomprises leaves which are simple, entire, symmetrical or asymmetrical, linear, lanceolate, elliptical, obovate in shape, apex broadly rounded, obtuse, acute, acuminate or mucronate, base petiolate or contracted, midrib absent. Median region occupied by subparallel veins with anastomoses of elongate or hexagonal outline. Secondary veins arise from median veins by repeated dichotomy, arched, bifurcating and anasotomosing network. The present work is significant as it represents the presence of Glossopteris flora (250- 290 ma) which is mainly responsible for the formation of coal. Coal is one of the major fuels for power production through thermal power plants. The Glossopteris flora is one of the major floras that occupied the southern continent during Carboniferous- Permian time. This southern continent is also known as Gondwana comprising Australia, South Africa, Antarctica, Madagascar and India. There is a vast geological reserve of coal with favorable stripping ratio available at the Simlong Block but the area comes under the most naxalite prone area and thus the mine has been running in an unplanned manner. It has got the potential of becoming a big project with higher capacity and is well suited for enhancing production which can be helpful in the economic growth of the country. Though, the present record is scanty, it shows the presence of Glossopteris flora responsible for the formation of coal in the Coalmine. However, there are fears of fossils disappearing from this area as the state government of Jharkhand has given out a mining lease in the area to private companies. Therefore, it is very necessary to study such coal forming vegetation and their systematic study from the area to generate a new palaeobotanical database, palaeoenvironmental interpretation, basinal correlation and for the understanding of evolutionary perspectives.

Keywords : Barakar formation, coal, Glossopteris flora, Gondwana, India, Naxalite, Rajmahal Basin
Conference Title : ICPPT 2019 : International Conference on Photochemistry and Plant Taxonomy
Conference Location : New York, United States
Conference Dates : January 30-31, 2019