

ON THE OCCURRENCE OF A LATE DEVONIAN LYCOPSID IN THE SÃO DOMINGOS  
MEMBER OF THE PONTA GROSSA FORMATION, STATE OF PARANÁ, BRAZIL

Eliane de SIQUEIRA<sup>1</sup>

Mary E. BERNARDES DE OLIVEIRA<sup>1,2</sup>

Maria Judite GARCIA<sup>1</sup>

The occurrence of a possible lycopsid belonging to the genus *Baragwanathia* Lang & Cookson 1935 is reported for the first time in Brazil.

The studied specimen was found in a grayish carbonaceous shale of the São Domingos Member (Late Devonian) of the Ponta Grossa Formation, cropping out at Ponta Grossa (PR), latitude 25°10'48"S, longitude 58° 8'39,5"W, 798m above sea level, on the RFFSA Railway, near to the crossing with the PR 151 State Highway.

The fossiliferous level, from which the specimen was obtained, is presently at 5.0m above the railroad runway.

The specimen is characterized by an upright axis bearing microphylls, with sections displaying a tri-dimensional structure, with possibly preserved anatomical features, but generally as a carbonaceous film.

The external morphology of this fossil fragment is given by a slender stem, 80 mm long, slightly sinuous, suggesting minor flexibility. Its diameter ranges from 3 mm at its base to 1.2 mm at its upper section, thus indicating a gradual distal reduction. Neither its base or apices have been preserved.

The conspicuous single-veined microphylls are arranged in a slightly spiral pattern and cover the entire stem, from which they emerge with an acute angle, thus describing a semicircular form.

Some microphylls are 11 mm in length and 0.25 mm in width, reaching 0.32 mm in their mid sections. The microphylls bare sporangia on their adaxial surfaces.

This specimen differs from other Devonian herbaceous lycopsid genera such as *Drepanophycus*, *Sugambrphyton*, *Colpodexylon* by the lack of dichotomously or trichotomously branched microphylls. It resembles *Baragwanathia* that has been reported from the Upper Silurian to the Lower Devonian of Australia (CHALONER in BOUREAU, 1967-Traité de Paléobotanique, II, p. 449-452 Masson et Cie.) by the shape and arrangement of the vegetative microphylls.

However, the reduced dimension of the present specimen, in relation to the Australian specimens, suggests that the studied fragment represents the distal branches of a *Baragwanathia* specimen.

Because the anatomical resemblance of this lycopsid to the reported Australian *Baragwanathia* needs to be confirmed, it is recommended to refer to this taxon as *cf. Baragwanathia* sp.

The occurrence of this fossil in levels rich in lingulids of the Malvinocafrian fauna is suggestive of deposition in a cold shallow marine environment, adjacent to a coastal area where these plants could have lived, probably near a deltaic-like environment.

<sup>1</sup> Universidade Guarulhos-UnG-Laboratório de Geociências – geo@ung.br

<sup>2</sup> Universidade de São Paulo-IGc-USP – maryeliz@usp.br