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Permian Insects From the Parana Basin, South Brazil, II Neuroptera

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II NEUROPTERA

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SINOPSE

O presente trabalho registra a presença da ordem Neuroptera na Bacia do Paraná, Rio Grande do Sul, Brasil, com um novo gênero e uma nova espécie: *Permipsythone panfilovi* Pinto et Ornellas gen. et sp. nov., da Formação Irati (Permiano Sup.). É uma continuação dos estudos sobre insetos do mesmo local de onde já foram descritas espécies da Ordem Mecoptera (Pinto, 1972a).

ABSTRACT

The paper registers the presence of insects of the Order Neuroptera, in Parana Basin, Rio Grande do Sul, Brasil with the description of a new genus and a new species: *Permipsythone panfilovi* Pinto et Ornellas, gen. et sp. nov., from Irati Fm. (Upper Permian). This paper follows the previous paper of Pinto (1972a) which deals with the Order Mecoptera, from the same place.

1-INTRODUCTION

This paper follows the publication by Pinto (1972a) about insects of the Order Mecoptera, from Irati Fm., Upper Permian of Parana Basin.

Pinto (op.cit.) presents also the stratigraphical position, geographical distribution, biological association and age of the entomofauna with which were associated the insects described in this paper. He discusses yet the significance of the entomofauna to the problem of Continental Drift. Later, in the same year he presents a paper (Pinto, 1972b) about crustaceans and new insects discovered by Dr. Sergio Mezzalira, registering the presence of some Carboniferous orders of insects, and considering the blattids described by Carpenter (1930), Petri (1945) and Mezzalira (1948) as Carboniferous and not Permian as it was supposed. New data about the correspondence of the Siberian faunulae and the Gondwana faunulae, especially with the South Brazilian ones was presented also.

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2-SYSTEMATICS

Super-ordo Neuropteroidea
Ordo Neuroptera

Familia Permithonidae Tillyard, 1933
Permithonidae: Tillyard, 1922 p.289
Permegalonidae: Martinov, 1952 p.201
Permopsychoptidae: Riek, 1953 p.83

Diagnosis

Forewing with radial field larger than the subcostal; rather small insects with Sc fusing with R distally; M well ramified and furcate almost at the center of the basal half of the wing; cubito-median Y-vein still preserved, the upper branch very short in comparison with the lower one. CuA a fairly strong convex vein pectinately branched; CuP simple or with very short fork near apex; cross-veins normally do not forming regular rays.

Genus *Permipsythone* Pinto et Ornellas, gen.nov.

Broad forewing at the distal field; Sc fusing with R a little before mid-length; tronc of Rs long; Rs with few branches; the tronc of M_{3+4} divides basally before the first forking of Rs, and being three times shorter than the tronc of M_{1+2} ; A_1 pectinately branched numerous cross-veins regularly disposed over all the wing.

Type-species: *Permipsythone panfilovi* Pinto et Ornellas gen. et sp.nov.

Discussion

Presents the general characteristics of *Permithone*, except that Sc reaches R earlier and the length of the tronc M_{3+4} is three times shorter than the tronc M_{1+2} , while in *Permithone* M_{1+2} is just a little longer. Through this last character the tronc of M_{3+4} is similar to that of *Permithonopsis* Martinov, 1933 but differs from it by dividing after the first forking of Rs and by having a broad distal field. Differs also from *Eopsychoptis* Martinov, 1933, that has broad distal field, by the short tronc of M_{3+4} . Differs from all these three genera by having numerous cross-veins over all the wing.

Permipsythone panfilovi Pinto et Ornellas, gen. et sp. nov.
Pl.I, fig.1,2

Designatio nominis: In honour to Dr. D.V.Panfilov from the Academy of Science of URSS.

Holotypus: One impression and a counter-part of an incomplete wing. M.P., U.F.R.G.S., n° MP-I-5260 a,b.

Locus typicus: an outcrop at the km 79 of the road Porto Alegre-Uruguaiana, Rio Grande do Sul, Brasil.

Stratum typicum: Iraty Formation, Upper Permian.

Diagnosis

Very small and delicate wing, total length probably about 10mm; the stem of Rs very long; more than ten cross-veins between R and Rs; M_{1+2} forking distally; M_{3+4} bifurcating well basally before the first branching of Rs; the stem of M_{1+2} more than three times longer than the stem of M_{3+4} ; the anterior branch of M_{3+4} forking at least once more, before the wing margin; CuP simple.

Description

An incomplete forewing showing the costal space expanded over its basal half; costal veinlets simple; Sc fused to R behind the mid-length; more than ten cross-veins between R and Rs; Rs arising close to the base of the wing, with few pectinate branches (only three are seen), M_{1+2} dichotomously branched the first forking before the first forking of Rs; M_{1+2} forking distally, M_{3+4} much more basally; the stem of M_{1+2} is more than three times the stem of M_{3+4} ; the anterior branch of M_{3+4} bifurcates once more before the wing margin, the posterior branch is simple; a distinct cubito median Y-vein is present leaving an elliptic space between them; CuA pectinately branched; CuP simple. The anal area is broken showing only the pectinate 1A vein. Many simple cross-veins over all the wing.

Dimension

The incomplete wing. Length: 7mm
The complete wing. Length: probably about 10mm
Maximum width: 4mm at the distal 2/3 of the length.

Remarks

Very similar to *Permithone belmontensis* Tillyard, 1922, from the Upper Permian of New South Wales, but differs from it by having the stem of Rs very long; M_{3+4} forking much more basally, being the stem of M_{1+2} more than three times the size of the stem of M_{3+4} while in *P. belmontensis* M_{1+2} is just 1/3 longer than M_{3+4} ; the size almost the same, but much broader.

Occurrence

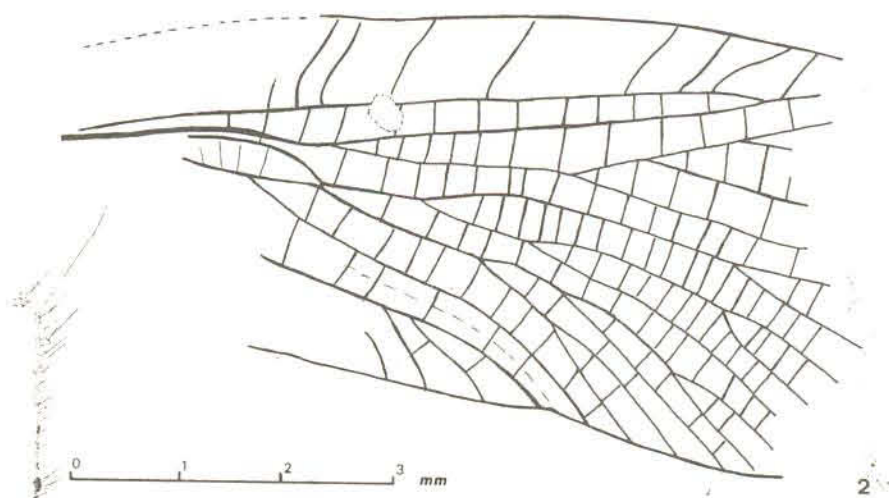
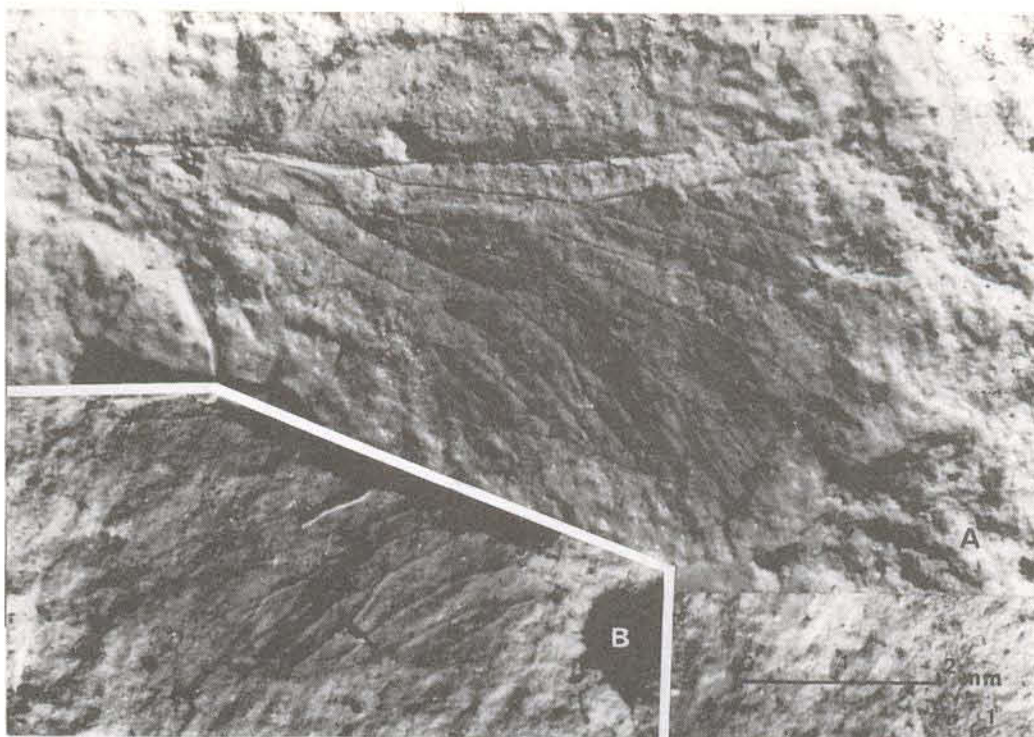
In a yellow silty shale of the Iratá Formation (Upper Permian) in a cutting at km 79 on the Porto Alegre-Uruguaiana road, Rio Grande do Sul, Brazil. Collector: Irajá Damiani Pinto.

3-BIBLIOGRAPHY

- CARPENTER, F.M. 1930. A Permian Blattid from Brazil. *Boletim do Serviço Geológico e Mineralógico do Brasil*, Rio de Janeiro, 50:4-10.
- MARTINOV, A.B. 1933. Permian fossil insects from the Archangelsk District II Neuroptera, Megaloptera and Coleoptera, with description of two new beetles from Tikkie Gory. *Trudy Paleontologicheskogo Instituta Akademiiy Nauk USSR*, Moscow, 2:63-96, text-fig.1-19, 1932 (Russian with English summary).
- MARTINOVA, O.M. 1952. Permian Neuroptera from USSR. *Akademiya Nauk USSR*, Moscow, 40:197-237, text-fig. 1-32.
1961. Super-orde Neuropteroidea (469-87) in Rodendorf et alii. Paleozoic Insect from Kuznetz Basin. *Trudy Paleontologicheskogo Instituta Akademiiy Nauk USSR*, Moscow, 85:1-705, 40 pl. In Russian.
1962. Ordo Neuroptera (272-82) in Rodendorf BB (Editor) Class Insecta. Osnovi Paleontologii. *Akademiya Nauk USSR*, Moscow, 5-16: 29-385, pl. 1-16 (In Russian).
- MEZZALIRA, S. 1948. *Phyloblatta pauloi* sp.nov. *O. IGG*, São Paulo, 4:(2): 1-3, 1 text-fig.
- PETRI, S. 1945. *Phyloblatta roxoi* sp. nov. *Boletim da Faculdade de Filosofia, Ciências e Letras, Geologia*, São Paulo, 135:(2):129-31, 2 text-fig.
- PINTO, I.D. 1972. Permian insects from Parana Basin, South Brazil. I Mecoptera. *Revista Brasileira de Geociências*, São Paulo, 2:(2):105-16,

pl.I-III.

- 1972b. Late Paleozoic insects and crustaceans from Parana Basin and their bearing on chronology and Continental Drift. *Anais da Academia Brasileira de Ciências*, Rio de Janeiro, 44: 247-54, 4 pl., 1 tab., suplemento.
- RIEK, E.F. 1953. Fossil Mecopteroid insects from the Upper Permian of New South Wales. *Record of the Australian Museum*, Sidney, 23(2):55-87, 67 text-fig., pl. V-VI.
- TILLYARD, R.J. 1922. Some new Permian insects from Belmont, N.S.W., in the collection of Mr. John Mitchell. *Proceedings Linnean Society of New South Wales*, Sidney, 47(3): 279-92, 6 Text-fig., pl. 33,34.
1926. Upper Permian insects of New South Wales. II The Orders: Mecoptera, Paramecoptera and Neuroptera, *Proceedings Linnean Society of New South Wales*, Sidney, 51:(3): 265-82, text-fig.



Permipsythone panfilovi Pinto et Ornellas, gen. et sp. nov.
Irati Fm., Upper Permian, State of Rio Grande do Sul, Brazil.

Fig. 1 - Photos of both sides (A, B) of an incomplete wing.
Holotype UFRGS - MP-I-5260.

Fig. 2 - Drawing of the same based on both (A, B) impressions of the wing.