Sains Malaysiana 41(3)(2012): 299–301

RESEARCH NOTES

Oreogrammitis translucens, a New Species of Fern (Polypodiopsida: Grammatidaceae) from Maliau Basin Conservation Area, Sabah, Malaysia

(*Oregrammitis translucens,* Suatu Species Baru Paku-pakis (Polypodiopsida: Grammitidaceae) dari Kawasan Pemuliharaan Lembangan Maliau, Sabah, Malaysia)

B. S. PARRIS, R. JAMAN & A. LATIFF*

ABSTRACT

A new species of fern, Oreogrammitis translucens, *is described and illustrated from Maliau Basin Conservation Area, Sabah, Malaysia.*

Keywords: Fern; Maliau Basin; new species; Oreogrammitis translucens

ABSTRAK

Suatu spesies baru, Oreogrammitis translucens, *telah diperihal dan diilustrasikan dari Kawasan Pemuliharaan Lembangan Maliau, Sabah, Malaysia.*

Kata kunci: Lembangan Maliau; Oreogrammitis translucens*; paku pakis; spesies baru*

INTRODUCTION

Parris and Latiff (1997) recognised and listed a total of seven genera and 110 species. The genera are *Acrosorus, Calymmodon, Ctenopteris, Grammitis, Prosaptia, Scleroglossum* and *Xiphopteris*. Recent studies had shown that the genus *Grammitis* is untenable because it is polyphyletic and in the recent treatment of the family (Parris 1986, 1990, 2007, 2010) recognised a total of 12 genera in Peninsular Malaysia alone. For Sabah there had been a few works on the fern flora (Jaman & Latiff 1995, 2010; Parris et al. 1992). A comprehensive collection of ferns and fern-allies was made in the Maliau Basin Conservation Area during the *Eucalyptus* Camp Expedition in 2006. Amongst the materials gathered were two collections of a new species of *Oreogrammitis*, *Oreogrammitis translucens* Paris and Jaman *sp. nov*.

OREOGRAMMITIS TRANSLUCENS PARRIS & JAMAN *sp.* ***nov.***

Type: R. Jaman MB2006-101, 1100 m alt., 19 June 2006, Sabah: Tawau, Kalabakan, Maliau Basin Conservation Area, Eucalyptus Camp, Trail 1 to the northern rim, (UKMB, holotypus.).

Species O. bongoensi in statura similis, sed textura laminae tenuiore cum venis maxime manifestis et brevioribus pilis differt.

The terminology of hair density is as follows: occasional, <1/mm^2; sparse, 1-2/mm^2; scattered, 3-5/mm^2; frequent, 6-10/mm^2; dense, >10/mm^2.

Rhizomes c. 0.7 mm diameter without scales, short-creeping, not branched, stipes not articulated to rhizome, phyllopodia absent. **Rhizome scales** c. 0.9 × 0.4 mm, narrowly lanceolate, acute at apex, cordate to pseudopeltate at base, sometimes curved over rhizome apex, medium red-brown, glabrous, not clathrate, not iridescent, dull to subglossy, cells in centre of scale isodiametric, cells not turgid, without cross-walls. **Stipes** 4-6 × c. 0.2 mm, with frequent to dense ± patent medium to dark red-brown simple setiform hairs 0.6-0.9 mm long. **Lamina** 40-52 × 2-3 mm, linear, bluntly acute at apex, long-attenuate at base, entire; texture membranous; with ± patent medium to dark red-brown simple setiform hairs scattered on abaxial surface of lamina (0.4-0.8 mm long), scattered on abaxial surface of mid-vein (1.0-1.3 mm long), scattered to frequent on margin (1.1-2.0 mm long), scattered to frequent on adaxial surface of lamina (1.0-2.2 mm long) and scattered on adaxial surface of mid-vein (1.4-2.5 mm long); mid-vein slightly prominent on both surfaces of lamina, slightly darker to darker on abaxial surface, concolorous to slightly darker on adaxial surface; lateral veins clearly visible without back-illumination, sometimes slightly prominent on both surfaces, concolorous to slightly darker on both surfaces, veins 1-forked, acroscopic branch very short, not extending beyond sorus, much shorter than basiscopic branch, each branch ending marked by an inconspicuous pale ± circular hydathode c. 0.1 mm diam. on adaxial surface of lamina, free. **Sori** 0.7-1.2 × 0.6-1.1 mm, ± circular to broadly elliptic in outline, on surface of lamina, discrete when mature, in 2 rows, 1 each side of mid-vein, in apical 1/5 to 1/4 of lamina, to 3-5 mm below apex, 3-7 in each row, adjacent to mid-vein and nearer to it than to margin, oblique to mid-vein. **Sporangia** 150-180 μm, with a solitary dark red-brown simple setiform hair 180-250 μm at apex adjacent to annulus; indurated cells of annulus 9-12. **Spores** 26-31 μm diam. (Figure 1(a)-(e)).

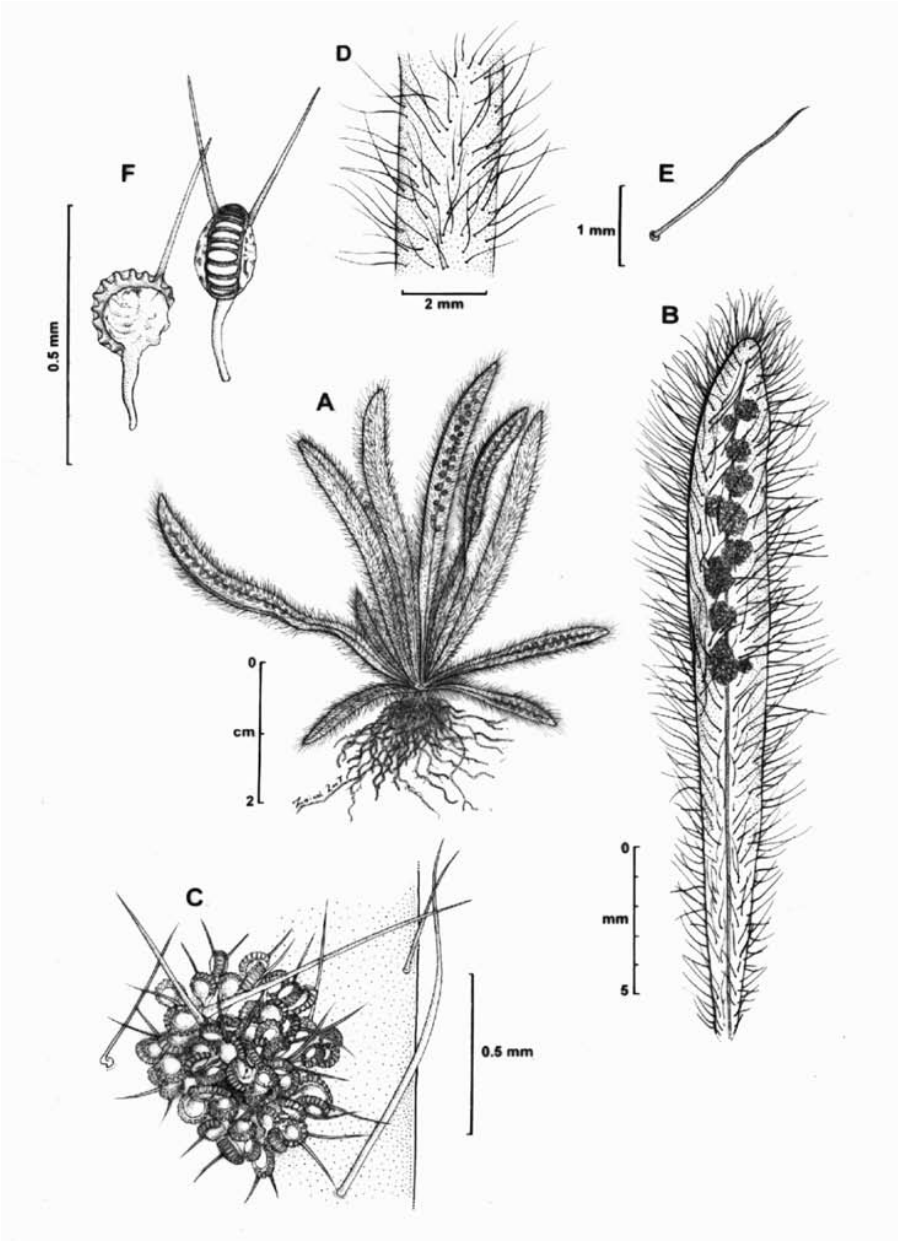

FIGURE 1. *Oreogrammitis translucens*. A. Habit B. Frond bearing sorus and hairs C. Shows sorus with hairs on annulus of sporangium D. Hairs on apart of frond D. Shows the sporangia bearing the unicellular hairs. E. Unicellular hair [*Jaman, MB2006-101*].

Distribution. Sabah, Maliau Basin Conservation Area, known only from the type locality.

Specimens examined in addition to type*:* Sabah, Tawau, Kalabakan, Maliau Basin Conservation Area, Eucalyptus Camp, Trail 1 to the northern rim, 1100 m, 19 June 2006, *Jaman MB2006-102* (UKMB, Paratype).

The new species, *Oreogrammitis translucens* is similar in size to *O. bongoensis* (Copel.) Parris of Brunei and Sarawak, but differs in thinner lamina texture with the veins being very clearly visible and shorter stipe and lamina hairs. In *O. bongoensis* the hairs on the stipe and the lamina are as follows: stipe hairs 0.9-3.3 mm, dense; hairs on abaxial surface of lamina 1.7-2.7 mm, occasional to sparse; hairs on abaxial surface of mid-vein 1.6-3.0 mm, occasional to scattered; hairs on margin 1.9-3.4 mm, scattered to frequent; hairs on adaxial surface of lamina 2-4 mm, occasional to scattered; hairs on adaxial surface of mid-vein 2.2-3.0 mm, occasional to scattered.

ACKNOWLEDGEMENT

We are grateful to the Academy of Science Malaysia for inviting the second and third authors to survey the pteridophyte flora of the *Eucalyptus* Camp of the Maliau Basin Conservation Area, especially to Datuk Dr. Mazlan

Othman, Professor Dato' Dr. Ibrahim Komoo, and Dr. Waidi Sinun of The Sabah Foundation, for their hospitality and excellent base-camp and access support. Special thanks to the Dean of Faculty of Science and Technology, Profesor Dr. Sahrim bin Hj. Ahmad and also to former Dean, Professor Dr. Aminah Abdullah; the Chairman, School of Environmental and Natural Resource Sciences, Professor Dr. Hj. Sahibin bin Abdul Rahim for their permission and financial support. Particular thanks to the UKMB Herbarium Curator, Mr. Ahmad Damanhuri Mohammad for his encouragement and support on the pteridophyte research in the Malesian region and also for permission to use the UKMB voucher specimens.

REFERENCES

Jaman, R. & A. Latiff, 1995. On some pteridophytes of Sayap-Kinabalu Park, Sabah. In: Ismail, G & Din, L.B. (eds.). *Scientific Journey Through Borneo*. Selangor: Pelanduk Publications pp. 67-104.

Jaman, R. & A. Latiff, 2010. An account of the pteridophytes at the Eucalyptus Camp, Maliau Basin. In: I. Komoo, M. Othman, Ikram M. Said & A. Latiff (Eds.). *Maliau Basin. Physical Environment and Biological Diversity of the Northern Rims*, Kuala Lumpur: Academy of Sciences Malaysia, pp. 157-169.

Parris, B.S. 1986. Grammitidaceae of Peninsular Malaysia and Singapore. *Kew. Bull*. 41: 491-517.

Parris, B.S. 2007. Five new genera and three new species of Grammitidaceae. *Gardens Bull. Singapore* 58(2): 233-274.

Parris, B.S. 1990. Noteworthy species of Grammitidaceae from Southeast Asia. *Hooker's Icones Plantarum* 40(4): pp. i-iv, 1-128.

Parris, B.S. 2010. Grammitidaceae. In *Flora of Peninsular Malaysia*, edited by B.S. Parris, R. Kiew, R.C K. Chung, L.G. Saw & E. Soepadmo. *Series I: Ferns and Lycophytes* 1: 131-206.

Parris, B.S. & A. Latiff. 1997. Towards a pteridophyte flora of Malaysia: a provisional checklist of taxa. *Malayan Nature Journal* 50: 235-280.

Parris, B.S., R.S. Beaman, & J.H. Beaman. 1992. *The Plants of Mount Kinabalu*. 1. Ferns and Fern Allies. Royal Botanic Gardens, Kew. 165 pp.

B.S. Parris
Fern Research Foundation
21 James Kemp Place
Kerikeri, Bay of Islands
New Zealand 0230

R. Jaman & A. Latiff*
Faculty of Science and Technology
Universiti Kebangsaan Malaysia
43600 UKM, Bangi, Selangor D.E.
Malaysia

*Corresponding author; email: latiff@ukm.my

Received: 13 July 2011
Accepted: 12 August 2011