

**FILICALEAN FERNS FROM THE TERTIARY OF WESTERN  
NORTH AMERICA: *OSMUNDA* L. (OSMUNDACEAE :  
PTERIDOPHYTA), *WOODWARDIA* SM. (BLECHNACEAE :  
PTERIDOPHYTA) AND ONOCLEOID FORMS  
(FILICALES : PTERIDOPHYTA)**

K.B. PIGG<sup>1</sup>, M.L. DEVORE<sup>2</sup> & W.C. WEHR<sup>3†</sup>

<sup>1</sup>School of Life Sciences, PO Box 874501, Arizona State University, Tempe, AZ 85287-4501, USA; <sup>2</sup>Department of Biological & Environmental Sciences, 135 Herty Hall, Georgia College & State University, Milledgeville, GA 31061, USA; <sup>3</sup>Burke Museum of Natural History and Culture, University of Washington, PO Box 353010, Seattle, WA 98195-3010, USA

†deceased, 12 April, 2004

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**ABSTRACT**

Recently discovered frond remains assignable to *Osmunda wehrii* Miller (Osmundaceae), as well as several new records of *Woodwardia* (Blechnaceae), and a new onocleoid fern are reported from the Tertiary of western North America. Pinnule morphology of *O. wehrii* supports the inclusion of this species in *Osmunda* subgenus *Osmunda*, as originally proposed by Miller and suggests a close affinity to *O. regalis* L. and *O. japonica* Thunb. New occurrences of the *Woodwardia aerolata* clade are noted for the Late Paleocene of western North Dakota and of a highly reticulate-veined form from the Miocene of western Washington. Re-evaluation of specimens of *W. deflexipinna* H. Smith (Succor Creek, Miocene) confirms its close affinity to *W. virginica* J. Smith. A fern with onocleoid anatomy is recognized from the middle Eocene Clarno Nut Beds of Oregon. Together, these examples demonstrate that the presence of critical taxonomic features, even in fragmentary remains, can increase our knowledge of filicalean fern evolution, biogeography and ecology in the Tertiary.