

## PTERIDOPHYTA: POLYPODIACEAE

### THE STATUS OF $\times$ *PLEOPODIUM* IN AFRICA

A widespread central and southern African taxon almost intermediate between *Pleopeltis macrocarpa* (Bory ex Willd.) Kaulf and *Pleopeltis polypodioides* (L.) E.G. Andrews & Windham subsp. *ecklonii* (Kunze) J.P.Roux was shown convincingly by Anthony & Schelpe (1985) to arise from the hybridization of these two polypods. As at that time, *Pleopeltis polypodioides* subsp. *ecklonii* was referred to the genus *Polypodium* L., these authors necessarily established the hybrid genus  $\times$  *Pleopodium* Schelpe & N.C.Anthony to accommodate their putative hybrid,  $\times$  *Pleopodium simianum* Schelpe & N.C.Anthony. Roux

(2001) estimated that  $\pm$  10 such  $\times$  *Pleopodium* taxa are known from the neotropics, with only one recorded for Africa (Roux 2009). We have been able to trace only five validly published  $\times$  *Pleopodium* taxa worldwide (Anthony & Schelpe 1985; Mickel & Beitel 1987).

Following the transfer in Windham (1993) of the typical (neotropical) subspecies of *Polypodium polypodioides* (L.) Watt to *Pleopeltis* Humb. & Bonpl. ex Willd., Roux (2009) provided a new combination for the African subsp. *ecklonii*. Despite recognizing both puta-

tive parents of the southern African hybrid as belonging to *Pleopeltis*, Roux (2009) nevertheless retained it in  $\times$  *Pleopodium*. This note corrects this oversight and accordingly provides a necessary new combination.

The Code (Art. H.10.1) requires a nothospecies to have a type (McNeill *et al.* 2006), as designated by Anthony & Schelpe (1985). However, nothogeneric names are condensed hybrid formulae (Art. H.6.1) defined by parentage and do not have a type (McNeill *et al.* 2006). Accordingly, although the first nothospecies described (Anthony & Schelpe 1985) represents a hybrid between two species of *Pleopeltis*, the nothogenus  $\times$  *Pleopodium* remains a valid name applicable to (condensed formula) hybrids between *Pleopeltis* and *Polypodium*.

As the Code (Art. H.5.2) requires that the correct rank of a nothotaxon is the lower of the postulated parental ranks where these differ (McNeill *et al.* 2006), we must necessarily recognize the African hybrid at nothosub-specific rank. So to use nothospecific rank for a hybrid between *Pleopeltis macrocarpa* and *Polypodium polypodioides* subsp. *ecklonii* is incorrect.  $\times$  *Pleopodium simianum* is the correct name for all hybrids between *Pleopeltis macrocarpa* and *Polypodium polypodioides*. It would appear that there is as yet no validly published name for the hybrid *Pleopeltis macrocarpa  $\times$  *Polypodium polypodioides* subsp. *ecklonii* or for that matter *Pleopeltis macrocarpa  $\times$  *Pleopeltis polypodioides* subsp. *ecklonii*. We note that Schelpe & Anthony's name is validly published apart from being at a rank not in accordance with the aforementioned article of the Code. This, and the inclusion by Roux (2009) of both putative parents in the same genus, makes the new combination necessary.**

Whereas Anthony & Schelpe (1985) identified the first valid publication of the name *Polypodium lanceolatum* var. *sinuatum* in Sim (1892), they seemingly overlooked the earlier publication of Sim (1891), *Handbook of the ferns of Kaffraria*. Subsequent workers (Burrows 1990; Roux 2001; Roux 2009) have accepted the interpretation of Anthony & Schelpe (1985). Although there was no explicit citation of a voucher in the protologue (Sim 1891) for *Polypodium lanceolatum* var. *sinuatum*, only one specimen implicitly mentioned by Sim from the correct location and time exists. We therefore nominate it as lectotype. There is a second Sim specimen from Perie (Sim TRV445C in PRE) but this is dated 1891 and as we cannot be certain that it existed before the protologue was published it cannot be designated a type. We have been unable to trace Sim material from the adjacent Evelyn Valley (Eastern Cape), mentioned by Sim (1891).

Roux (2009) cites as syntypes of *Polypodium lanceolatum* var. *sinuatum* some of the specimens mentioned in Sim (1892). However, as none of them were cited by Sim (1891), these are not available for selection (Code Artt. 9.2, 9.9, 9.10, 9.11 and 9.17; McNeill *et al.* 2006). We have, however, traced a specimen that was available, and necessarily overturn Roux's citations.

***Pleopeltis*  $\times$  *simiana* (Schelpe & N.C. Anthony) N.R. Crouch & Klopper subsp. *simiana*, comb. nov.**

$\times$  *Pleopodium simianum* Schelpe & N.C. Anthony in *Bothalia* 15: 557 (1985). Type: South Africa, [KwaZulu-Natal], Lions River District, Everglades, 15-10-1964, *Moll 1263* (BOL, holo!; PRE, iso!).

*Polypodium lanceolatum* L. var. *sinuatum* Sim: 51 (1891). *Pleopeltis macrocarpa* (Bory ex Willd.) Kaulf. forma *sinuata* (Sim) Schelpe: 96 (1969). Type: Eastern Cape, 3227 (Stutterheim): Perie, 4000 ft [1 220 m], (–CB), 12-1890, *Sim TRV447C* (PRE, lecto!., designated here).

This paper does not make any combination for the hybrid *Pleopeltis macrocarpa  $\times$  *P. polypodioides* subsp. *polypodioides*, because no such hybrid from the neotropics is known to us. Should it exist or be made artificially, it would need to be named as a second nothosubspecies of *Pleopeltis  $\times$  *simiana*. We note though that actual hybrids between *Pleopeltis s.str.* and *Polypodium s.str.* ( $\times$  *Pleopodium*) are of increasingly doubtful existence, based on recent treatments of neotropical polypods (Windham 1993; Hooper 1995; Salino 2009).**

#### ACKNOWLEDGEMENT

We thank Dr John McNeill of the Royal Ontario Museum and Royal Botanic Gardens, Edinburgh for providing valuable nomenclatural insights.

#### REFERENCES

- ANTHONY, N.C. & SCHELPE, E.A.C.L.E. 1985.  $\times$  *Pleopodium*—a putative intergeneric fern hybrid from Africa. *Bothalia* 15: 555–559.
- BURROWS, J.E. 1990. *Southern African ferns and fern allies*. Frandsen, Sandton.
- HOOPER, E.A. 1995. New combinations in the *Pleopeltis macrocarpa* group (Polypodiaceae: Polypodiaceae). *American Fern Journal* 85: 75–82.
- MCNEILL, J., BARRIE, F.R., BURDET, H.M., DEMOULIN, V., HAWKSWORTH, D.L., MARHOLD, K., NICOLSON, D.H., PRADO, J., SILVA, P.C., SKOG, J.E., WIERSEMA, J.H. & TURLAND, N.J. 2006. International Code of Botanical Nomenclature (Vienna Code) adopted by the Seventeenth International Botanical Congress Vienna, Austria, July 2005. *Regnum Vegetabile* 146: 1–568. Gantner Verlag, Liechtenstein.
- MICKEL, J.T. & BEITEL, J.M. 1987. Notes on  $\times$  *Pleopodium* and *Pleopeltis* in tropical America. *American Fern Journal* 77: 16–27.
- ROUX, J.P. 2001. *Conspectus of southern Africa Pteridophyta*. South African Botanical Diversity Network Report No. 13. SABONET, Pretoria.
- ROUX, J.P. 2009. Synopsis of the Lycopodiophyta and Pteridophyta of Africa, Madagascar and neighbouring islands. *Strelitzia* 23. South African National Biodiversity Institute, Pretoria.
- SALINO, A. 2009. New combinations in *Pleopeltis* (Polypodiaceae) from southeastern Brazil. *American Fern Journal* 99: 106–108.
- SCHELPE, E.A.C.L.E. 1969. The Polypodiaceae of continental tropical Africa. Reviews of tropical Africa Pteridophyta 1. *Contributions of the Bolus Herbarium* 1: 87–184.
- SIM, T.R. 1891. *Handbook of the ferns of Kaffraria*. Taylor & Henderson, Aberdeen.
- SIM, T.R. 1892. *The ferns of South Africa*, edn 1. Juta, Cape Town.
- WINDHAM, M.D. 1993. New taxa and nomenclatural changes in the North American fern flora. *Contributions of the University of Michigan Herbarium* 19: 31–61.

N.R. CROUCH\*, R.R. KLOPPER\*\* and H.F. GLEN\*\*\*

\* Ethnobotany Unit, South African National Biodiversity Institute, P.O. Box 52099, Berea Road, 4007 Durban / School of Chemistry, University of KwaZulu-Natal, 4041 Durban.

\*\* Biosystematics Research and Biodiversity Collections Division, South African National Biodiversity Institute, Private Bag X101, 0001 Pretoria.

\*\*\* KwaZulu-Natal Herbarium, South African National Biodiversity Institute, P.O. Box 52099, Berea Road, 4007 Durban.

MS. received: 2009-10-07.