

PTERIDOPHYTA

OTTO KUNTZE'S LYCOPOD AND FERN COLLECTIONS FROM SOUTH AFRICA

Carl Ernst Otto Kuntze visited South Africa from 8 January–24 March 1894. The itinerary of this infamous botanist is published in volume 3 of his *Revisio generum plantarum* (1898) and contains an account of the plants he collected during his 18 month stay in South Africa (1891–1892), and his visit to South Africa. A detailed account of Kuntze's travels in South Africa is provided by Zanoni (1980) and Gunn & Codd (1981).

Dyer (1941) gave an account of the new species based on Kuntze's South African collections, but he omitted the *Cryptogamae vasculares*—the lycopods and ferns, published on pages 376–381 (part 3) of volume 3 of the *Revisio*. The American ferns collected during his stay there were dealt with by F.A.M. Kuhn, whereas Kuntze dealt with the South African ferns himself. The larger part of Kuntze's herbarium is housed in the New York Botanical Garden Herbarium (NY) where I recently had the opportunity to study many of Kuntze's South African lycopod and fern collections.

Kuntze has been described as a controversial nomenclatural reformer. He did not accept the 1867 Candolle's Laws, or Paris Code of Botanical Nomenclature and published 1 074 replacement generic names and more than 30 000 new combinations in the first two volumes of his *Revisio* (1891). He also accepted 1735, the publication date of the first edition of Linnaeus's *Systema naturae* as the starting point of generic names. It must be noted that the Paris Code was a set of rules that, at the time, had no international standing. Only with the adoption of the first *International Rules of Botanical Nomenclature* in 1906 (Briquet 1906) (subsequently the *International Code of Botanical Nomenclature*), was 1 May 1753, the publication date of Linnaeus's *Species plantarum*, officially accepted as the starting point for the use of the binomial naming system. When proposing new combinations, Kuntze cited

his name first, followed by the author of the basionym in brackets, i.e. *Allosorus involutus* O.Ktze (Sw.). The abbreviation of Kuntze's name in this publication is used somewhat inconsistently but is regularly given as OK.

In dealing with the *Cryptogamae vasculares* of South Africa, Kuntze proposed three new combinations, described four new varieties, and one new form. Apart from a list of Kuntze's types in NY (Zanoni & Schofield 1981), the list has been unnoticed or ignored until now, as none of the combinations made by him in volume 3 of the *Revisio* are listed in any of the works dealing with South Africa's lycopod and fern flora.

A complete list of the South African taxa, the locality where originally collected, and the combinations proposed by him in the *Revisio* volumes are provided here. The first name, complete with author citation, is the name used by Kuntze and is printed in italics. The currently accepted name is printed in bold. Collecting details are provided for all the newly described taxa. Lectotypifications are made for *Notholaena inaequalis* Kunze γ *eckloniana* (Kunze) Kuntze var. *rawsonii* (Pappe) Kuntze forma *minor* Kuntze and *Spicanta punctulata* (Sw.) Kuntze var. *swellendamensis* Kuntze. If no specimen of a name is mentioned, the specimens were not found at NY in February 2009 by the present author.

Allosorus calomelanos C.Presl. *Allosorus calomelanos* (Sw.) C.Presl = **Pellaea calomelanos** (Sw.) Link. Südafrika: Bloemfontein, Beaufortwest, Cogmanskloof, Van Reenen's Pass.

Allosorus involutus (Sw.) Kuntze, *Revisio generum plantarum* 2: 806 (5 Nov. 1891). Isonym for *Allosorus involutus* (Sw.) C.Presl = **Cheilanthes involuta** (Sw.) Schelpe & N.C.Anthony. Transvaal: Pretoria.

Allosorus quadripinnatus (Forssk.) Kuntze, *Revisio generum plantarum* 2: 806 (5 Nov. 1891). Isonym for *Allosorus quadripinnatus* (Forssk.) C.Presl = **Cheilanthes quadripinnata** (Forssk.) Kuhn. Capland: Cathcart.

Allosorus viridis (Forssk.) Kuntze, Revisio generum plantarum 2: 806 (5 Nov. 1891) = **Cheilanthes viridis** (Forssk.) Sw. Capland: Perie-Wald.

Asplenium protensum Schrad. Capland: Perie-Wald.

Asplenium rutifolium Kunze = **Asplenium rutifolium** (P.J.Bergius) Kunze. Capland: Perie-Wald.

Cheilanthes hirta Sw. Capland: Molteno.

Cheilanthes parviloba Sw. = **Cheilanthes parviloba** (Sw.) Sw. Capland: Cogmanskloof.

Cyathea dregei Kunze = **Alsophila dregei** (Kunze) R.M.Tryon. Capland: Toise River Station.

Dryopteris adiantiformis (G.Forst.) Kuntze, Revisio generum plantarum 3,3: 378 (28 Sep. 1898) = **Rumohra adiantiformis** (G.Forst.) Ching. Capland: Perie-Wald.

Dryopteris filix-mas (L.) Schott = **Dryopteris pentheri** (Krasser) C.Chr. Natal: Van Reenen's Pass. Three sheets from this locality, presumably from the same plant, exist at NY.

Dryopteris filix-mas (L.) Schott var. *elongata* Hook. & Baker = **Dryopteris inaequalis** (Schltdl.) Kuntze, Revisio generum plantarum 2: 813 (5 Nov. 1891). Capland: Perie-Wald.

Gleichenia polypodioides (L.) Sm. Natal: Krantzkloof.

Gymnogramme lanceolata (Sw.) Hook. = **Loxogramme abyssinica** (Baker) M.G.Price. Capland: Perie-Wald.

Hemitelia capensis (L.f.) Kaulf. = **Alsophila capensis** (L.f.) J.Sm. Capland: Swellendam.

Hypolepis bergiana (Schltdl.) Hook. = **Cheilanthes bergiana** Schltdl. Capland: Perie-Wald.

Hypolepis sparsisora (Schrad.) Kuhn, as '*sparsiflora*'. Capland: Perie-Wald.

Lycopodiodes kraussianum (Kunze) Kuntze, Revisio generum plantarum 2: 826 (5 Nov. 1891) = **Selaginella kraussiana** (Kunze) A.Braun ex Kuhn. Capland: Perie-Wald.

Lycopodium cernuum L. = **Lycopodiella cernua** (L.) Pic.Serm. Natal: Krantzkloof.

Mohria caffrorum Kunze = **Mohria vestita** Baker. Three collections were located at NY: 1, Capland, Cathcart, 1 400 m, 25-2-1894; 2, Zwaarkop, Natal, 960 m, 13-3-1894; 3, Van Reenen's Pass, Natal, 1 000 m, 20-3-1894. Kuntze in the publication gives: Natal: 550-1 800 m. Capland: Cathcart.

Notholaena inaequalis Kunze α *tomentosa* Kuntze var. *normalis* Kuntze, Revisio generum plantarum 3,3: 379 (28 Sep. 1898), as '*Notochlaena*' = **Cheilanthes eckloniana** (Kunze) Mett. Var. *normalis* is an autonym of *a. tomentosa* under the current Code [McNeill *et al.* (2006) Articles 24.3, 26]. Type: Capland: Middelburg Road, 1 350 m, 13-2-1894, Kuntze s.n. (NY127454, holo.!).

Notholaena inaequalis Kunze α *tomentosa* Kuntze var. *minor* Kuntze, Revisio generum plantarum 3,3: 379 (28 Sep. 1898), as '*Notochlaena*' = **Cheilanthes eckloniana** (Kunze) Mett. Type: Capland: Middelburg Road, 13-2-1894, Kuntze s.n. (NY127455, holo.!).

Notholaena inaequalis Kunze α *tomentosa* Kuntze var. *buchananii* (Baker) Kuntze, Revisio generum plantarum 3,3: 379 (28 Sep. 1898), as '*Notochlaena*' = **Cheilanthes inaequalis** (Kunze) Mett. var. **buchananii** (Baker) Schelpe.

Notholaena inaequalis Kunze β *pilosa* Kuntze, Revisio generum plantarum 3,3: 379 (28 Sep. 1898), as '*Notochlaena*' = **Cheilanthes contracta** (Kunze) Mett. ex Kuhn. Type: Capland: Cogmanskloof, Kuntze s.n. (NY127456!, holo.; NY127457!, iso.). Note: even though the New York Herbarium specimen numbers differ, they are duplicates of the same collection.

Notholaena inaequalis Kunze γ *eckloniana* (Kunze) Kuntze, Revisio generum plantarum 3,3: 379 (28 Sep. 1898), as '*Notochlaena*' = **Cheilanthes eckloniana** (Kunze) Mett.

Notholaena inaequalis Kunze γ *eckloniana* (Kunze) Kuntze var. *rawsonii* (Pappe) Kuntze, Revisio generum plantarum 3,3: 379 (28 Sep. 1898) as '*Notochlaena*' = **Cheilanthes rawsonii** (Pappe) Mett. ex Kuhn.

Notholaena inaequalis Kunze γ *eckloniana* (Kunze) Kuntze var. *rawsonii* (Pappe) Kuntze forma *minor* Kuntze, Revisio generum plantarum 3,3: 379 (28 Sep. 1898), as '*Notochlaena*' = **Asplenium cordatum** (Thunb.) Sw. Type: Capland: Cradock, 940 m, 12-2-1894, Kuntze s.n. (NY!, lecto., here designated).

Kuntze's diagnosis for forma *minor* is given as '*frons angusta*' and it is based on material from Cradock. Two specimens from this locality are present at NY. The name forma *minor* is not provided on any labels of the two specimens. One sheet consists of nine separately mounted fronds of *Asplenium cordatum*, whereas the second sheet has three mounted specimens. Specimen A (specimens numbered by me on the sheet) is *A. cordatum*, whereas specimens B and C are *Cheilanthes eckloniana*. *Cheilanthes rawsonii* does not occur in the Cradock District, but rather in the northwestern corner of South Africa and southwestern parts of southern Namibia, an area not visited by Kuntze. As with many of Kuntze's collections, the material is not well prepared and these collections are no exception. It is perhaps for this reason that the material is incorrectly identified. The sheet with the nine separately mounted fronds is here selected as lectotype of forma *minor* as it conforms to the brief diagnosis.

Polypodium incanum Sw. = **Pleopeltis polypodioides** (L.) E.G.Andrews & Windham subsp. **ecklonii** (Kunze) J.P.Roux. Capland: Perie-Wald.

Polypodium lanceolatum L. var. *sinuatum* Sim = \times **Pleopodium simianum** Schelpe & N.C.Anthony. Capland: Cathcart.

Polypodium lineare Thunb. Natal: Van Reenen's Pass. Most likely **Pleopeltis macrocarpa** (Bory ex Willd.) Kaulf. or **Lepisorus schraederi** (Mett.) Ching.

Polypodium phymatodes L. = **Microsorium scolopendria** (Burm.f.) Copel. Süd-Afrika: Delagoa Bay.

Pteris flabellata Thunb. as '*flabellulata*' = **Pteris dentata** Forssk. Capland: Perie-Wald.

Schizaea pectinata Sm. = **Schizaea pectinata** (L.) Sw. Capstadt: Devil's Peak.

Spicanta punctulata (Sw.) Kuntze, Revisio generum plantarum 2: 822 (5 Nov.1891) = **Blechnum punctulatum** Sw. var. **punctulatum**. Capland: Molteno, Caledon.

Spicanta punctulata (Sw.) Kuntze var. *swellendamensis* Kuntze, Revisio generum plantarum 3,3: 381 (28 Sep. 1898) = **Blechnum punctulatum** Sw. var. **punctulatum**. Type: Capland: Swellendam, 300 m, 20-1-1894, Kuntze s.n. (NY127458!—fertile frond, lecto., here designated; NY127461!—sterile frond, iso.). Note: even though the New York Herbarium specimen numbers differ, they are duplicates of the same collection.

Todea barbara T.Moore = **Todea barbara** (L.) T.Moore. Capland: Swellendam.

Trichomanes pyxidiferum L. Most likely **Crepidomanes melano-trichum** (Schltdl.) J.P.Roux. Capland: Perie-Wald.

Zaluzianskya capensis (A.Braun) Kuntze, Revisio generum plantarum 2: 823 (5 Nov.1891) = **Marsilea capensis** A.Braun. Capland: Molteno.

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