

ANNALS

MEDEDELINGEN

OF THE

VAN HET

Transvaal Museum.

VOL. III.

MAY, 1912.

No. 3.

A FIRST CHECK-LIST OF THE FLOWERING PLANTS AND FERNS OF THE TRANSVAAL AND SWAZILAND.

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INTRODUCTORY NOTE.

THIS first attempt at a published check-list of Transvaal plants does not profess to be either complete or critical, and we hope that its publication will induce readers to bring to our notice records which have been overlooked or species not yet recorded. Of the latter we are conscious that there are many, but these await the opportunity for critical study in comparison with authentically named specimens, most of which are to be found only in the larger European herbaria, more particularly those of Kew, Berlin, and Zurich. Though we have tried to catalogue all the literature, there are a few publications to which we have not had access, and the Rev. F. A. Rogers has kindly called attention to some which had been accidentally overlooked.

A census of the list gives approximately 3240 species, included in 920 genera and 157 families.

In its preparation I have mainly followed the Englerian arrangement of families and genera, as recorded by De Dalla Torre and Harms in their *Genera Siphonogamarum*. For the convenience of those more accustomed to the arrangement of Bentham and Hooker as followed in the *Flora Capensis*, a synopsis of the families is given on pp. 123-126, and an index of genera and families on pp. 127-172.

It has been considered wise to follow recent writers on the South African flora in their critical treatment of genera in the larger families, even if not in accord with De Dalla Torre and Harms; e.g. Mr. N. E. Brown in the Asclepiadaceæ and Labiatæ, Mr. R. A. Rolfe in the Selagineæ (here included in the Scrophulariaceæ in accordance with the Englerian system), Dr. Stapf in the Gramineæ, and Professor H. H. W. Pearson in the Thymelæaceæ. To enable a comparison to be made between the arrangement of this list and that of the *Genera Siphonogamarum*, and for means of reference, the generic and family numbers of the latter are here given in parentheses after the names.

Although inconsistent with the systematic arrangement of families and genera, the species are arranged alphabetically, partly from lack of information

as to the relationships of many of those described since the publication of the earlier volumes of the *Flora Capensis*, but partly also for convenience of reference in the field and herbarium, which is the primary object of a check list. The scientific arrangement of families and genera has been adopted, however, as being less subject to change, and therefore more easily remembered and followed, especially when both synopsis and index are furnished.

The names of alien species naturalized or found wild in the country are printed in italics. Genera which are represented only by alien species are indicated by an asterisk before the name. It is not always easy to determine whether a species is alien or otherwise, e.g. in the case of *Cynodon Dactylon*, and it is possible that some species are erroneously treated as such.

Species admitted on doubtful authority are included within brackets and queried.

There are in our collections many species known to differ from any of those recorded here, and which are not yet identified; these have usually been omitted unless they belong to a genus not otherwise represented.

The amount of work involved in the preparation of a check-list, bare as it is, would astonish any one who has not attempted to make one. Though mainly a compilation, it involves no little critical work in the elimination of synonyms, homonyms, and erroneous records. In spite of every care, mistakes have undoubtedly been made, more than one such having come to light in the final reading of the MSS. before sending it to the printer. It would be impossible that no mistakes should have escaped detection; such will be found more easily, however, through the publication of this list, and will be corrected in the annotated catalogue now in course of preparation and intended to be published in the *South African Journal of Science*, from time to time, as completed.

Some will doubtless inquire why we publish this bare and necessarily incomplete list, instead of waiting for the completion of an accurate catalogue. Such was our intention, but the need was felt for a preliminary check-list to aid in the preparation of the more critical catalogue; moreover, the prospect of immediate publication of the latter, in complete form, was too remote to meet the needs of local botanists. A check-list is a valuable means of securing greater accuracy and completeness in the annotated catalogue. It is rather the fashion among professional botanists and zoologists to scorn the check-list, as such, but it is noticeable that the working biologist is usually glad to make use of it when the work has been done.

A check-list is also of great assistance in delimiting the geographical distribution of species, and the writer has felt the need of it greatly in the pursuit of his work in economic botany. It is also of value in stimulating the search for additional species by amateurs and nature lovers, which also hastens the completion of a full catalogue, and finally of a flora.

In the preparation of this list I have been greatly assisted by Mrs. Pott-Leendertz, who has furnished a large number of records and localities from the herbarium of the Transvaal Museum, and she is entirely responsible for the determination of the species recorded by her. Miss S. M. Stent has given valuable assistance in the determination of some of the records based on my own collections. To the late Dr. Bolus we were all deeply indebted for much valuable assistance and for his constant willingness to help. We are also indebted to Miss L. Kensit, F.L.S., Mr. J. Medley Wood, A.L.S., Dr. S. Schönland, F.L.S., Professor H. H. W. Pearson, F.L.S., Mr. T. R. Sim, F.L.S., Mr. E. E. Galpin, F.L.S., the Director and Staff of the Royal Botanic Gardens, Kew; Professor Dr. Hans Schinz, and Mr. Spencer le M. Moore, F.L.S., for assistance in [determining critical species or plants

in which they are particularly interested. Finally, from Mrs. A. Tabateau, Mrs. Burt-Davy, and Miss E. Tennant we have received much help in the tedious work of extracting records and verifying references, and to the latter we are indebted for the patience and pains taken in typing out the lists and compiling the index.

While it is recognized that there is some objection to publishing new combinations in a check list, there are a number of plants which have been waiting some time for names under the genus to which they are now assigned in *Die Natürlichen Pflanzenfamilien*. In dealing with these there were three alternatives open: (1) to leave them under the old generic name, which would involve the recognition of an unnecessary number of genera; (2) to write them down as, for example, "*Berkheya* sp. (= *Stobæa onopordifolia* DC.)", which is cumbersome and occupies too much space, while leaving the plant without a proper name by which to handle it; (3) to rename them under the genus to which they are assigned. Of these the third seemed to be the least objectionable, and has been followed. In doing so I have tried to attribute the new combination to the author who has proposed the transfer, except where such change involved the adoption of an entirely new specific name. Dr. Stapf has most kindly given permission to complete his proposed transfer of certain of our species of *Andropogon* to *Cymbopogon*, which he restored to generic rank when working up the oil-grasses of India.

As far as we are aware the following new combinations appear here for the first time:—

- Adenia digitata* (Harv.) Harms. = *Modecca digitata* Harv.
Adenia gummifera (Harv.) Harms. = *Modecca gummifera* Harv.
Adenia hastata (Harv.) Harms. = *Modecca hastata* Harv.
Anemone canescens (Szyz.) Prantl. = *Knowltonia canescens* Szyz.
Anemone transvaalensis (Szyz.) Prantl. = *Knowltonia transvaalensis* Szyz.
Anemone Knowltonia Burt-Davy = *Knowltonia gracilis* DC., not *Anemone gracilis* Fr. Schmidt.
Barbacenia humilis (Baker) Pax. = *Vellozia humilis* Baker.
Barbacenia retinervis (Baker) Pax. = *Vellozia retinervis* Baker.
Barbacenia rosea (Baker) Pax. = *Vellozia rosea* Baker.
Barbacenia Schlechteri (Baker) Pax. = *Vellozia Schlechteri* Baker.
Barbacenia villosa (Baker) Pax. = *Vellozia villosa* Baker.
Barbacenia violacea (Baker) Pax. = *Vellozia violacea* Baker.
Barbacenia viscosa (Baker) Pax. = *Vellozia viscosa* Baker.
Berkheya echinacea (Harv.) O. Hoffm. = *Stobæa echinacea* Harv.
Berkheya onopordifolia (DC.) O. Hoffm. = *Stobæa onopordifolia* DC.
Berkheya Radula (Harv.) O. Hoffm. = *Stobæa Radula* Harv.
Berkheya speciosa (DC.) O. Hoffm. = *Stobæa speciosa* DC.
Bonamia capensis (Baker) Peter = *Breweria capensis* Baker.
Bonamia capensis var. *oligotricha* (Baker) Peter = *Breweria capensis* var. *oligotricha* Baker.
Bonamia suffruticosa (Schinz) Peter = *Breweria suffruticosa* Schinz.
Bonamia suffruticosa var. *hirsutissima* (Hall. f.) Peter = *Breweria suffruticosa* var. *hirsutissima* Hall. f.
Choritænia capensis (Sond. & Harv.) Benth. & Hook. = *Pappea capensis* Sond. & Harv. (1862), not of Ecklon & Zeyher.
Cissus cirrhosa Willd. var. *transvaalensis* (Szyz.) Gilg. = *Vitis cirrhosa* var. *transvaalensis* Szyz.
Cissus humilis (N. E. Br.) Gilg. = *Vitis humilis* N. E. Br.
Cissus succulenta (Galpin) Gilg. = *Vitis succulenta* Galpin.
Coccinia natalensis (Oliv.) Cogn. = *Cephalandra natalensis* Oliv.
Cymbopogon hirtus (Linn.) Stapf. = *Andropogon hirtus* Linn.
Cymbopogon marginatus (Steud.) Stapf. = *Andropogon Nardus* Linn. var. *marginatus* Steud.
Cymbopogon validus Stapf. = *Andropogon Nardus* Linn. var. *validus* Stapf.
Cymbopogon pleiarthron Stapf. = *Andropogon pleiarthron* Stapf.
Cymbopogon plurinodis Stapf. = *Andropogon plurinodis* Stapf.
Cymbopogon excavatus (Hochst.) Stapf. = *Andropogon Schœnanthus* Linn. var. *versicolor* Steud.

- Cymbopogon transvaalensis* Stapf. = *Andropogon transvaalensis* Stapf.
Epaltes scabra (Harv.) O. Hoffm. = *Litogyne scabra* Harv.
Felicia asper (DC.) O. Hoffm. = *Diplopappus asper* DC.
Felicia filifolia (DC.) O. Hoffm. = *Diplopappus filifolius* DC.
Felicia serrulata (Harv.) O. Hoffm. var. *xylophylla* (Klatt.) O. Hoffm. = *Aster xylophyllus* Klatt.
Ficus Pretoriae Burt-Davy = *F. salicifolia* Vahl. var. *australis* Warb.
Heeria salicina (Sond.) Engl. = *Rhus salicina* Sond.
Hermannia coccocarpa (E. & Z.) K. Schum. = *Mahernia coccocarpa* E. & Z.
Hermannia multicaulis var. *latifolia* (Harv.) K. Schum. = *Mahernia erodioides* Burch. var. *latifolia* Harv.
Hermannia vestita (Harv.) K. Schum. = *Mahernia vestita* Harv.
Hoffmanseggia Sandersoni (Harv.) Benth. & Hook. = *Melanosticta Sandersoni* Harv.
Inula lanceolata (Harv.) O. Hoffm. = *Pegolettia lanceolata* Harv.
Ormocarpum trichocarpum (Taub.) Harms. = *Diphaca trichocarpa* Taub.
Pachystigma Cienkowskii (Schweinf.) K. Schum. = *Fadogia Cienkowskii* Schwein.
Pituranthos Burchellii (Sond.) Benth. & Hook. = *Deverra Burchellii* Sond.
Plectronia transvaalensis (S. Moore) K. Schum. = *Canthium transvaalensis* S. Moore.
Rhoicissus erythroides (Fres.) Planch. var. *ferruginea* (Baker) Gilg. = *Vitis erythroides* var. *ferruginea* Baker.
Rhoicissus rhomboidea (E. Mey.) Planch. var. *transvaalensis* (Szysz.) Gilg. = *Vitis rhomboidea* var. *transvaalensis* Szysz.
Sorghum halepense Nees var. *effusum* (Stapf.) Burt-Davy = *Andropogon halepensis* var. *effusus* Stapf.
Sorghum vulgare Pers. var. *Schenkii* (Körn.) Burt-Davy = *Andropogon Sorghum* Brot. var. *Schenkii* Körn.
Syzygium Gerrardi (Harv.) Hochst. = *Acmena Gerrardi* Harv.
Tragia cordata (Harv.) Pax. = *Ctenomeria cordata* Harv.
Tricalysia lanceolata (Sond.) K. Schum. = *Kraussia lanceolata* Sond.
Tricalysia pavettoides (Harv.) K. Schum. = *Kraussia pavettoides* Harv.

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Pretoria,

10th November, 1911.



Burtt-Davy, Joseph and Pott-Leendertz, Reno. 1912. "A first check-list of the flowering plants and ferns of the Transvaal and Swaziland." *Annals of the Transvaal Museum* 3(3), 119–122.

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