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NATIONAL HERBARIUM

ROYAL BOTANIC GARDENS, MELBOURNE

VICTORIA, AUSTRALIA

D. M. CHURCHILL, Director and Government Botanist

2888/71.

CONTENTS

OTTO CARL BERG'S TYPES OF MYRTACEAE IN THE NATIONAL HERBARIUM OF VICTORIA

by

J. A. ANDERSON*

The collections of the National Herbarium of Victoria house many thousands of important and authentic specimens from botanists of the eighteenth and nineteenth centuries, and amongst these are members of the *Myrtaceae* studied by Otto Carl Berg (1815–1866). Much of this huge collection of old specimens formed the basis of the famous Sonder herbarium most of which was purchased by the Victorian Government towards the end of last century. This purchase included thousands of sheets of specimens closely connected with Martius' *Flora Brasiliensis*, but the full extent of this association still remains obscure. The fact that this material is still in existence and available to *bona fide* workers is clearly very important and should be made known to systematists everywhere.

This paper deals exclusively with Berg's types of species and varieties originally described in Martius' *Flora Brasiliensis 14* : 1–655 (1857–1859) *and* cited for Sonder's herbarium. The results of this study are given below, in the order of Martius, as a list of *presumptive types* known to be filed in the Melbourne Herbarium. Berg's types of *Myrtaceae* from other regions of tropical South America, e.g. Surinam and Venezeula, have been located also, but these will form the basis of another paper.

A thorough search of the collections has been made for Berg's Brazilian types alluded to above, but a few have probably escaped detection. For each specimen listed below, the following details are given : Melbourne Herbarium registration number ; name of the species or variety under which Berg originally described it ; precise place of publication ; locality details including collector and collector's number ; Berg's annotations with respect to the name written exactly as on the sheet.

A facsimile of Berg's handwriting is reproduced in Fig. 47 on page 122.

The author hopes that the list of types given below will prove useful to systematists, but it must be remembered that these are *presumptive types*. Each specimen should be examined carefully by a taxonomist who is studying *Myrtaceae* before it can be declared a type.

*Formerly National Herbarium of Victoria.

LIST OF PRESUMPTIVE TYPES

MEL 1007445 **Gomidesia Hartwegiana** Berg in Mart. *Flor. Bras.* 14[1] : 22 (1857).

Labelled " Minas Geraes, Brasil. Widgren 544½ " in Sonder's hand.

Designated as " Gomidesia Hartwegiana Berg " in Berg's hand.

SYNTYPE.

1007446 **Gomidesia Widgreniana** Berg in Mart. *l. c.* 26.

Labelled " Minas Geraes, Brasiliae. Widgren 546 " in Sonder's hand.

Designated as " Gomidesia Widgreniana Berg " in Berg's hand.

HOLOTYPE.

1007447 **Rubachia Neuwiedeana** Berg in Mart. *l. c.* 29.

Labelled " C. Frio " in an unknown hand and Prinz v. Neuwied " in Sonder's hand.

Designated " Rubachia Neuwiedeana Bg " in Berg's hand.

ISOTYPE.

1007448 **Calyptranthes Widgreniana** Berg in Mart. *l. c.* 39.

Labelled " Minas Geraes. Widgren 537 " in Sonder's hand.

Designated " Calyptranthes Widgreniana Bg " in Berg's hand.

HOLOTYPE.

1007449 **Calyptranthes pteropoda** Berg in Mart. *l. c.* 47.

Labelled " Minas Geraes, Brasiliae. Widgren 549 " in Sonder's hand.

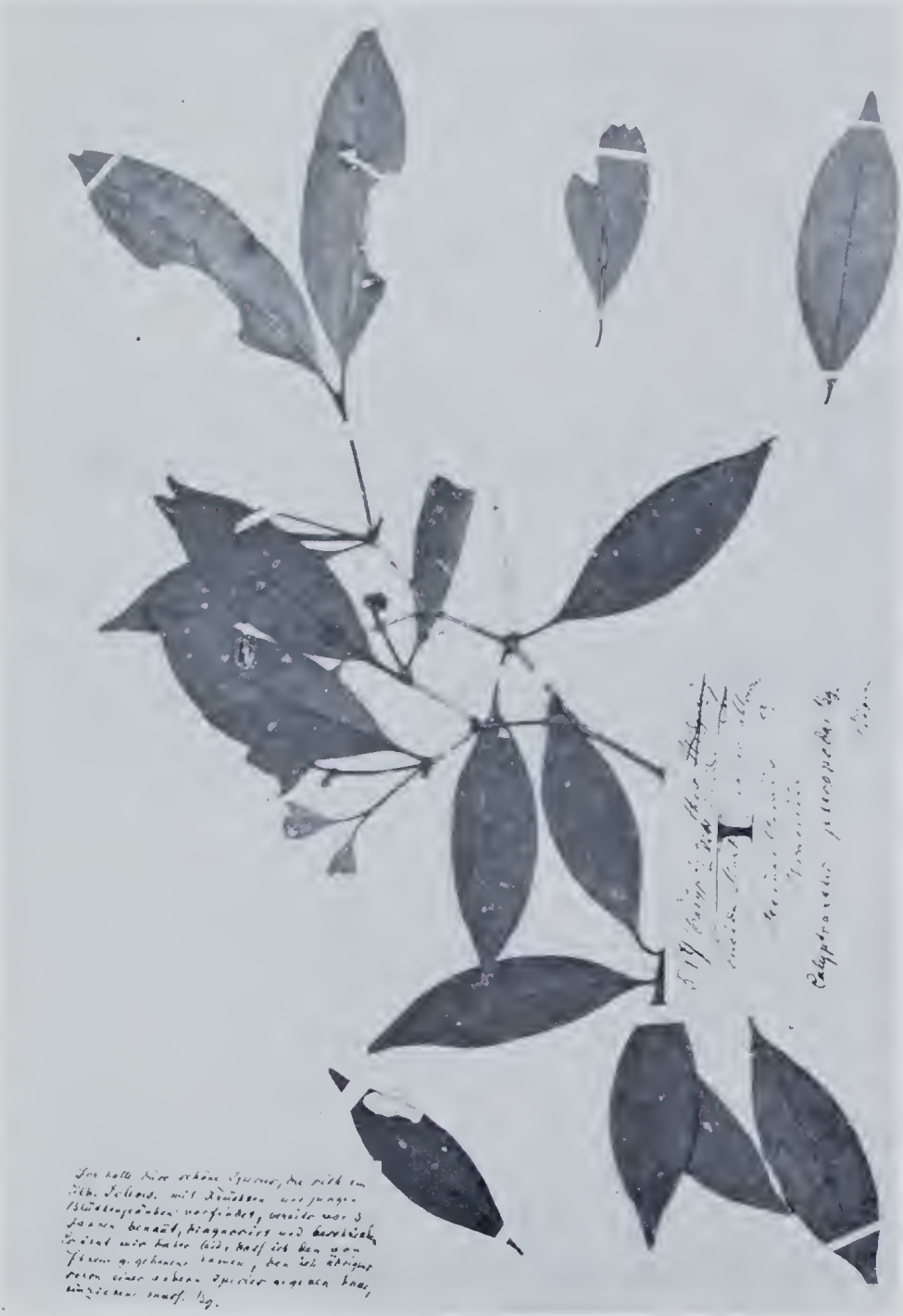
Designated as " Calyptranthes pteropoda Bg " in Berg's hand.

ISOTYPE.

[See Plate 16.]

1007450 **Calyptranthes variabilis** α. **pulchella** Berg in Mart. *l. c.* 49.

Labelled " Minas Geraes, Brasil. Widgren 1185 " in Sonder's hand.



Isotype? of *Calyptranthes pteropoda* Berg.

Designated as " variabilis α. Bg " in Berg's hand.
HOLOTYPE.

1007451 **Aulomyrcia ramulosa** β. **pauciflora** Berg in Mart. *l. c.* 62.

Labelled " Rio Janeiro, v. Martius " in Sonder's hand.

Designated as " Aulomyrcia ramulosa, var. β. pauciflora Bg " in Berg's hand.
ISOTYPE.

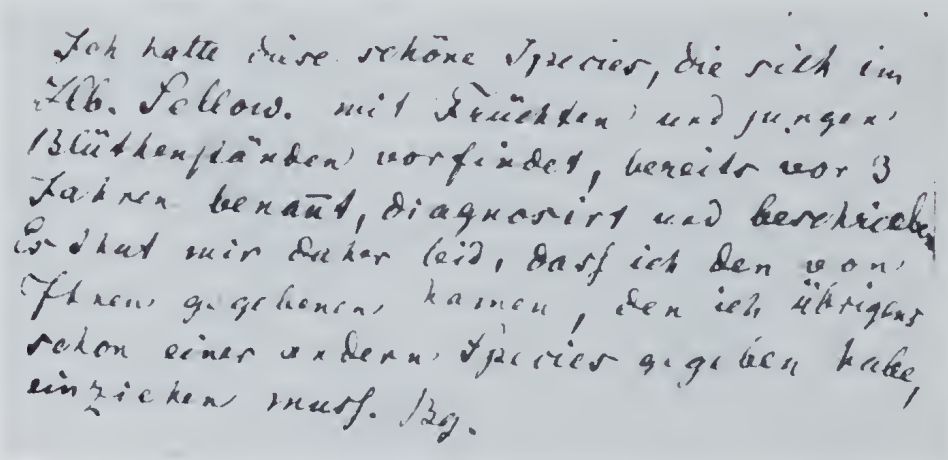

Ich hatte diese schöne Species, die sich im Hb. Schlecht. mit Früchten und jungen Blüthenständen vorfindet, bereits vor 3 Jahren benannt, diagnosirt und beschrieben. Es thut mir daher leid, dass ich den von Ihnen gegebenen Namen, den ich übrigens schon einer andern Species gegeben habe, einziehen muss. Bg.

Fig. 47—Facsimile of Otto Carl Berg's handwriting filed in MEL.

1007452 **Aulomyrcia ramulosa** γ. **acutata** Berg in Mart. *l. c.* 62.

No locality details are given with this specimen which appears to be the only one that Berg examined in Sonder's herbarium.

Designated as " Aulomyrcia ramulosa, var. γ. acutata Berg " in Berg's hand.
ISOTYPE.

1007453 **Aulomyrcia Widgreniana** Berg in Mart. *l. c.* 70.

Labelled " Minas Geraes. Widgren 545 " in Sonder's hand.

Designated " Aulomyrcia Widgreniana Bg " in Berg's hand.
HOLOTYPE.

1007454 **Aulomyrcia longpipes** γ. **latifolia** Berg in Mart. *l. c.* 94.

Labelled " Minas Geraes, Brasiliae. Widgren 547 " in Sonder's hand.

Designated " Aulomyrcia longpipes, var. γ. latifolia Bg " in Berg's hand.

HOLOTYPE.

1007455 **Aulomyrcia Sonderiana** Berg in Mart. *l. c.* 110.

Labelled " Minas Geraes, Brasiliae. A. F. Regnell 1–134 " in Sonder's hand.

Designated as " Aulomyrcia Sonderiana Berg " in Berg's hand.

SYNTYPE.

1007456 **Aulomyrcia Sonderiana** Berg in Mart. *l. c.* 110.

Labelled " Minas Geraes, Brasiliae. Widgren 544 " in Sonder's hand.

Designated as " Aulomyrcia Sonderiana Berg " in Berg's hand.

SYNTYPE.

Another specimen, labelled " Minas Geraes, Brasiliae. Widren 544½ " in Sonder's hand and designated as " Aulomyrcia Sonderiana Berg " in Berg's hand has been located in the collections.

1007457 **Aulomyrcia Salzmanni** Berg in Mart. *l. c.* 116.

Labelled simply " Bahia " in an unknown hand.

Designated as " Aulomyrcia Salzmanni Bg " in Berg's hand.

ISOTYPE.

1007458 **Aulomyrcia Lingua** β. **rufa** Berg in Mart. *l. c.* 130.

Labelled " Minas Geraes, Brasil. Widgren 555 " in Sonder's hand.

Designated as " Aulomyrcia Lingua var. β. rufa Berg " in Berg's hand.

HOLOTYPE.

1007459 **Aulomyrcia vacciniifolia** Berg in Mart. *l. c.* 140.

Labelled " Serra de Itambe, Brasiliae " in Sonder's hand.

Designated as " Aulomyrcia vacciniifolia Bg " in Berg's hand.

ISOTYPE.

1007460 **Engeniopsis Clausseniana** ∝. **rufa** Berg in Mart. *l. c.* 146.

Labelled "Rio de Janeiro" in an unknown hand.

Designated as "Eugeniopsis Clausseniana ∝. rufa Berg" in Berg's hand.

SYNTYPE.

1007461 **Myrcia Kegeliana** ∝. **latifolia** Berg in Mart. *l. c.* 168.

Labelled "Surinam, Hostmann 485" in Sonder's hand.

Designated as "Kegeliana ∝. latifolia Bg" in Berg's hand.

SYNTYPE.

1007462 **Myrcia communis** ∝. **latifolia** Berg in Mart. *l. c.* 183.

Labelled "Minas Geraes, Brasiliae. A. F. Regnell 1–135" in Sonder's hand.

Designated as "Myrcia communis var. ∝. latifolia Berg" in Berg's hand.

ISOTYPE.

Berg has added the note "Ab M. puberula Camb. toto caelo diversa Bg" to the specimen.

1007463 **Eugenia Widgrenii** Sond. ex Berg in Mart. *l. c.* 227.

Labelled "Minas Geraes, Brasiliae. Widgren 538" in Sonder's hand.

Designated as "Eugenia Widgrenii Sond." in Sonder's hand. There are no annotations by Berg with this specimen.

HOLOTYPE.

1007464 **Eugenia Franciscensis** Berg in Mart. *l. c.* 233.

Labelled "Rio S. Francisco" in Sonder's hand.

Designated as "Franciscensis Bg" in Berg's hand.

ISOTYPE.

1007465 **Eugenia rhombocarpa** Berg in Mart. *l. c.* 239.

Labelled "Minas Geraes, Brasil. Widgren 540" in Sonder's hand.

Designated as "rhombocarpa Bg" in Berg's hand.

HOLOTYPE.

1007466 **Eugenia ambigua** Berg in Mart. *l. c.* 241.

Labelled " Minas Geraes. Widgren 1027 " in Sonder's hand.

Designated as " ambigua Berg " in Berg's hand.

HOLOTYPE.

1007467 **Eugenia Regnelliana** Berg in Mart. *l. c.* 245.

Labelled " Caldas, Minas Geraes, Brasiliae. Regnell 2–120 " in Sonder's hand.

Designated as " Eugenia Regnelliana Bg " in Berg's hand.

SYNTYPE.

1007468 **Eugenia Regnelliana** Berg in Mart. *l. c.* 245.

Labelled " Minas Geraes, Brasil. Widgren 556 " in Sonder's hand.

Designated as " Regnelliana Bg " in Berg's hand.

SYNTYPE.

1007494 **Eugenia Maximiliana** Berg in Mart. *l. c.* 250.

Labelled " Brasilia. Prinz v. Neuwied " in Sonder's hand.

Designated as " Maximiliana Bg., nee DC." in Berg's hand.

ISOTYPE.

1007469 **Eugenia Klotzschiana** Berg in Mart. *l. c.* 255.

Labelled " Brasiliae. Widgren 528 " in Sonder's hand.

Designated as " Eugenia Klotzschiana Bg " in Berg's hand.

SYNTYPE.

1007470 **Eugenia cauliflora** Berg in Mart. *l. c.* 268.

Labelled " Bahia, Salzmann " in an unknown hand.

Designated as " Eugenia cauliflora Bg, nee DC." in Berg's hand.

ISOTYPE.

1007471 **Eugenia Sonderiana** Berg in Mart. *l. c.* 270.

Labelled "Minas Geraes, Brasiliae. Widgren 542" in Sonder's hand.

Designated as "Eugenia Sonderiana Bg" in Berg's hand.

HOLOTYPE.

1007472 **Eugenia cassinoides** *β.* **gracilis** Berg in Mart. *l. c.* 286.

Labelled "Bahia" in an unknown hand and "Salzmann" in Sonder's.

Designated as "Eugenia cassinoides, *β.* gracilis Berg" in Berg's hand.

HOLOTYPE.

1007473 **Eugenia sphenophylla** *β.* **angustifolia** Berg in Mart. *l. c.* 288.

Labelled "Minas Geraes, Brasil. Widgren 539" in Sonder's hand.

Designated "Eugenia sphenophylla *β.* angustifolia Bg" in Berg's hand.

HOLOTYPE.

1007474 **Eugenia Moraviana** Berg in Mart. *l. c.* 304.

Labelled "Habitat in Via quae ducit ad Moravianos" in an unknown hand.

Designated as Eugenia Moraviana Bg" in Berg's hand.

ISOTYPE.

1007475 **Eugenia inundata** ∝. **membranacea** Berg in Mart. *l. c.* 318.

Labelled "ad fluvium Rio Negro" in an unknown hand.

Designated as "∝. membranacea Berg" in Berg's hand.

SYNTYPE.

1007495 **Stenocalyx impunctatus** Berg in Mart. *l. c.* 336.

Labelled "Ad Caldas, Minas Geraes, Brasiliae. Regnell 1–123" in Sonder's hand.

Designated as "Stenocalyx impunctatus Bg" in Berg's hand.

HOLOTYPE.

1007476 **Mitranthes eugenioides** *β.* **ovata** Berg in Mart. *l. c.* 355.

Labelled " Bahia " in an unknown hand and " Salzmann " in Sonder's hand.

Designated as " Mitranthes Cambessedeana *β.* ovata Bg " in Berg's hand.

HOLOTYPE.

Evidently Berg decided to adopt Saint-Hilaire'e epithet when he published his description of *Mitranthes eugenioides* but failed to make any alteration to Sonder's label. Sonder's specimen has also been designated as " Calyptranthes eugenioides A SHJL." in an unknown hand.

1007477 **Myrciaria strigipes** Berg in Mart. *l. c.* 364.

Labelled " Prine. Neovid " in Sonder's hand.

Designated as " Myrciaria strigipes Bg " in Berg's hand.

SYNTYPE.

1007478 **Siphoneugena Widgreniana** Berg in Mart. *l. c.* 379.

Labelled " Minas Geraes, Widgren 541 " in Sonder's hand.

Designated as " Siphoneugena Widgreniana Berg " in Berg's hand.

HOLOTYPE.

1007479 **Psidium Widgrenianum** Berg in Mart. *l. c.* 392.

Labelled " Minas Geraes, Brasil. Widgren 534 " in Sonder's hand.

Designated as " Widgreniana Bg " in Berg's hand.

HOLOTYPE.

1007480 **Psidium incanescens** *β.* **parvifolium** Berg in Mart. *l. c.* 403.

Labelled " Minas Geraes. Widgren 529 " in Sonder's hand.

Designated as " incanescens Mart., *β.* parvifolium Bg " in Berg's hand.

SYNTYPE.

1007481 **Blepharocalyx longipes** Berg in Mart. *l. c.* 423.

Labelled " Minas Geraes, Brasiliae. Widgren 550 " in Sonder's hand.

Designated as " Blepharocalyx longipes Bg " in Berg's hand.

SYNTYPE.

1007482 **Blepharocalyx longipes** Berg in Mart. *l. c.* 423.

Labelled " Minas Geraes, Brasil. Widgren 553 " in Sonder's hand.

Designated as " Blepharocalyx longpipes Bg " in Berg's hand.

SYNTYPE.

1007483 **Blepharocalyx Widgreni** Berg in Mart. *l. c.* 427.

Labelled " Minas Geraes, Brasil. Widgren 548 " in Sonder's hand.

Designated as " Blepharocalyx Widgreni Bg " in Berg's hand.

HOLOTYPE.

1007484 **Abbevillea maschalantha** γ. **oblongata** Berg in Mart. *l. c.* 433.

Labelled " Rio de Janeiro " in an unknown hand.

Designated as " Abbevillea maschalantha γ. oblongata Bg " in Berg's hand.

HOLOTYPE.

1007485 **Abbevillea Fenzliana** δ. **brevipes** Berg in Mart. *l. c.* 434.

Labelled " Minas Geraes. Brasiliae. A. F. Regnell !–127 " in Sonder's hand.

Designated as " Abbevillea Fenzliana, δ. brevipes Bg " in Berg's hand.

HOLOTYPE.

[See Plate 17.]

1007486 **Campomanesia heterophylla** Berg in Mart. *l. c.* 440.

Labelled " Widgren 534½ " in Sonder's hand.

Designated " Campomanesia heterophylla Bg " in Berg's hand.

SYNTYPE.

PLATE 17

Holotype ? of *Abbevillea Feuzliana* δ. *brevipes* Berg

1007487 **Campomanesia pubescens** ∝. **effusa** Berg in Mart. *l. c.* 443.

Labelled " Prov. Pernambuco, Martius " in Sonder's hand.

Designated " Campomanesia pubescens, ∝. effusa Bg " in Berg's hand.

This is the only specimen labelled ∝. *effusa* found amongst the Sonder material and might be HOLOTYPE.

1007488 **Campomanesia pubescens** β. **coarctata** Berg in Mart. *l. c.* 443.

Labelled " Minas Geraes, Brasiliae. Widgren 530 " in Sonder's hand.

Designated as " Campomanesia pubescens β. coarctata Bg " in Berg's hand.

ISOTYPE or SYNTYPE.

1007489 **Campomanesia obversa** ∝. **latifolia** Berg in Mart. *l. c.* 445.

Labelled " Minas Geraes, Brasil, Widgren 530½ " in Sonder's hand.

Designated as " Campomanesia obversa ∝. latifolia Bg " in Berg's hand.

Whether or not this specimen can be a type will depend upon a thorough examination of this material in conjunction with the next specimen cited below.

1007490 **Campomanesia obversa** β. **angustifolia** Berg in Mart. *l. c.* 446.

Labelled " Ad Caldas prov. Minas Geraes. Regnell 1–125c." in Sonder's hand.

Designated as " Campomanesia obversa, β. angustifolia Bg " in Berg's hand.

It seems possible that the label accompanying this specimen has been confused with that referred to above and that Berg annotated both labels incorrectly. It is also possible that Berg cited these two specimens wrongly in Martius' *Flora*. No annotations by Miquel who originally described *Psidium obversum* (cited by Berg) have been noticed on the label.

1007491 **Campomanesia Widgreniana** Berg in Mart. *l. c.* 447.

Labelled " Minas Geraes, Brasiliae, Widgren 531 " in Sonder's hand.

Designated as " Campomanesia Widgreniana Bg " in Berg's hand.

HOLOTYPE.

1007492 **Britoa Sellowiana** Berg in Mart. *l. c.* 463.

Labelled " Ad Caldas in Minas Geraes, Brasiliae. Regnell 2–118 " in Sonder's hand.

Designated as " Britoa Sellowiana Bg " in Berg's hand.

SYNTYPE.

1007493 **Lecythis Martiana** Berg in Mart. *l. c.* 487 (1858).

Labelled " Para, Brasiliae, v. Martius " in Sonder's hand.

Designated as " Lecythis Martiana Bg " in Berg's hand.

HOLOTYPE.

ACKNOWLEDGMENTS

The author wishes to extend her sincere thanks to the Director of the Botanical Museum, Berlin, for assistance with the identification of Berg's handwriting and to Mr. A. B. Court, National Herbarium of Victoria, for suggesting this topic for study and for his guidance during the author's examination of Berg's specimens.

ADDITIONS TO THE FLORA OF THE NORTHERN TERRITORY

by

J. R. Maconochie* & N. Byrnes†

INTRODUCTION

A total of forty-nine species are recorded as new for the Northern Territory. The new records are mainly from the tropical sector and the western border area of the arid zone.

One species, *Amsinckia hispida* (Ruiz. et Pav.) I. M. Johnston, is an exotic weed in the eastern and southern states, and its introduction into the Northern Territory may be the result of seed dispersal by either a tourist vehicle or dry feed from the south.

LIST OF SPECIES

MONOCOTYLEDONEAE

Gramineae

Eragrostis australasica (Steud.) C. E. Hubbard

S. A. Parker 317, Alice Springs Sewerage Farm, 10 October 1970.

Eragrostis clelandii S. T. Blake

J. Must 336, 17 miles N.W. of Andado Homestead, 10 August 1968.

Sporobolus elongatus R. Br.

D. J. Nelson 484, 24 miles S. of Alice Springs, 21 August 1962; *A. C. Beauglehole* 20667, Valley of Eagles, 35 miles E.N.E. of Alice Springs, 13 October 1966.

Hydrocharitaceae

Blyxa aubertii Rich.

F. R. Higginson, s.n. Wirowawoi Lagoon, Grove Peninsula, 14 August 1969 (NSW 130162).

Maidenia rubra (W. V. Fitzg.) Rendle

N. Byrnes 850, Humpty Doo Road, 23 April 1968; *N. Byrnes* 657, Survey Creek, Tipperary Station, 2 May 1968.

Liliaceae

Tricoryne elatior R. Br.

J. H. Willis s.n., Mt. Sonder, 20 July 1966 (MEL) [this is the form described as *T. tenella* R. Br.]; *C. Dunlop* 1986, 20 miles N.N.E. of Docker River Settlement, Petermann Ranges, 29 October 1970.

* Arid Zone Research Institute, Alice Springs, N.T.

† Primary Industries Branch of N.T.A., Darwin, N.T.

Orchidaceae

Nervilia discolor (Bl.) Sehltr.

N. Byrnes 1698, Green Ant Creek, 6 March 1970.

Nervilia holochila (F. Muell.) Sehltr.

N. Byrnes 1700, Mt. Bundy, 6 March 1970.

Pontederiaceae

Monochoria hastata (L.) Solms.

N. Byrnes 669, 5 miles E. of Litchfield Homestead, 3 May 1968.

Typhaceae

Typha orientalis Presl

N. Byrnes 1667, West Coast, opposite Peron Isle, 26 August 1969.

DICOTYLEDONEAE

Amaranthaceae

Ptilotus royceanus E. Benl

J. R. Maconochie 780, in a gorge ½ mile E. of Ewalinga Rockhole, Petermann Ranges, 19 September 1969.

Ptilotus leucocoma (Moq.) F. Muell.

E. C. Black s.n. near Granites, September 1936 (AD 96215257).

Boraginaceae

Amsinckia hispida (Ruiz. et Pav.) I. M. Johnston

F. C. Vassek 680914–29, 53 miles W. of Alice Springs, 14 September 1968.

Chenopodiaceae

Atriplex suberecta I. C. Verdoorn

R. A. Perry 5464, 5 miles S.E. of Ringwood Station, 9 September 1955.

Bassia astrocarpa F. Muell.

P. K. Latz 595, 4 miles S. of Sangster's Bore, Tanami Sanctuary, 27 May 1970; *J. R. Maconochie* 1074, 23 miles N. of Chilla Well, 29 July 1970.

Bassia articulata J. M. Black

A. C. Beauglehole 10298, 13 miles S. of Henbury Craters, 4 July 1965.

Bassia brachyptera (F. Muell.) R. H. Anderson

A. Nicholls 934, 3 miles E. of Victory Downs Homestead, 18 September 1968.

Bassia georgei E. H. Ising

P. K. Latz 946, approx. 55 miles S.E. of Docker River—Pottoyu Hills, 3 November 1970.

Bassia minuta E. H. Ising

J. R. Maconochie 1093, in a rock-hole 58 miles S.E. of False Mt. Russell, 31 July 1970.

Kochia radiata P. G. Wilson

A. E. Orchard 872, Gibson Creek ca. 56 Km. N. of Tennant Creek, 19 July 1968.

Malacocera tricornis (Benth.) R. H. Anderson

F. C. Vassek 680918–13, 2 miles E. of Victory Downs, 18 September 1968; *A. Nicholls* 935, 18 September 1968.

Suaeda australis (R. Br.) Moq.

N. Byrnes 1687, 5 miles N. of Finnis River, West Coast, 27 August 1969.

Combretaceae

Terminalia crassifolia Exell

N. Byrnes 1864, Fletcher Creek, 8 April 1970; *N. Byrnes* 1868, Wearyan River, 8 April 1970.

Terminalia fitzgeraldii C. A. Gardner

N. Byrnes 1251, Elizabeth River, 19 December 1968; *N. Byrnes* 1630, Reynolds River, 14 May 1969.

Compositae

Brachycome tesquorum J. M. Black

G. Chippendale, 17 miles S.W. of Huckitta Homestead, 13 August 1959 (N.T. 6511); *J. H. Willis* s.n., Gosse's Bluff, 26 July 1966 (MEL).

Crassulaceae

Crassula colorata (Nees) Ostenfeld

A. C. Beauglehole 27991, 31 miles E. of Andado Homestead, Simpson Desert, 29 July 1968; *A. C. Beauglehole* 28051, Granite Knobs, 29 miles S.E. of Kulgera, 30 July 1968.

Dicrastylidiaceae

Newcastelia cladotricha F. Muell.

J. R. Maconochie 930, *ca.* 1 mile N. of False Mt. Russell, 2 August 1970.

Euphorbiaceae

Omalanthus populifolius Grah.

N. Byrnes 1678, 8 miles N.E. of Wangi Homestead, 26 August 1969.

Goodeniaceae

Leschenaultia helmsii Krause

J. R. Maconochie 1071, ½ mile S. E. of Chilla Well, 29 July 1970.

Mimosaceae

Acacia pachyacra Maiden & Blakely

J. R. Maconochie 754, 10 miles W. of Chirnside Creek, Petermann Ranges, 18 September 1969.

Myoporaceae

Eremophila polyclada (F. Muell.) F. Muell.

P. K. Latz 154, 5 miles W. of Tarlton Downs Homestead, 11 February 1968.

Eremophila turtonii F. Muell.

J. R. Maconochie 801, 1½ miles W. of Docker River Settlement, Petermann Ranges, 20 September 1969.

Papilionaceae

Crotalaria alata Ham.

N. Byrnes 603, Tortilla Flats, Adelaide River, 9 May 1968; *N. Byrnes* 784, Pine Creek-Oenpelli Road, 4 miles E. of Mary River, 16 May 1968.

Crotalaria quinquifolia L.

N. Byrnes 205, Beatrice Hill, 15 March 1967.

Crotalaria verrucosa L.

C. S. Robinson 55, Katherine, 9 June 1968.

Cyclocarpa stellaris Afz. ex J. G. Baker

N. Byrnes 1915, *ca.* 10 miles N. of Mudginberri [This is the first record for mainland N.T.: Specht (1958) in *Records of the American-Australian Scientific Expedition to Arnhem Land 3:* 42 recorded it from Bickerton Island.]

Mucuna urens DC var. *papuana* F. M. Bailey

N. Byrnes 1901, Adelaide River-Daly River Road on river bank, 15 April 1970; *N. Byrnes* 217, *loc. ipse,* 4 April 1967; *N. Byrnes* 1802, Green Ant Creek, Stuart Highway, 6 March 1970.

Smithia conferta Sm.

E. S. Robinson 24, Humpty Doo, 28 April 1967.

Portulacaceae

Anacampseros australiana J. M. Black

P. K. Latz 407, Valley of Eagle, Alice Springs area, 28 December 1968 [Noted by J. H. Willis at S. foot of Mt. Sonder and in George Gill Range, July 1966.]

Calandrinia disperma J. M. Black

A. Weidemann s.n. 15 miles N. of Andado Station, 12 August 1968; *J. Must* 113, 17 miles N.W. of Andado Station, 11 July 1968; *R. Carolin* 5213, *ca.* 15 miles E. of Curtin Springs.

Proteaceae

Grevillea erythroclada W. V. Fitzg.

N. Byrnes 472, Daly River near crossing, 23 August 1967; G. F. Hill s.n., 20 miles S.W. of Borroloola, 7 September 1911.

Grevillea pterosperma F. Muell.

G. Chippendale, 18 miles S.W. of Glen Edith, 24 June 1959 (N.T. 6272); *A. C. Beauglehole* 26551, 1 mile N.E. of Reedy Rockhole, George Gill Range, 11 July 1968; *A. C. Beauglehole* 26942 Kathleen Spring, George Gill Range, 15 July 1968.

Hakea rhombales F. Muell.

J. R. Maconochie 688, 12 miles E. of Docker River Settlement, Petermann Ranges, 21 January 1969; *J. R. Maconochie* 764, 20 miles E. of Docker River Settlement, Petermann Ranges, 19 September 1969.

Rhamnaceae

Emmenosperma cunninghamii Benth.

N. Byrnes 1494, East Point, Darwin, 16 April 1969.

Rutaceae

Geijera linearifolia (DC) J. M. Black

R. E. Winkworth 1123, 15 miles N. of Alice Springs, 2 May 1955.

Santalaceae

Santalum album L.

N. Byrnes 882, Thring Creek, Darwin, 18 July 1968.

Scrophulariaceae

Mimulus prostratus Benth.

J. R. Maconochie 1043, 5 miles S.E. of Mongrel Downes Homestead, 26 May 1970.

Mimulus repens R. Br.

S. A. Parker 286, 45 miles S.W. of Mongrel Downes Homestead, 2 August 1970.

Zygophyllaceae

Tribulus hirsutus Benth.

J. R. Maconochie 1075, 24 miles N.W. of Chilla Well, Tanami Sanctuary, 29 July 1970; *P. K. Latz* 728, 46 miles S.W. of Mongrel Downes Homestead, 1 August 1970.

ACKNOWLEDGMENTS

The authors wish to thank the various State herbaria and in particular the staff of Sydney, Perth and Adelaide for their assistance given with the identifications of various difficult species.

A NEW COMBINATION IN THE GENUS BOSSIAEA VENT. (PAPILIONACEAE)

by

A. B. Court*

Bossiaea bossiaeoides (A. Cunn. ex Benth.) A. B. Court comb. nov.

Acacia bossiaeoides A. Cunn. ex Benth. in Hook. *Lond. J. Bot.* 1 : 323 (1842), non sens. Seemann *Europ. Eingef. Acac.* 7 t.1 (1852).

Bossiaea phylloclada F. Muell. in *Trans. phil. Inst. Vict.* 3:52 (1859).

During studies on Australian Acacias, the author elucidated the identity of *A. bossiaeoides* which, hitherto, has been regarded as an *Acacia* known only from sterile specimens. Since it is conspecific with *Bossiaea phylloclada,* a younger name, the new combination *B. bossiaeoides* becomes necessary and *B. phylloclada* is regulated to synonymy accordingly.

Bossiaea bossiaeoides is widely distributed in northern Australia and ranges from the Isdell River in the Western Kimberleys to Westmoreland Station in far north-west Queensland. All known occurrences of this species lie to the north of 18°S.

LECTOTYPE OF ACACIA BOSSIAEOIDES

Specimens of *A. bossiaeoides* were first collected near the mouth of the Liverpool River (*ca.* 12° 15′S and 134° 12′E) on the north coast of Australia by Allan Cunningham on 7 August 1819 under the number 405/1819. Cunningham thought his specimens represented an *Acacia* for he wrote the following remarks in his diary:—

> " 405.
>
> Acacia bossiaeoides. caule aphylloalato glaucescens, denticulis alternis patentibus decurrentibus rigidis mucronatis, margine inferirore. subuniglandicluo (sic!), bracteis imbricatis exterioribus persistentibus. A tall shrub (witht. fructn.) in dry barren elevated Deserty Banks, Liverpool River 7 Augt."

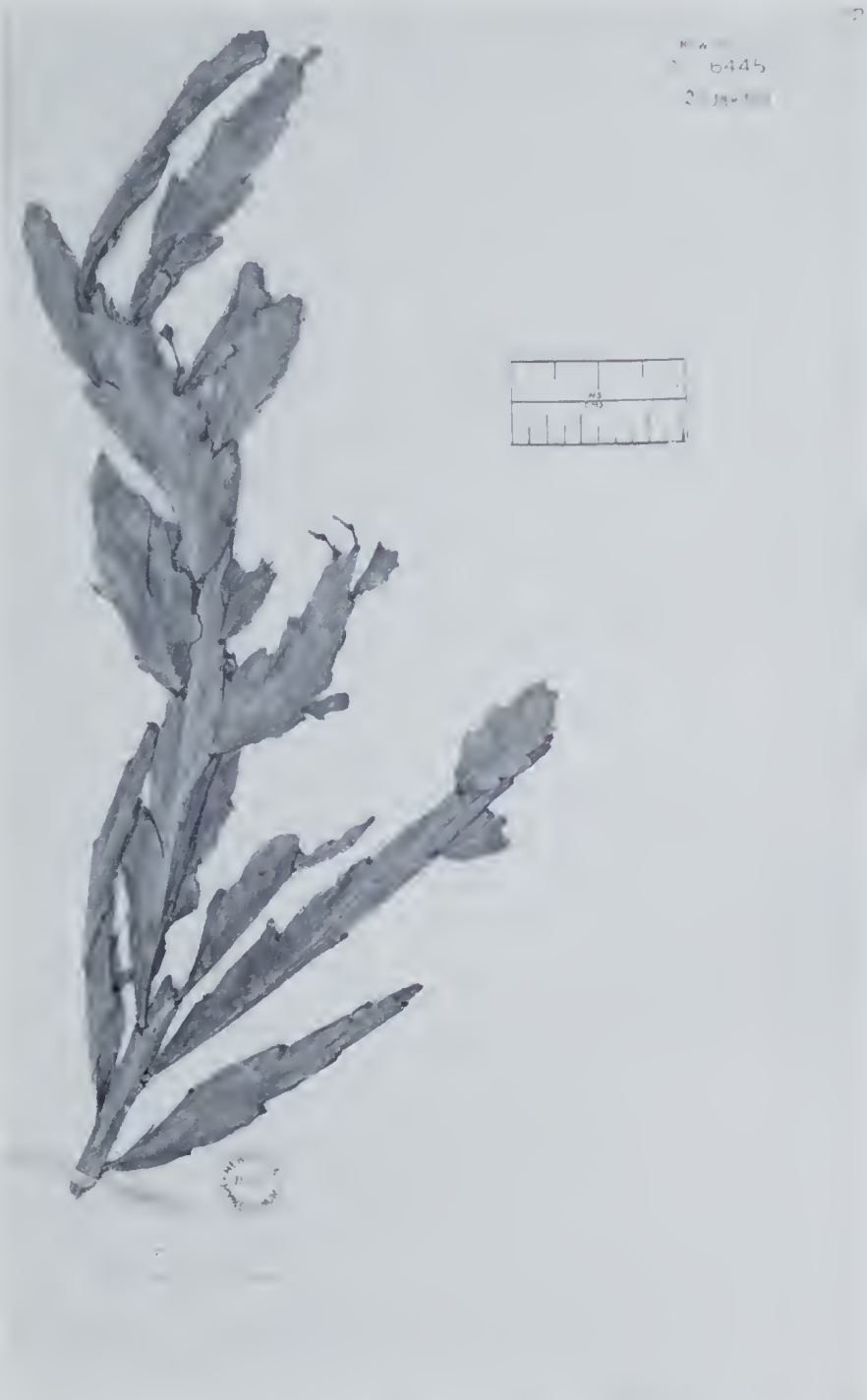
George Bentham subsequently described this material as *Acacia bossiaeoides* on Cunningham's authority and added the following comment: —" Though I have not seen the flower, this is so remarkable a species and so evidently allied to *A. alata,* that I was unwilling to have it unnoticed."

* National Herbarium of Victoria.

PLATE 18

Lectotype of *Acacia bossiaeaides* A. Cunn. ex Benth.

Plate 19



Lectotype of *Bossiaea phylloclada* F. Muell.

Two Cunningham specimens are filed at K. One of these (illustrated here by Plate 18) is from Cunningham's personal herbarium written up by Robert Heward and referring directly to Cunningham's manuscript. This specimen is chosen as the lectotype of *Acacia bossiaeoides* A. Cunn. ex Benth. The second specimen, although almost certainly part of the same collection originally filed in the Hooker Herbarium, bears no definite indication that it is part of Cunningham's number 405/1819. A duplicate of Cunningham's 405/1819 is filed in BM and should be regarded as an isotype.

LECTOTYPE OF BOSSIAEA PHYLLOCLADA

No part of the type collection of this species can be found in the Melbourne Herbarium. However, two specimens that may be regarded as types are filed in K. One of these, chosen here as lectotype (illustrated in Plate 19), is labelled " Bossiaea phylloclada, F. Muell. In rupibus ad fluv. Fitzmauriee. Oct. 1855 ferd. Mueller." in Mueller's own hand. The other, also labelled in his hand, bears the following data " Bossiaea platyclada ferd. Mueller. Rocks on the Fitzmauriee river. Oct 55 ferd. Mueller " is almost certainly part of the same collection but it should not be taken as the lectotype.

ACKNOWLEDGMENTS

The author wishes to acknowledge the kind assistance rendered to him by the Director of the Royal Botanic Gardens, Kew, and the Keeper of the Herbarium, Museum of Natural History, London.

A NEW SPECIES OF MOUNTAIN HEATH FROM TASMANIA

by

A. M. Gray*

Richea curtisiae sp. nov.

Frutex erectus vel decumbens, interdum diffusus, 30–150cm. altus, fortasse originis hybridae, *R. scoparium* Hook. f. atque *R. dracophyllam* R.Br. maxime accedit, sed differt: a *R. scoparia* foliis multo majoribus (10–20cm. longis) mollioribus vix pungentibus atque usitate recurvatioribus, spatiis inter pedunculos inferiores elongatos quam his inter pedunculos superiores sessiles congestos majoribus, corolla parviore (6–8mm. longa) aliquanto deplanata; a *R. dracophylla* habitatione omnino alpina vel subalpina, foliis rigidioribus persistentibus (in caulibus omnibus, non apud extremitates rami restrictis) sed in parte $\frac{2}{3}$ inferiore caulis mortuis et putrescentibus, corolla rosea usque ad aurantiam parviore aliquanto deplanata atque multo minus congesta.

Holotypus: Lake Fenton, Mt. Field National Park, Tasmania, *Alan M. Gray,* 11.1.1970 (HO—ISOTYPI in MEL).

An erect, spreading or decumbent shrub 30–150cm. high. *Branches* few, divaricate, clothed with persistent leaves, those on the lower $\frac{2}{3}$ of the stem dead and decaying. *Leaves* 10–20cm. long, narrow-lanceolate to lanceolate, spreading, recurved or somewhat erect, flexuous; the base broad, sheathing and imbricate; margins cartilaginous, minutely and sharply serrate; apex tapering to a long acuminate point. *Lower bracts* of inflorescence similar to the foliage leaves although usually somewhat smaller and more erect, the base broadening widely and with narrow, membranous wings. *Upper bracts* with a broad base and membranous wings, the apex tapering suddenly to an erect, acute point. *Inflorescence* a terminal panicle 10–20cm. long; *fertile flowers* occuring only on the upper $\frac{2}{3}$ of the floral axis, absent on the lower $\frac{1}{3}$ (or minute, vestigial and abortive); fertile and abortive flowers subtended by 3 to 4 small caducous bracteoles 6–9mm. long, the outer ones with a broad base, the inner ones narrower and somewhat smaller, the apices of these bracteoles minutely hooked. *Peduncles* 5- to 10-flowered, short, 2–4mm. long, longest peduncles at the base of the fertile portion of the inflorescence and becoming progressively shorter towards the apex. *Internodes* between the lower peduncles lengthening slightly after the outer bracts have fallen. *Individual flowers* borne on very short pedicels and subtended by 2–3 (4) small linear bracteoles or 1 or 2 larger ovate-lanceolate bracteoles, all of which are caducous, the base and middle of the larger bracteoles expanded and half-enclosing each flower. *Sepals* 5, broadly triangular, obtuse, 1–3 mm. long. *Corolla* pink to orange in colour. *Operculum* 6–8mm. long, narrowly obovoid to cylindrical-conical, occasionally somewhat flattened, its apex obtuse

* Fern Tree, Tasmania.

and with 5 minute obscure teeth. *Anthers* versatile, 3–4mm. long, joined to the filament slightly below the middle and opening by a single longitudinal slit. *Style* half as long as the stamens and inserted in a depression in the top of the ovary. *Nectar scales* 5, broadly elliptic–oblong, truncate, half as long as the ovary. *Nectar* copious. *Fruit* a 5-locular capsule 3–4mm. diam., depressed at summit, with persistent style; *seeds* bright brown, lustrous, ellipsoid, slightly flattened, 0·7–1·0mm. long.

DISTRIBUTION:

Known only from scattered localities within Mt. Field National Park, Tasmania (i.e. Lakes Fenton and Dobson and at Wherrett's Lookout), also from Carruthers' Creek in the northern portion of Cradle Mountain National Park.

HABITAT:

Found as isolated specimens, at fairly high altitudes (± 4,000 ft.), among populations of *Richea scoparia* Hook. f. and the tall *R. pandanifolia* Hook. f. usually in the shelter of a protecting boulder or bush at the margins of tarns and creeks.

DISCUSSION:

It has been suggested that *R. curtisiae* may be of hybrid origin, with *R. scoparia* and *R. pandanifolia* as parent species. Affinities with *R. scoparia* and *R. dracophylla* R.Br. certainly seem to be close, and the characters of the three taxa are comparable. This novelty differs from *R. scoparia* in its very much larger, softer, usually more recurved leaves that are scarcely pungent, in the more elongated lower peduncles of the inflorescence (more distant from each other than the very short upper peduncles which are crowded) and in the smaller somewhat flattened corolla. From the typically lowland-inhabiting *R. dracophylla* its most noticeable departure is in the persistence of leaves on all the stems (instead of being confined to the ends of branches); flowers are somewhat smaller than in *R. dracophylla* and much less crowded toward the base of the "spike", while the corolla-colour is pink to orange (*cf.* white or creamy and never flattened in *R. dracophylla*).

The new *Richea* has been named in honour of Dr. Winifred M. Curtis, in recognition of her interest in its occurrence and of her monumental works on Tasmanian vegetation, e.g. *Student's Flora of Tasmania* (in four parts—three published) and the text for Lord Talbot de Malahide's sumptuously illustrated *Endemic Flora of Tasmania* (three volumes published).

REFERENCE:

Gray, A. M. (1969)—A new *Richea* species. *Australian Plants* 5 (39): 130-131 (with line drawing)—preliminary description.

FURTHER COLLECTIONS OF TWO LITTLE-KNOWN STYLIDIACEAE FROM THE NORTHERN TERRITORY.

By

J. R. MACONOCHIE* & S. A. PARKER*

Levenhookia chippendalei Erickson & Willis in *Vict. Nat.* 85 (5): 107 (1966).

This species was previously known only from the holotype collection, *G. Chippendale* (NT 2260), 39 miles S. (i.e. S.W.) of Hooker's Creek, 12 July 1956. A second collection of this interesting species is *J. R. Maconochie* 919, Pump Waterhole, False Mount Russell, Tanami Desert at 21° 07′ S., 129° 18′ E., 1 August 1970, where the species was growing in damp soil beneath bushes of *Melaleuca nervosa* (Lindl.) Cheel by a waterhole, together with *Scirpus laevis* S. T. Blake, *Lipocarpha microcephala* (R. Br.) Kunth, *Cyperus* spp., *Fimbristylis* sp., *Fuirena incrassata* S. T. Blake, *Drosera indica* L. and *Drosera burmannii* Vahl—collected by S. A. Parker & C. R. Dunlop (BRI, AD, K).

Stylidium inaequipetalum J. M. Black in *Trans. roy. Soc. S. Aust.* 62: 106 (1938).

Previously known only from material collected by J. B. Cleland near Ayers Rock in June 1937. Further collections are: *E. Giles* s.n., Maedonnell's Range [Camps 14 to 21—i.e. between Haast Bluff & Mt. Udor], September 1872 (MEL—as "S. *floribundum* R.Br.", *in err.*); *J. H. Willis* s.n., King's Canyon in George Gill Range, 30 July 1966, 'plentiful on damp shaded mossy banks ½ mile upstream from waterfall' (MEL); *A. C. Beauglehole* 20419, *loc. ipse*, 10 October 1966 (MEL etc.); *P. K. Latz* 304, King's Canyon, George Gill Range, 11 December 1968, 'rare on side of creek near small rocky waterhole, in sand amongst rocks. Flowers pink-purple.' (AD, NSW, CANB, MEL, L); *J. R. Maconochie* 649, Maggie Springs, Ayers Rock, 17 January 1969, 'pink-flowered' [Here the species was growing profusely over a large area. Apparently it appreciates the boggy nature of Maggie Springs and may have benefited by the construction there of water retardation banks.] (AD, BRI, NSW); *J. R. Maconochie* 686, *ca.* 14 miles W.S.W. of Lasseter's Cave, Petermann Ranges, at *ca.* 29° 04′ S., 129° 11′ E., 21 January 1969, 'growing at base of granitic rock—probably a swamp after rain—pink flowers' (PERTH, K).

* Herbarium, Arid Zone Research Institute, Alice Springs, N.T.

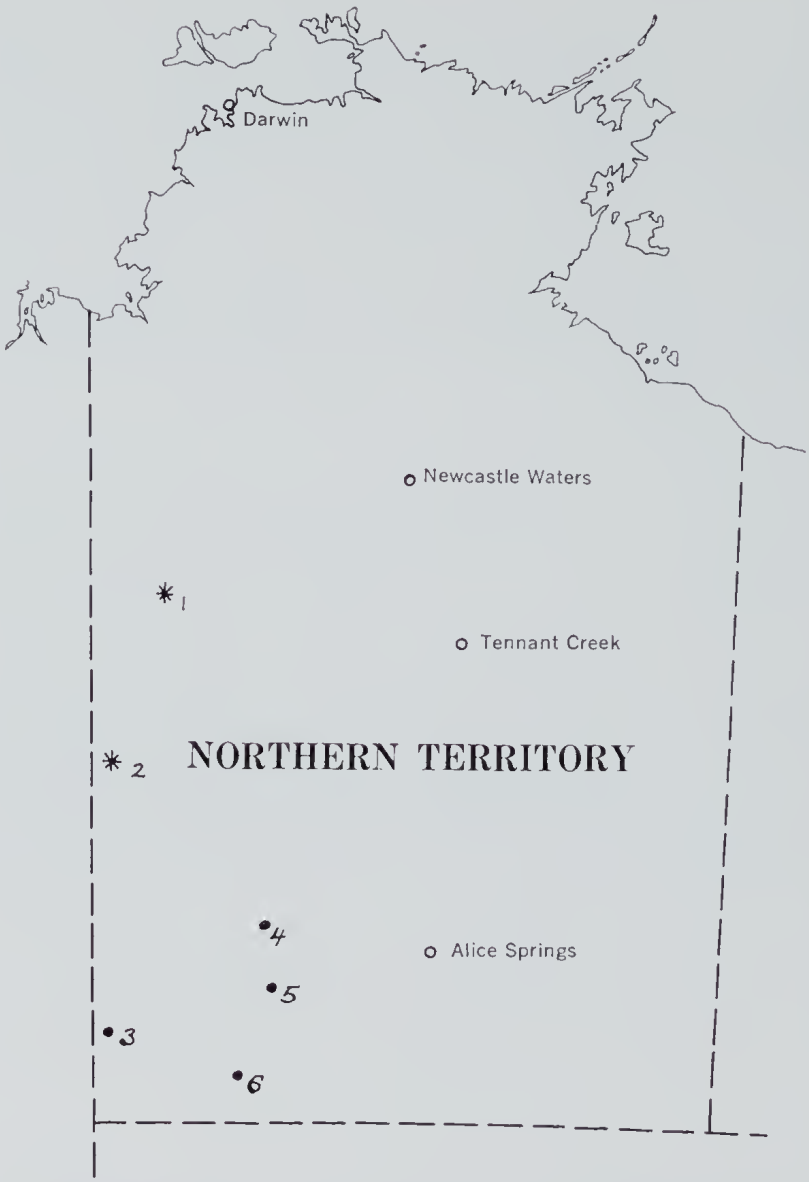


Fig. 48—*Levenhookia chippendalei* Erickson & Willis—indicated by asterisks: 1, 39 miles S.W. of Hooker's Creek; 2, Pump Waterhole, False Mount Russell.

Stylidium inaequipetalum J. M. Black—indicated by black dots: 3, 14 miles W.S.W. of Lasseter's Cave, Petermann Ranges; 4, Between Haast Bluff & Mt. Udor; 5, King's Canyon, George Gill Range; 6, Maggie Springs, Ayers Rock—type area.

COLOURLESS ALGAE OF THE FLAGELLATE GENUS MONOSIGA FROM VICTORIA, AUSTRALIA

by

B. V. Skvortzov* & Mitsuzo Noda†

SUMMARY

Three new species of the genus *Monosiga* S. Kent (Family *Craspedomonadaceae*, order *Protomastigineae*) are described and figured. These algae were present in two samples of mosses collected by Mr. V. Jernakov at South Cascade Creek, eastern Baw Baws, Victoria (Australia) and sent alive to the authors. Specimens of all three species are preserved in the Botanical Institute, Sao Paulo, Brazil. Here, also, an English description of the genus is given.

DESCRIPTION OF GENUS MONOSIGA S. KENT

Cells colourless, not metabolic, without a lorica, sessile and forming small colonies on the surfaces of water plants and filamentous algae in fresh water, affixed at the posterior pole by means of gelatins, not forming special discs, almost orbicular to flask-shaped with a distinct and narrow or a widely flaring mouth above the constricted neck. Periplast hyaline and almost colourless. Flagellum single, long, inserted inside the flaring hyaline mouth, connected to the nucleus and to one or several contractile vacuoles. Nutrition holozoic, the flagellum catching bacteria and other small flagellates. Oil drops present in the cells. Reproduction by longitudinal division, taking place while the cells are affixed. Resting stages unknown.

Three species of *Monosiga* are given in Pasher and Lemmermann's paper of 1914. The type species should be *Monosiga ovata* S. Kent. Cells of *Monosiga* are found single or in colonies in swamps, bogs, streams and in the littoral parts of lakes. Distribution of this genus would doubtless be cosmopolitan. The authors of the present paper had, in 1969, described 21 species of *Monosiga* from Hong Kong, Brazil and Australia.

KEY TO SPECIES, WITH SHORT LATIN DIAGNOSES

1. Cell short, ovoid ; collar tubiform.

1. Monosiga australica sp. nov. [Fig. 49a].

Cellula brevis, ovoidea, cum collari 8–9 micr. longa ; collare tubiforme, cellula fere aequilongum ; flagellum quam cellula sesquilongius.

Habitatio : In muscos—South Cascade Ck, Victoria, Australia, *V. Jernakov*, 29.4.1967.

* Instituto de Botanica, São Paulo, Brazil.

† Niigata, Japan.

2. Cell short, fusiform ; collar very short.

2. Monosiga jernakovii sp. nov. [Fig. 49b].

Cellula brevis, fusiformis, sessilis, cum collari 15 micr. longa ; collare breve, quam cellula $\frac{1}{6}$ longius ; flagellum quam cellula duplo longius.

Habitatio : In muscos—South Cascade Ck, Victoria, Australia, *V. Jernakov*, 29.4.1967.

[Dedicavimus hanc speciem in honorem Dom. V. Jernakov, rerum naturalium indagator.]

3. Cell long, clavate, with long broad collar.

3. Monosiga victoriae sp. nov. [Fig. 49c].

Cellula clavata, longa, sessilis, cum collari 12–14 micr. longa ; collare quam cellula latius atque fere dimidia longius ; flagellum quam cellula multo longius.

Habitatio : In muscos—South Cascade Ck, Victoria, Australia, *V. Jernakov*, 29.4.1967.

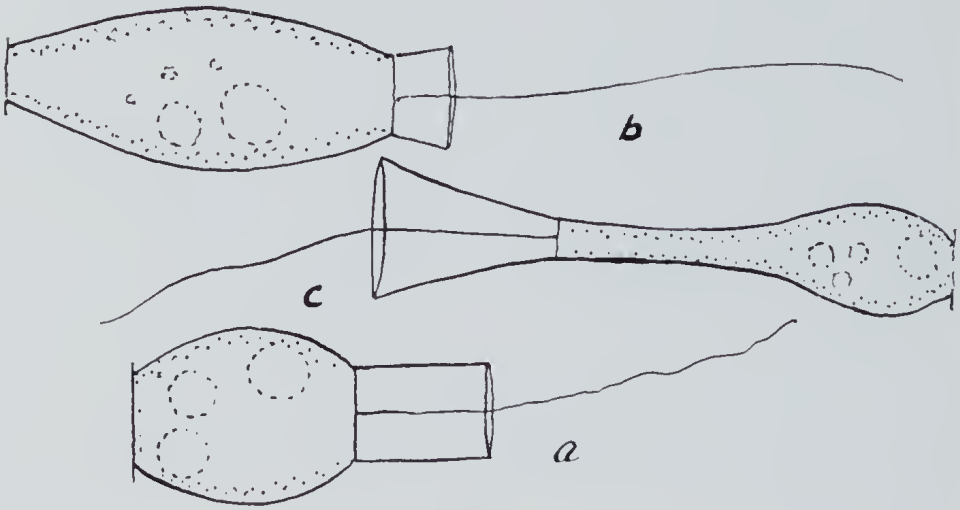


Fig. 49.

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C. H. Rixon, Government Printer, Melbourne.