AUSTRALIAN CHARACEÆ WHICH SURVIVED THE ARMIDALE FIRE

by

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Introduction

On 23rd February, 1958, a fire swept through the botanical laboratories of the University of New England, Armidale, New South Wales, Australia, destroying the valuable herbarium. Among the collections were the assembled specimens of Characeae from Australian herbaria on loan to the junior author (née Mary Beth Macdonald) then engaged in monographic work for her dissertation. Of greatest value was the group from the Royal Botanic Gardens and National Herbarium, Melbourne, which included the collections of Ferdinand von Mueller and other early botanists; while a number of important sheets, especially Gunn’s specimens, were from the Royal Botanic Gardens and National Herbarium, Sydney. The collection from the Botanic Museum and Herbarium of Queensland, Brisbane, on which J. Groves and Allen’s (1935) report was based, was not in Armidale at the time, and is completely intact. By a strange coincidence, the fire burnt away the floor, and the cabinet on which the entire pile of Characeae had been lying was tipped over into water accumulating from the fire hoses. A colleague entered the gutted building shortly after the blaze was controlled, and, finding the pile of Characeae only moderately disassembled, brought the wet heap out en masse. The junior author separated and dried the papers and specimens to prevent fungal damage, and assembled parts of specimens to avoid further loss by misplacement. The pile of folders had been seriously burnt on the outside, but the centre portions of many sheets were untouched so that a considerable portion of the specimens survived. The labels remained intact in many cases, but some had become unpasted and were misplaced or lost, while others were more or less completely burnt. Annotations which had been done with the ballpoint pen frequently had run, become bleached, or had even become transferred to adjacent paper, revealing apparently serious defects of this type of ink. Pencil-written labels and those done with India ink were, on the other hand, quite legible. The junior author undertook to reunite labels and specimens and to record as much of the data as could be gleaned from the more severely burnt labels. Unfortunately, her records and study notes, which would have been invaluable in this effort, were also lost in the fire. The senior writer visited Armidale in November, 1960, and the entire collection was gone over cooperatively. All available data were typed in duplicate, and all clues used

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to ensure accuracy in reuniting labels and specimens. The data were then assembled into the following list which was subsequently checked by both authors.

A rough check on the nature of the loss as a result of the fire can be made by comparing this list of surviving specimens with a list of specimens expected to be present on the basis of the literature. Among the missing items are the specimens of *Chara submollusca*, *Nitella myriotricha*, *N. pseudoflabellata* and *N. hookeri*, collections of Tepper (Adelaide area), Robertson (Wimmera area), and most of those by Drummond and by Preiss (Western Australia). It would appear that somewhat more than two-thirds of the records may have survived. In addition, the junior author's entire personal collection was destroyed; whereas, the Queensland specimens, as mentioned above, were not in Armidale, and thus were untouched.

The assembled Australian collections of Characeae have become of potential critical taxonomic importance. The majority of new species from Australia were described by Alexander Braun in 1849 and 1852 from the early collections of Ferdinand Mueller, Stuart, Preiss, Gunn, and Drummond; but his entire collection, which included the original specimens of these species, was destroyed at Berlin-Dahlem in World War II. The senior writer sought original material in European herbaria in 1956; and, although able to locate some isotypes at Kew, Lund, and Stockholm, no duplicates of a number of the original specimens could be found. He undertook to check the Australian herbaria in the hope of locating some originals, but was informed that most collections and all of the Melbourne specimens were lost in the Armidale fire. On visiting Australia, however, it was learned that the junior writer was engaged in the chore of salvaging some specimens which had survived. It was at this time that the writers pooled their efforts and knowledge to complete the labels, prepare this report, and facilitate the return of the specimens. Some of the specimens are doubtless isotypes, and some may prove to be the only examples extant.

The specimens are listed serially by number and grouped alphabetically according to the name which appeared on the label, and do not necessarily agree with current usage. Unnamed plants are listed after the named collections in each genus. For each collection, the data, where available, include the collector's name and number, date of collection, locality, a statement on condition of specimen, notes on the labels and annotations, and occasional remarks. Varieties and forms are not listed as main headings, but rather are included with notes on the specimens. Such infraspecific taxa are grouped alphabetically toward the end of the series of named specimens within each species. Original collection data are quoted verbatim, and the liberty was taken of translating certain passages which were in foreign languages. Information missing from the surviving label is reinserted, where obtainable; but such inserted data are set off by brackets to indicate they are the authors' opinions. Many gaps were easily
reconstructed from data on labels of other duplicates or of collections made at about the same time. For revisions in nomenclature, the reader is referred to Wood (1952). Cross references are made by the number assigned to each entry. Abbreviations used include “c.” = approximately (circa); “Coll.” = collector when the name is unknown; “spec.” = specimen; “No.” = number; “(MEL)” = National Herbarium of Victoria, Melbourne; “(NSW)” = National Herbarium of New South Wales, Sydney; compass points are used without punctuation (e.g., N, S, E, and W) unless quoted; mbw = Mary B. Williams and rdw = R. D. Wood. Abbreviations for the labels used by the Melbourne herbarium include Ferdinand Mueller’s “Phyt. Mus. Melb.” for Phytological Museum of Melbourne, “Bot. Mus. Melb.” for Botanical Museum, Melbourne, and “Nat. Herb. Vict.” for National Herbarium of Victoria, all of which are now referable to the National Herbarium of Victoria (MEL). The term “unicum” seems to have been used to indicate cases where only one sheet was thought to exist, although a number of exceptions were found. Mueller’s name was abbreviated in numerous ways, such as “ferdmull.” “Dr. M.,” “Mll.,” “Ferd. Mull.” “F. v. M.” “F. v. Mull.” “F. Mueller,” and “F. v. Muller”; and in the present list the name of Mueller has been spelled out by insertion of the necessary letters enclosed in brackets. Most of the specimens on loan from the Sydney Herbarium were labelled “W. H. Archer’s Herbarium of Tasmanian Plants,” were collected by R. C. Gunn, and were marked “Ex HERB. HOOK.” Reference is occasionally made to the junior author’s annotations, mostly dated 1955 and signed as “M. B. Macdonald.”

The writers are indebted to many associates who have helped in locating collection sites from the brief available data, especially to the following: J. H. Willis, Assistant Government Botanist, National Herbarium, Melbourne; S. L. Everist, Government Botanist, Botanic Museum and Herbarium, Brisbane; Miss C. M. Eardley and Dr. H. B. S. Womersley, Department of Botany, University of Adelaide.

Enumeration

CHARA AUSTRALIS R. Br.

(1) Coll.? Feb. 1853. In lagoons on the Honeysuckle Creek, [Doubtless Ferdinand Mueller, in Broken River, Benalla, Victoria (see Zaneveld, 1940 : 125, footnote 3)] (MEL) — spec.: singed, but intact; annotated by Macdonald, 1955, as “var. nobilis.”


(3) Mrs. Martha Heal. 1890. Interior of West Australia (MEL) — spec.: intact; labelled Phyt. Mus. Melb. as “a nobilis,” and annotated by Macdonald as “very like the type for P. [rotochara] australis, and seems likewise to lack bracts”.


CHARA BISTRACHIOIDES F. Müell.— (see No. 29, 32, 34)

CHARA BEHRIANA F. Müell.— (see No. 7)

CHARA CONTRARIA A. Br. ex Kütz.


(7) Dr. Mueller. date ?. In fonte vallis subsalsi, Salts gully with [?], prope Bethanien [Bethany near Tanunda, South Australia] (MEL) — spec.: intact; annotated as "var. Behriana Ferd. Mueller; unicum.", and also as "Chara Behriana Ferd. Mueller."

CHARA DICHOPITYS A. Br.— (see also C. preissii, C. hookeri and C. microphylla)


(9) Coll.? 4. date? Portland [doubtless Ch. Stuart, 1848, Portland, in the Georgetown region, near mouth of Tamar River, Tasmania; see spec. No. 38 and 44] (MEL) — spec.: tiny fragment; labelled Bot. Mus. Melb. as "C. Hookeri, unicum." See also No. 38 and 44.

(10) W. Fitzgerald. 1893. Tasmania (MEL) — spec.: intact; labelled as "a Preissii."

(11) Coll.? date ? Murray River [SE Australia, but where on the river?] (MEL) — spec.: tiny piece; label missing, only Nordstedt’s annotation as "a Preissii."


CHARA FRAGILIS Desv.


(15) Coll.? date? Near Station Peak [doubtless J. P. Fullagar, 1865-68. You Yangs N from Geelong, Victoria] (MEL) — spec.: intact; label singed. Note: mixed with Nitella lhotzkyi; possibly 1854 — see No. 59 and 65.

(16) Coll.? [Ferdinand Mueller?] 51. Jan. 28, 1848. locality? [in German script, not yet translated, but near Adelaide, South Australia, since Mueller was at Holdfast Bay on Jan. 31, 1848] (MEL) — spec.: intact; labelled as “var. laxa” apparently by Mueller.


(18) F. M. Reader. date? locality? (MEL) — spec.: partly burnt; label half burnt. Note: mixture of 2 Charas and a Nitella — rdw.

CHARA GYMNPITYS A. Br.

(19) Leary. 1892. Port Jackson [vicinity of Sydney, New South Wales] (MEL) — spec.: intact; annotated as “junior” by Nordstedt.


(22) Coll.? date? locality? (MEL)—spec.: intact; label uncertain, two are available and it is uncertain which belongs to the specimen. It might be No. 585.


(24) Nyulasy. 1888. Ord River [NE Western Australia] (MEL) — spec.: intact; packet half burnt; annotated “sporis immatures.”

one little clump of this plant, it is submerged, growing in rapid running water ... *Ch. gymnopitys sterilis,*" and on the packet is annotated "Die grössere Chara — *Ch. gymnopitys,* die verworrene — *Nitella interrupta.* Wohl auch aus Schoalhaven River?"

(26) Coll. ? 562 [572 ?]. date ? [probably Ch. Stuart at South Esk R., Tasmania] (MEL) — spec.: intact; labelled Phyt. Mus. Melb. as "*Chara macropogon* probably from Stuart or Oldfield" [in light ink] and "probably Tasmania, Ch. Stuart" in Mueller’s heavy ink. Nordstedt annotated "*Chara gymnopithys* A. Br., major caudata sporis immaturis, sed verisimiliter ad var. *acanthopithys* persistens [spelling ?]. Unicum."

(27) C. Weldon Birch. 1892. Tate River, N.E. Australia [WNW of Cairns, Queensland, see No. 143] (MEL)—spec.: intact; labelled Phyt. Mus. Melb. as "f. aequistriata laxior gracior..."

(28) Ch. Stuart 219. date ? Moreton Bay [vicinity of Brisbane, Queensland, probably Feb. 1858, see No. 35] (MEL)—spec.: one plant; labelled with two distinct scripts, and a German annotation not legible to me—rdw.


(30) D. Boyle. date ? [between 1865 and 1872]. Blackburn Creek near Port Phillip [vicinity of Blackburn, an eastern suburb of Melbourne, Victoria] (MEL)—spec.: intact, huge material with branchlets to 2 cm. long; labelled Phyt. Mus. Melb. with text in pencil overwritten with ink, and not clear, also as “unicum”.

(31) Coll.? Oct., 3, [18] 83. Lass[o?]m Creek [doubtless Yarram Creek, vicinity of Queenscliff, Victoria] [probably by Bracebridge Wilson, who collected *C. contraria* (No. 5) and *T. glomerata* (No. 5) in the same vicinity] (MEL)—spec.: intact; annotated “sterilis (spor junior) f. aquistriata valde crassa” by Nordstedt, as “unicum”.

(32) Dr. M[ue]ller. April, 1848. Haud procul a lacu Victoriae in aquis pigris [i.e., not far from Lake Victoria in sluggish water, near mouth of Murray River, South Australia] (MEL)—spec.: a few small examples; labelled "*Ch. batrachioides* Ferd. Muell." by Mueller[?]. Note: A number of specimens and papers labelled "*C. batrachioides*" assembled, and marked “A”—rdw; for date, see No. 55.


(37) Stuart, date ➟ Tasmania (MEL)—spec.: not definite (2 questionable specimens and labels); labelled “f. major.”

CHARA GYMNOPSIS* A. Br.

(37A) W. H. Cusack. 1895. Harding River, N.W. Australia [at Port Walcott, Western Australia] (MEL)—spec.: small fragment enclosed in folded label, intact; labelled Phyt. Mus. Melb. as “C. gymnopus* A. Br. (fortasse nov. var.).”

CHARA HOOKERI A. Br.— (see also C. dichopitys)

CHARA INCONSPICUA F. Muell.— (see No. 55).

CHARA LEPTOSPERMA A. Br.


CHARA LEPTOSPERMA A. Br.

* Possibly written “Gymnopitys”, not clearly legible—rdw.
(41) E. Palmer 152. date? [probably c. 1882]. Mitchell River [N Queensland] (MEL—spec.: intact; labelled Phyt. Mus. Melb. as "grows in still fresh water, floating underneath surface in shallow pools, very common in all Mitchell waters" by Palmer; annotated as "doubtful" by Nordstedt.


CHARA MACROPOGON A. Br.—(see Lamprothamnium macropogon)

CHARA MICROPHYLLA F., Muell. ex Kütz.—(see also C. dichopitys and C. hookeri)

(43) St[uart] 558. Feb., 1849. In fluvio South Esk, Tasmania (MEL)—spec.: parts are intact; annotated as "Chara Hookeri A. Braun".

(44) Ch. Stuart 4. 1848. Tasmania (MEL)—spec.: intact; label burnt (see No. 9 which indicates "Portland", also No. 38).

CHARA MUELLERI A. Br.—(See also C. scoparia)


CHARA MYRIOPHYLLA F. Muell. ex A. Br.

(46) C. Stuart 581 [587?]. April, 1849. South Esk River [Tasmania] (MEL)—spec.: 2 fragments mixed with another species of Chara; labelled "This Chara is a very rare one unlike [others of its] family it does not appear in masses, but singly and at a distance—not from the bottom of the river, but from the banks at the side" by Stuart.

(47) Coll.? 562. Feb. [1849]. In South Esk River [Tasmania] [doubtless C. Stuart, Feb., 1849, see No. 46 and 62] (MEL)—spec.: one small piece; label consists merely of notes on card. Note: for date, see No. 62.

(48) Coll.? date? Tasmania [doubtless C. Stuart, see No. 44] (MEL)—spec.: 4 pieces of which one is a large, fine example.

CHARA PREISSII A. Br.—(see also C. dichopitys)

(49) F. M. Reader. Jan., 12, 1902. In "Whitton Swamp" [Lake near Warracknabeal, Victoria] (MEL)—spec.: intact, large and fine specimen; label half burnt.
(50) L. Preiss. Feb., 1839. In alveo coenosatis fluminis
"Avon" terrae superioris, ab aboriginibus "Berrelangin"
dictae [i.e., a boggy shallow place on high ground of the
River Avon at the place called "Berrelangin" by the
aborigines] Western Australia (MEL)—spec.: 3–4 small
pieces.

(51) Ferd. Mueller. 1853. Darebin Creek [vicinity of Melbourne,
Victoria] (MEL)—spec.: 2 rather dissimilar pieces, one
of which more closely resembles No. 50, and might
have been mixed during reassembly after the fire.

felix [Gol Gol, near Mildura, SW New South Wales]
(MEL)—spec.: intact; labelled as "f. major polyphylla"
preumably by Mueller.

CHARA PSILOPITYS A. Br. ex Nordst.
(53) A. T. Vogan. 1889. Mulligan River [near border of SW
Queensland] (MEL)—spec.: several pieces; labelled
"β Drummondii. Spores matura non visa" possibly by
Nordstedt.

CHARA SCOPARIA Chev.—(see also C. muelleri)
(54) El. Leary. 1892. Port Jackson [vicinity of Sydney, New
South Wales] (MEL)—spec.: only a few scorched
fragments survived; labelled Phyt. Mus. Melb. and
annotated "β Muelleri" by Nordstedt.

(55) Dr. F. Mueller. April 28, 1848. In aquis quiet non finoral
a lacu Victorian [not legible] [near mouth of Murray
River, South Australia] (MEL)—spec.: intact; labelled
"var. Muelleri", annotated "C. inconspicua Ferd. Mull."
by Mueller.

CHARA SUBTILIS F. Muell.—(see No. 36)

CHARA SUCCINCTA A. Br. in Asch.
[—Kootanoorina Station (fide Burbidge, 1950: 11), north
central South Australia, c. 28° S. lat., c. 136° E. long.]
(MEL)—spec.: intact; labelled Phyt. Mus. Melb.

CHARA sp.
(57) Coll.? Summer, 1865. Bason of the Cataract at.... [rest
obscure] (MEL)—spec.: intact. Note: is C. australis,
and possibly 1st Basin, Launceston, Tasmania—rdw.

† Not clearly written; possibly "Aqua subsalsa"—rdw.
LAMPROTHAMNIUM MACROPOGON (A. Br.) Ophel (commonly treated as Chara macropogon)

(65) Dr. M[ueller] 52. date ? In aquis subsalsis prope Station-Peak, near Port Phillip [vicinity of Geelong, Victoria] (MEL)—spec.: intact; labelled as Chara macropogon. Note: No. 59 suggests this was collected in 1854; possibly a duplicate.

LAMPROTHANIUM sp.

(67) Coll.? 148. 1854. In Sermonion Vellijoule. Ves...e Cove [not legible] [locality?] (MEL)—spec.: badly scorched; label badly bleached and burnt.

NITELLA ACUMINATA A. Br. ex Kütz.


(69) W. Persieh 5. 1887. Endeavour River [near Cooktown, Queensland] (MEL)—spec.: small wad; labelled Phyt. Mus. Melb. as “β subglomerata”.
NITELLA AEMULA A. Br.

(70) Dr. F. M[ueller] 2. April 28, 1848. In aquis stagnantibus in vicinis montis Barkeri [i.e., in stagnant water in vicinity of Mount Barker, South Australia] (MEL)—spec.: intact. Note: bicellulate.

NITELLA BIFORMIS A. Br.


NITELLA CONGESTA (R. Br.) A. Br.

(72) Coll.? date? Lake Leven [locality?] [possibly on Leven R. in N Tasmanian] (MEL)—spec.: lost, of the two found in the folder after the fire one was C. australis from Cataract, 1865 (see No. 57) and the other Leichhardt’s Nitella of Nov. 25, 1843 (see No. 149).

NITELLA CONGLOBATA A. Br.—(see also N. lhotzkyi)


(75) Oldfield. date? [March, 1859]. Moore’s River [—Moore River] West[ern] Australia [c. 50 miles north of Perth] (MEL)—spec.: only a few fragments; label largely lost, a remaining bit shows “....ae Dr. M. 502” but also labelled Phyt. Mus. Melb. as “unicum” and as “var. Lhotzkyi” probably by Mueller.


(77) Drn. Sullivan 37. 1893. Lake Buningong, Kira [?, doubtless = River] Hopkins [possibly L. Bunijong, c. 20 miles SW of Ararat, Victoria, near Hopkins River] (MEL)—spec.: a few fragments; labelled with 3 different scripts, as “α Lhotzkyi”.

NITELLA CRISTATA A. Br.—(see Williams, 1959)

(79) Rev. Dr. Woolis. date ? Par[r]amatta [suburb of Sydney, New South Wales] (MEL)—spec.: lost; labelled Phyt. Mus. Melb.; annotated by Macdonald, 1955, as “branchlets 2-furcate, dactyls mostly 3-celled. 3 unripe oogonia which are clustered at both branchlet furcations, fertile whorls somewhat contracted”. Also sketches are included.


(81) Ch. Stuart 5. [1848]. Tasmania (MEL)—spec.: intact, sterile; labelled Phyt. Mus. Melb.


(85) Coll? [Stuart] 788. [1848]. South Esk River [Tasmania] (MEL)—spec.: intact; annotated by Macdonald as “N. breviteles?”.

(86) Wilcox. Nov., 1878. Clarence River, NE coast N.S.W. [New South Wales] (MEL)—spec.: destroyed; labelled “Schlechter ex [ample] vielleicht Nitella cristata male oder eine nahe stehende species” [i.e., poor example, perhaps male N. cristata or a similar species—Nordstedt].

(87) Coll? date ? locality ? (MEL)—spec.: some parts not destroyed; label largely burnt, the legible parts appearing to read “[Ch]ara australis….. out mis jud….. cristata Al. Br.”.

(88) Ch. Stuart. date ? Tasmaniae (MEL)—spec.: lost; labelled Phyt. Mus. Melb. as “unicum….. stagnant water…..” Note: both fit Stuart 219, except that it was not a solitary specimen (unicum).

(89) Miss W. J. Smith. 1892. Murray River [where along river?] (MEL)—spec.: scorched badly.
(90) Leary. 1892. Port Jackson [vicinity of Sydney, New South Wales] (MEL)—spec.: intact, includes four, three of which Macdonald numbered 2, 3, and 4; labelled by Nordstedt; annotated “brachyteles” on some labels, and includes Macdonald’s study data.

(91) Ch. Stuart. date ? Moreton Bay [vicinity of Brisbane, Queensland] (MEL)—spec.: a few fragments; labelled Phyt. Mus. Melb. as “verisimiliter (sterilis)” by Nordstedt (?).


(94) Ch. Stuart 751. date ? [Nov., 1848]. St. Paul’s River, Tasmania] (MEL)—spec.: intact; annotated with Macdonald’s study data.

(95) Ch. Stuart. date ? New England [NE New South Wales] (MEL)—spec.: badly scorched, but fertile parts intact; annotated with Macdonald’s study data.

(96) Coll.? date ? locality ? (MEL)—spec.: intact; labelled as “Nitella sp. ad N. diffusa accedens” by Nordstedt, and as “unicum”; annotated with Macdonald’s study data.


(98) Leary 5. 1892. Port Jackson [vicinity of Sydney, New South Wales] (MEL)—spec.: a few parts survived, enough for study; annotated with Macdonald’s data and sketches.

(99) Coll.? date ? locality ? (MEL)—spec.: a few fragments suitable for study, with two slides of the granulate oospore membrane; labelled by Nordstedt; annotated with Macdonald’s study data.

(100) Reader. date ? Near Dimboola [, Victoria] (MEL)—spec.: intact; label badly burnt; annotated “looks like N. ge'atinosa” by Macdonald.

(101) Reader. date ? locality ? (MEL)—spec.: intact; label burnt.
NITELLA GELATINOSA A. Br.


(103) Coll.? [Stuart] 1027. date? locality? [South Esk River, Launceston, Tasmania] (MEL)—spec.: intact; labels uncertain. Note: of the two labels, neither seems to fit, one states “South Esk River, Jan., 49” (date as in No. 102) and the other states “var. cryptostachya. Mersey. Tasmania. C. Stuart 559” (as in No. 111). For data for 1027, see No. 113.

(104) Ch. Stuart 582. date? Aquis fluentibus ad Fl. South Esk River [Tasmania] (MEL)—spec.: lower parts survived; labelled with some German script not yet translated.

(105) Dr. Mueller. Oct., [18]52. In fossis ad flumen Yarra [in ditch near the Yarra River, vicinity of Melbourne, Victoria] (MEL)—spec.: intact; labelled on sheet, and accompanied by letter from A. Braun, 1853, which is half burnt.

(106) Dr. Mueller. date? Capaspe River [Campaspe R., W Victoria] (MEL)—spec.: several loose, stringy plants.

(107) Coll.? date? locality? (MEL)—spec.: intact; labelled with two labels, one with “21. Is that in fruit, or is it the ova of frogs? Fruit! Nitella gelatinosa”, while the other is Nordstedt’s annotation.


(110) Ferd. Mueller. Jan., [18]47 [must be 48]. In fluvis Torrens, Nov. Holl Austr. [vicinity of Adelaide, South Australia] (MEL)—spec.: intact, small; labelled as “var. cladostachya” [by whom?]. Note: this may actually be specimen Dr. F. Mueller 501.

(111) C. Stuart 559. date? [Jan., 1849, see No. 102]. Boggy waters, Mersey River, Tasmania (MEL)—spec.: intact; labelled as “var. cryptostachya A. Br.” [by whom?], and Phyt. Mus. Melb. as “Chara gelatinosa var. cryptostachya”.

(113) Stuart 1027. date ? South Esk River, Launceston, Tasmaniae (MEL)—spec.: intact; labelled “f. opaca” [by whom?]. Note: two specimens marked 1027, the one as “unicum” provides the data.

(114) Coll? [Ch. Stuart]. Jan., [18]49. Mersey River [Tasmania] (MEL)—spec.: two unburnt; labelled “var. podostachya”. Note: other specimens collected about same time are No. 102 and 111.

NITELLA GLOEOSTACHYS A. Br.


NITELLA GUNNII A. Br. ex Nordst.


(118) D. Sullivan. Feb., 1881. Moyston near the Grampians, [W central Victoria] (MEL)—spec.: intact, but incomplete; labelled as “β fastigiata” in script presumably Nordstedt’s while two other scripts state “Moyston...” (Sullivan’s?) and “near the Grampians...” (Mueller’s). Note: specimen is large and coarse, quite unlike No. 116 and 117, and mixed with Chara.

NITELLA HYALINA (DC.) Ag.

(119) E. Palmer 54. date ? [1882]. Found in shallow water near Mount Bromsprings [= Goodsprings ?], Flinders River [N central Queensland, near Gulf of Carpentaria] (MEL)—spec.: three pieces; label seems to refer to a phanerogam rather than to a Charad.

(120) E. Leary 10. 1892. Port Jackson [vicinity of Sydney, New South Wales] (MEL)—spec.: intact; labelled only with Nordstedt’s annotation “spor. junior”.


NITELLA INTERRUPTA A. Br. ex Leonh.—(now treated as N. leonhardii).

(123) L. Rodway. Nov., 1895. Pond at Sorell Creek, South Eastern Tasmania (MEL)—spec.: two fair but fragmentary; labelled Phyt. Mus. Melb.; annotated by Macdonald as “very large heads. Apparently male, very large antheridia”.

(124) Ch. Stuart [4?]. 1850. South Port, Tasmania (MEL)—spec.: two intact, fair; labelled as “unicum..... 4”, but includes two sheets; annotated by Nordstedt.

NITELLA LEPTOSTACHYS A. Br.


NITELLA LHOTZKYI (A. Br.) A. Br.—(see also N. conglobata var. lhotzkyi)


(128) Coll.? date ? locality ? (MEL)—spec.: intact, excellent; labelled Nat. Herb. Vict. but entirely burnt except for identification; annotation by Dolsky [ = Lhotzky ?], burnt except the words “Bicellulatae female, ripe oog. probably heteroclemae”.

NITELLA MICROPHYLLA A. Br.


NITELLA POLYCEPHALA (A. Br.) Kütz.

(130) Dr. Mueller 3 [?]. Oct., 1852. In flumine Yarra [River in vicinity of Melbourne, Victoria] (MEL)—spec.: intact; labelled as “Chara” and “unicum”; annotated by Nordstedt as “Wahrscheinlich Nitella polycephala”.

(131) Dr. Mueller. Oct., 1852. In flumine Yarra [River in vicinity of Melbourne, Victoria] (MEL)—spec.: two intact; annotation, partly burnt, states “Nitella gelatinosa var. polycephala A. Braun 1853”.
NITELLA POLYGYRA A. Br. ex Kütz.

(132) Dr. L. Preiss. date? Nov. Holland. austro-occid [SW Australia] (MEL)—spec.: intact, though sheet is burnt on left side and packet of fragments is scorched; labelled "Nitella polygyra n. sp. affinis Nitellae syncarpa" in Braun's script.

(133) G. French. Sept., 1887. Port Phillip [vicinity of Melbourne, Victoria] (MEL)—spec.: six sheets slightly burnt; annotated by Macdonald, 1955, with numbers including variously one or more each of N. polygyra, N. penicillata, and N. cristata.

NITELLA REMOTA A. Br.


NITELLA SONDERI A. Br.

(135) Rev. Dr. Woolls. 1880. Hawkesbury River [vicinity of Sydney, New South Wales] (MEL)—spec.: intact; labelled Phyt. Mus. Melb. as "unicum".


NITELLA STUARTII A. Br.


(138) C. Stuart. date? Tasmania (MEL)—spec.: intact; labelled as "13" by Mueller.

NITELLA SUBTILISSIMA A. Br.


NITELLA TASMANICA F. Muell. ex A. Br.

(140) Ch. Stuart 218. Dec., 1848. In aquis fluentis . . . ad fluvium . . . South Esk River [vicinity of Launceston, Tasmania] (MEL)—spec.: intact; labelled in small script (Stuart's) and annotated in bold script (Nordstedt's).

(142) [Ch. Stuart]. [18]49. South Esk River w. [= west of?] Perth, [Tasmania] (MEL)—spec.: intact; labelled “Ferd. v. Muller”. Note: a number 218 has been inserted in this folder. It is conceivable that this is a duplicate of that collection.

NITELLA TRICUSPIS A. Br. (now treated as N. dregeana)

(143) Ch. W. Birch. 1892. White Water, near Mount Albion. N. . . . Austr. [at head of Tate River, c. 65 miles E of Cairns, Queensland] (MEL)—spec.: a tiny scrap on mica slide; labelled by Nordstedt. Note: writing looks like “Bird”, but collector was certainly Birch.

NITELLA TUMIDA Nordst.

(144) A. T. Vogan. date ?. In heissen* Salzquellen am Mulligan River [i.e., in a hot saltwater spring bore on the Mulligan River, SW Queensland] (MEL)—spec.: intact; labelled Phyt. Mus. Melb. det. O. Nordstedt.

NITELLA sp.

(145) Miss Landsborough. date ?. Towomba [= Toowoomba, SE Queensland] (MEL)—spec.: intact, and includes a No. 6 and a No. 11 (fair condition); labelled Phyt. Mus. Melb.; annotated by Macdonald, 1955, as “pluricellulate, perhaps N. cristata”.

(146) Oldfield] 7. date ?. [March, 1859]. Wet places near the Moore River [Western Australia, c. 50 miles N of Perth] (MEL)—spec.: fragments; labelled in pencil notes, also a “unicum” and “7” in ink; annotated by Macdonald as “bicellulate?”.

(147) Persieh 535. 1882. Endeavour River [near Cooktown, Queensland] (MEL)—spec.: two wads, labelled as “Nitella sp., sp. nov. ad N. tenuissima accedens”; annotation by Nordstedt is scorched, but states “Nitella fortassee nov. sp. ad N. tenuissima accedens”.

(148) Mrs. Gribble. Oct [Nov.?] 10, 1895. Mount Bellenden Ker [c. 40 miles S of Cairns, Queensland] (MEL)—spec.: intact, but mere scrap; labelled Phyt. Mus. Melb. as “Nitella nov. sp.” [by whom?]; annotated by Nordstedt as “diarthrodactyla, homoeophylla, dioica, gymnocarpa?, fructificatione nulla in dionera [?] folis feminas, gracilis”.

* Not clearly written; possibly “kleinen”—rdw. Nordstedt read it as “hot”.
After the manuscript was completed, the junior author located a number of additional specimens which had also survived the fire. These were from the National Herbarium of New South Wales, Sydney. The data were transmitted to the senior writer, edited, and are added below without his further verification. They are to be returned to the Sydney herbarium.

CHARA FRAGILIS Desv.

(150) R. Gunn. Dec., 1840. Derwent River, Tasmania (NSW) — spec.: missing; labelled Herb. NSW; annotated "Chara fragilis Desv." by ?.


(151A) R. C. Gunn. date? locality? (NSW) — spec.: intact; labelled "Ex Herb. Hook.—7. Ch. fragilis".

CHARA GYMNOPITYS A. Br.

(152) R. C. Gunn. date? Tasmania (NSW) — spec.: intact; labelled "[C.] gymnopitys A. Br." by ?, "Ex Herb. Hook[er]", and "Herb. Archer.".

(153) R. Gunn. date? Tasmania (NSW) — spec.: intact; labelled "R. Gunn" in corner of sheet, with data on another duplicate; annotated in broad script.

(154) R. Gunn 1568 [or 1560]. Jan. 20, 1843. Cimitiere Pl., George Town, Tasmania (NSW) — spec.: intact; label in two scripts, partly burnt.


CHARA LEPTOPITYS A. Br.

(157) Coll.? date? locality? (MEL ?) — spec.: intact, good fertile material; label lost. Note: adhering to scorched sheet marked " . . . [Ch] ara leptopitys ", marked "unicum", and in heavy brown paper species cover of kind sent from (MEL).

CHARA MOLLUSCA A. Br.

(159) R. Gunn. Jan., 1841. Lake St. Clair, Tasmania (NSW)—spec.: intact, small wad; annotated as “Seen by J. Groves 16-10-30”.

CHARA MYRIOPHYLLA F. Muell. ex A. Br.

(160) R. Gunn. date ? R[iver] Derwent, Tasmania (NSW)—spec.: intact, but scorched; annotated “Chara myriophylla F. v. M.”, and also as “Seen by J. Groves 16-10-30”.


(162) R. Gunn. date ? Tasmania (NSW)—spec.: half burnt, good material; label mostly burnt, but folder marked “C. myriophylla” by Macdonald.

(163) R. Gunn 1560 [1568?]. Jan. 20, [18]43. Cimitiere Plains, George Town, Tasmania (NSW)—spec.: largely intact, a large wad; labelled on a separate paper as “In brackish water with Ruppia” in a fine script.


(166) R. C. Gunn. date ? locality ? [doubtless Tasmania] (NSW)—spec.: loose wad burnt at one end; labelled Herb. Archer and “Ex Herb. Hook.”.

NITELLA GELATINOSA A. Br.

(167) R. C. Gunn. date ? locality ? (NSW)—spec.: one small piece; labelled Herb. Archer and “Ex Herb. Hook.”.

NITELLA GLOEOSTACHYS A. Br.


(171) R. C. Gunn. date? locality? [Tasmania] (NSW)—spec.: large scraps with fertile heads; labelled Herb. Archer and “Ex Herb. Hook.”; annotated as var. major by Macdonald.

NITELLA GUNNII A. Br.

(172) R. Gunn. Dec. 21, [18]44. South Esk [River], Perth, Tasmania (NSW)—spec.: intact, with dense globular whorls; label partly burnt; annotated “Nitella Gunnii” in large script.

NITELLA HOOKERI A. Br.


(174) R. C. Gunn. date? locality? [Tasmania ?] (NSW)—spec.: few small scraps on back of a blank Herb. Archer label; two labels with conflicting data, one with “Hab. Tasmania. Coll. R. C. Gunn” and the other “Nitella Hookeri var. Tasmanica”. The previous data, obviously cut away from one label, states “Nitella Hookeri A. Br., Kerguelen Land.”. Note: the “Kerguelen” label probably refers to an earlier collection. Critical examination of the specimen is needed to determine which label is correct.

(175) R. C. Gunn. date? Tasmania (NSW)—spec.: half burnt, mainly sterile scraps; labelled “Ex Herb. Hook.”; annotated “Chara Hookeri” by ?.


NITELLA sp.


(180) R. Gunn. Sept. 30, [18]47. Tasmania (NSW)—spec.: few small scraps of mixed Nitella or Chara and a phanerogam.
List of Collectors

W. Bauerlen, No. 71; Ch. Weldon Birch, No. 27, 68, 143; D. Boyle, No. 30; Rev. J. Bufton, No. 78; J. Cameron, No. 4; W. H. Cusack.* No. 20, 37a, 76; J. Drummond, No. 66, 139; J. P. Eckert, No. 141; W. V. Fitzgerald, No. 10; G. French, No. 133, 134; W. P. Fullagar, No. 15; Mrs. Gribble, No. 148; R. C. Gunn, No. 150-180; Mrs. Martha Heal, No. 3; R. Helms, No. 56, 92; Misslandsborough, No. 145; El. Leary, No. 19, 21, 54, 90, 98, 120; Leichhardt, No. 149; Lewis, No. 73, 136; Dr. Ferdinand von Mueller, No. 17, 27, 6, 7, 8, 12, 13, 14, 16, 32, 36, 39, 51, 52, 55, 58, 65, 70, 74, 93, 105, 106, 110, 127, 130, 131; C. T. Musson, No. 80; C. W. Nyulasy, No. 24, 42, 121; A. Oldfield, No. 33, 75, 129, 145; E. Palmer, No. 41, 119; W. A. Persieh, No. 69, 147; L. Preiss, No. 50, 132; F. M. Reader, No. 18, 45, 49, 100, 101, 108, 109, 115, 126; L. Rodway, No. 123; A. Rudder, No. 125; Miss W. J. Smith, No. 89; Ch. Stuart, No. 97, 207, 28, 29, 35, 37, 38, 43, 44, 46, 47, 48, 62, 81, 82, 83, 84, 85, 88, 91, 94, 95, 102, 103, 104, 111, 112, 113, 114, 116, 117, 124, 137, 142, 142; Hermann, No. 73, 37, 38, 43, 44, 46, 47, 48, 62, 81, 82, 83, 84, 85, 88, 91, 94, 95, 102, 103, 104, 111, 112, 113, 114, 116, 117, 124, 137, 142, 142; D. Sullivan, No. 53, 144; C. Walter, No. 40; Miss Warburton, No. 63; Th. Wier, No. 25; J. F. Wilcox, No. 86; C. Wilhelm, No. 34; J. (also P.) Bracebridge Wilson, No. 5, 31, 64, 122; Rev. Dr. W. Woolls, No. 17, 23, 79, 135.

Literature Cited


*Occasionally spelt “Cussack” on the labels.

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