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The naming and typification of the breadfruit, *Artocarpus altilis*, and breadnut, *A. camansi* (Moraceae)

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Abstract: The historical background and typification of the widely distributed and highly appreciated breadfruit tree, *Artocarpus altilis* (\equiv *Sitodium altile*; Moraceae), and breadnut, *A. camansi*, is discussed. *Sitodium altile* is lectotypified selecting a watercolour painting by Sydney Parkinson made in Tahiti in 1769, during James Cook's first voyage around the world (1768–1771) in HMS *Endeavour*, and preserved at the Natural History Museum of London. A specimen from E. D. Merrill's "illustrative specimens" of Blanco's Philippine plants in the United States National Herbarium is designated as the neotype for *A. camansi*.

Key words: *Artocarpus*, breadfruit, breadnut, E. D. Merrill, HMS *Endeavour*, lectotype, Moraceae, neotype, nomenclature, *Sitodium*, Sydney Parkinson

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Introduction

The genus *Artocarpus* J. R. Forst. & G. Forst. (from the Greek *artos*: bread, and *karpos*: fruit) includes nearly 70 tropical tree species distributed from India, east through Southeast Asia, and into Oceania (Williams & al. 2017). The genus is characterized by its fleshy compound infructescences (syncarps) (see Jarrett 1976). It is the largest genus in the tribe *Artocarpeae* and the third largest genus in the Moraceae (after *Ficus* L. and *Dorstenia* L.) (Jarrett 1959a, 1959b, 1960; Berg & al. 2006; Ragone 2006; Zerega & al. 2010; Williams & al. 2017). Biogeographically, the centre of diversification of *Artocarpus* is thought to be Borneo, and from there the genus experienced several dispersal events into SE Asia and Oceania, mainly during the Miocene (Williams & al. 2017). Several species of *Artocarpus* are cultivated in the tropics for food and other utilities. Among the most widely used

species are *A. altilis* (Parkinson) Fosberg (domesticated breadfruit), *A. camansi* Blanco (breadnut) and *A. heterophyllus* Lam. (jackfruit) (Ragone 2006; Haq 2006; Jones & al. 2013; Blancke 2016).

The most complete phylogeny of the tribe *Artocarpeae* has suggested the division of *Artocarpus* into four subgenera: *Artocarpus*, *Cauliflori* (F. M. Jarrett) Zerega, *Prainea* (King) Zerega and *Pseudojaca* Trécul (Zerega & al. 2010). *Artocarpus altilis*, together with the wild relatives *A. camansi* (Blanco 1837) and *A. mariannensis* Trécul (Trécul 1847), form the breadfruit complex, a well-supported monophyletic lineage in *A.* subg. *Artocarpus* (Zerega & al. 2005, 2010; Williams & al. 2017). This complex has been variously treated by different authors as either several distinct (Blanco 1837; Trécul 1847; Fosberg 1960; Zerega & al. 2005, 2010) or a single, highly variable species (Jarrett 1959b; Berg & al. 2006). Here we follow Zerega & al. (2005, 2010), and

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A. altilis and *A. camansi* are the subject of this paper. *Artocarpus altilis* is a primary component of traditional agroforestry systems in Oceania, and is a tree highly appreciated for its starchy syncarps, medicinal uses, ease of cultivation and environmental services (Rumphius 1741; Hooker 1828; Jarrett 1959b; Berg & al. 2006; Zerega & al. 2004, 2005, 2006; Ragone 1997, 2006; Jones & al. 2010, 2011). *Artocarpus camansi* (breadnut) is native to New Guinea and possibly the Moluccas and the Philippines (Jarrett 1959b). It is considered the wild progenitor of *A. altilis*, and has been introduced for its edible seeds to the Caribbean and South America. (Zerega & al. 2005, 2006).

Throughout the Pacific, hundreds of breadfruit cultivars have been selected for their adaptations to local ecological conditions (including the saline soils of coral atolls), nutritional value and fruiting patterns (Ragone 1988, 1997, 2006; Jones & al. 2010). The highest levels of genetic diversity are found in Micronesia (where hybrids are common), followed by Melanesia, where seeded cultivars are common, which contrasts with the low levels of genetic diversity found in E Polynesia, where seedless triploid cultivars predominate (Zerega & al. 2005, 2006). Melanesian and Polynesian breadfruit cultivars are thought to be derived from *Artocarpus camansi*, and some Micronesian cultivars from hybridization between *A. altilis* and *A. mariannensis* and subsequent introgression (Fosberg 1960; Zerega & al. 2004, 2005, 2006; Jones & al. 2013; Elevitch & al. 2014). The hybrids between *A. altilis* and *A. mariannensis* are highly variable in morphology between early generation and domesticated hybrids (Jones & al. 2013). Some 3000 years ago, the spread of early cultivars was facilitated by the Lapita culture, a people that sailed from SE Asia eastwards through the Pacific into Melanesia and then into Polynesia (Ragone 2006; Zerega & al. 2004, 2005, 2006, 2010; Jones & al. 2011, 2013).

In the 18th century, European nations recognized the potential of the breadfruit as a cheap source of food for slave populations, and they attempted to introduce a few seedless varieties in their tropical colonies (Ellis 1775; Hooker 1828; Jarrett 1959b; Zerega & al. 2006). One of the first attempts to transport plants from the Pacific to the Caribbean was led by Captain William Bligh (see Fosberg 1960) on the HMS *Bounty*, a voyage that failed due to a mutiny (Bligh 1792). However, subsequent attempts were successful (Jarrett 1959b: 323).

For its potential in food security, the breadfruit is included as one of the priority crops by the Global Crop Diversity Trust (<https://www.croptrust.org/>) and included in Annex 1 of the International Treaty on Plant Genetic Resources for Food and Agriculture (FAO 2009; Jones & al. 2010, 2011, 2013; <http://globalbreadfruit.com/>). However, rising sea levels, natural disasters and genetic and cultural erosion constitute increasing threats to the diversity of Pacific breadfruit cultivars in the 21st century (Zerega & al. 2006; Jones & al. 2011).

To our knowledge, both *Artocarpus altilis* and *A. camansi*, two key species in the breadfruit complex, need corrections made to their current typifications. The purpose of this paper is to fix the application of those names through proper typification based on consideration of the respective protologues and original material.

Historical background

The circumnavigation of the globe by Lieutenant James Cook in HMS *Endeavour* (1768–1771), was the first British voyage devoted to geographical, astronomical and scientific discovery (Banks 1896; Beaglehole 1955; Stearn 1968, 1969; Rix 2012; Gooding 2017a). It was a voyage commissioned by the Royal Society to observe the transit of Venus across the Sun in Tahiti and then to sail in search of the Southern Continent. Sir Joseph Banks (1743–1820), at his own cost, arranged a small team to study the natural history during the voyage, including the Swedish naturalist and botanist Daniel Carl Solander (1733–1782), and recruited three draughtsman, Alexander Buchan (?–1769), Hermann Spöring (1733–1771) and Sydney Parkinson (c. 1745–1771), the last as painter of botanical objects (Banks 1896; Groves 1962; Rauschenberg 1968; Rice 2010; Gooding 2017a).

HMS *Endeavour* touched at Madeira, Brazil and Tierra del Fuego before reaching the Society Islands, New Zealand and E Australia (Beaglehole 1955; Banks 1896). After Buchan died in Tahiti, the full artistic responsibility shifted to Parkinson. From New Zealand, the number of plants collected was so overwhelming that Parkinson could do no more than sketches with detailed colour references, with the idea of completing the works later (Lack & Ibáñez 1997). Unfortunately, Parkinson died of malaria and dysentery in January 1771 during the homeward voyage across the Indian Ocean from Batavia (Jakarta) to the Cape of Good Hope (Stearn 1978; Diment & al. 1984; Rice 2010; Gooding 2017a). He left over 674 precise outline drawings and 269 finished watercolour paintings, remarkable for their artistic design and great scientific interest (Stearn 1968, 1969; Carter & al. 1981; Blunt 1983; Diment & Newington 1985; Diment & al. 1987; Lack & Ibáñez 1997; Gooding 2017b).

The botanical discoveries were impressive, with over 30 000 herbarium specimens, representing over 3600 species, of which 1300 were previously unknown to science (Carter & al. 1981). Once in London, Solander devised a system of cataloguing the information on loose slips of paper, continued the study of the botanical collections and wrote several manuscripts for floras, in which he proposed new names and made detailed descriptions in Latin (Groves 1962; Diment & Wheeler 1984; Gooding 2017b). The descriptions of the plants collected in the Society Islands (at Tahiti and Moorea, Huahine, Raiatea and Tahaa) from April to August 1769 are found in Solander's manuscripts *Plantae Otaheitesenses* and *Plantae*

Insularum Oceani Pacifici, respectively. There are also two alphabetical indexes of the plants collected: *Index Speciminum Plantarum Insulae Otaheitesens* and *Index Speciminum Plantarum Insulae Otaheite reliquarumque insularum Oceani Pacifici* (Diment & Wheeler 1984). Unfortunately, none of these writings (preserved at the Natural History Museum of London) was ever published.

Banks and Solander were also involved in the publication of an ambitious illustrated Flora of the voyage based on Parkinson's botanical drawings, *The Florilegium*, that was to include the most precise and exquisite botanical illustrations and the description of the plants new to science (Gooding 2017b). Over 13 years, Banks employed a team of five artists and 18 skilled engravers to make a total of 743 copper plates of which 738 are extant (Stearn 1968, 1969; Carter & al. 1981; Diment & al. 1984, 1987; Gooding 2017b). Unfortunately, and despite all the efforts and money invested, the sudden death of Solander in May 1782, and other reasons, prevented its publication (Stearn 1969; Diment & al. 1984; Duyker 1998; Gooding 2017b). After Banks's death, in 1820, the botanical specimens, the illustrations, copper plates and proofs became the property of the British Museum (Natural History) (Diment & Newington 1985; Diment & al. 1984, 1987). A total of 318 lithographs of Australian plants were published at the beginning of the 20th century (Banks & Solander 1900–1905), and a selection of 30 engravings were printed in black-and-white (Blunt & Stearn 1973). The first complete full-colour edition of *Banks' Florilegium* was published in a boxed edition limited to 100 copies (Diment & Humphries 1980). More recently, a selection of the *Banks' Florilegium* has been published (see Studholme 2017).

Typification of the names

Artocarpus altilis and its synonyms

It seems that the first mention of the breadfruit by Europeans was that of Pedro Fernandez de Quiros, the Portuguese pilot in Mendaña's second voyage through the S Pacific Ocean (1595–1596) (Jarrett 1959b; Maude 1959). In the 16th century, the Spanish undertook several expeditions from Peru into the C Pacific and they were likely responsible for distributing the Polynesian breadfruit into both Micronesia and the Philippines in the 17th century (Jarrett 1959b; Ragone 1997; Zerega & al. 2006).

Among the several pre-Linnaean references (see Jarrett 1959b: 322), one of the most important is Rumphius's *Herbarium amboinense*, where breadfruit and its close relatives appear as "*Soccus Lanosus*", "*Soccus granosus*" and "*Soccus Silvestris*" (Rumphius 1741: 110, 112, 114, T. 32, 33, 34). Jarrett (1959b:115) included "*Soccus Lanosus*" and "*Soccus granosus*" in the seedless and seeded forms of breadfruit. However, following the current taxonomy and nomenclature, Rumphius's names

refer to three different species: "*Soccus Lanosus*" [= *A. altilis* (Parkinson) Fosberg] is breadfruit (the seedless type); "*Soccus granosus*" [= *A. camansi* Blanco] is seeded breadnut; and "*Soccus Silvestris*" [= *A. horridus* F. M. Jarrett] is a wild species of the Moluccas very closely related to breadfruit (Zerega, pers. comm.).

The first Linnaean name of the breadfruit, *Sitodium altile* Parkinson, was published after the death of Sydney Parkinson by his brother, Stanfield Parkinson, in "*Journal of a voyage to the South Seas in H.M.S. Endeavour*" (Parkinson 1773: 45–46), in a chapter entitled "*Plants of use for food, Medicine & c. in Otaheite*". The species appeared together with the Tahitian name "E ooroo" including a long description with some important characters and general comments on its uses ("... this tree grows to between thirty and forty feet high, has large palmate leaves, of a deep grass green on the upper-side but paler on the under; and bears male and female flowers, which come out single at the bottom or joint of each leaf."; see <http://nla.gov.au/nla.cs-ss-jrnl-parkinson-075>). In his publication, Stanfield used the scientific names from Sydney's journal. Sydney took the names in his journal from Solander's manuscripts when on board HMS *Endeavour* (Gooding 2017b) and made the drawings of the natural objects under the direction of Banks and Solander (Parkinson 1773: 36).

In 1776, Johann Reinhold Forster and his son George, the botanists on Cook's second voyage (1772–1775), named the genus *Artocarpus* (Forster & Forster 1776: 101) and described the species *A. communis* J. R. Forst. & G. Forst. (l.c.: 102, t. 51–51a–f), disregarding Parkinson's name (Baum 1903; MacCaughey 1917; Stearn 1968, 1969). These names first appeared a year previously, in the 1st edition of the Forsters' *Characteres generum plantarum* (1775), but are not validly published there because this work is listed among the "opera utique oppressa" (suppressed works) under the *International Code of Nomenclature for algae, fungi and plants* (McNeill & al. 2012, hereafter "ICN"; see <http://botany.si.edu/references/codes/props/index.cfm>). Also in 1776, the breadfruit was given other names: *Radermachia incisa* Thunb. (Thunberg 1776: 253) and *Rima Sonn.* (Sonnerat 1776: 99, t. 57–60). In 1781, the younger Linnaeus transferred *Radermachia incisa* to *Artocarpus*, as *A. incisus* (Thunb.) L. f. (Linnaeus 1782: 411). In the 19th century, the Augustinian friar F. M. Blanco (1778–1845) published his *Flora de Filipinas* (Blanco 1837), where he described *A. rima* Blanco (as "*Arcthocarpus*") for the plants growing in those islands (Jarrett 1959b). However, this name has been treated as a synonym of *A. communis* (Jarrett 1959b) or currently of *A. altilis* (Zerega & al. 2005).

Fosberg (1939: 231) proposed the conservation of *Artocarpus* against *Sitodium* Parkinson, because of the continuous use of the former name since 1776, but maintained the priority of the *S. altile* over *A. communis*, proposing the new combination *A. altilis* (Parkinson) Fosberg, the name currently used (see Fosberg 1941, 1960; Dandy

1967; Berg 2005; Berg & al. 2006; Ragone 2006; Zerega & al. 2004, 2005, 2006, 2010; Williams & al. 2017). However, some authors have questioned the validity of Parkinson's name, highlighting deficiencies in the botanical description (Merrill 1954; Jarrett 1959b; St. John 1972; Stone 1974), or have considered that the first acceptable binomial was the name published without a hyphen in the German translation (Parkinson 1774) (see St. John 1972; Stone 1974, 1988). It was likely for the latter reason that Florence (1997: 143) accepted the first valid publication of the name as "*Sitodium altile* S. C. Parkinson ex Z., Naturforscher (Halle) 4: 244, pl. 2. 1774" (see Degener & Degener 1978), the author "Z" later identified by Pieper (2006) as Friedrich August Zorn von Plobsheim (1711–1789). The name *S. altile* Parkinson ex Zorn was lectotypified by Florence (1997: 143) with a published illustration reproduced from Parkinson's original water-colour illustration, whereas we lectotypify the name *S. altile* Parkinson with that original illustration (see below). Because the two types are not the same illustration, the names are heterotypic and therefore homonyms, the later of which is illegitimate under *ICN* Art. 53.1.

The hyphen in "*Sitodium-altile*" (Parkinson 1773) was regarded as a orthographic error by Jarrett (1959b: 310). Because Parkinson used a hyphen in all the binomials in this work, we consider it as a typographical device that is not part of the name and can therefore be disregarded for nomenclatural purposes. Jarrett (1959b: 116–117) considered Parkinson's description unscientific and inadequate, and for that reason cited (p. 307) the names *Sitodium altile* and *Artocarpus altilis* as "nomina subnuda" and chose *A. communis* as the validly published name for the breadfruit. However, in our opinion, the description found in Parkinson's protologue is amply adequate for the purposes of *ICN* Art. 38.1(a) and we therefore consider Parkinson's name to be validly published.

Jarrett (1959b: 307) designated as the lectotype of *Artocarpus communis* a specimen preserved at BM as "Holotype: without provenance, *Forster s.n.* (BM); ? isotype, Tahiti (K)", clearly referring to the sheet now with the barcode BM000900567. This sheet bears a single leaf, and a duplicate specimen is preserved at K, with the barcode K000357659 (see Smith 1981).

Regarding the type of *Sitodium altile*, because Fosberg (1941) did not designate a type when he proposed the combination *Artocarpus altilis*, Zerega & al. (2005: 611) indicated the same Forster specimen at BM as "lectotype". However, this "lectotypification" is ineffective according to *ICN* Art. 7.10 because Forster's specimen at BM cannot be considered part of Parkinson's original material, and any possible correction to a neotype under *ICN* Art. 9.9 must also be rejected because there exists original material (*ICN* Art. 9.7 and 9.13). No specimens or illustrations were cited in the protologue by Parkinson, nor were any illustrations published as part of the protologue, but there exist uncited elements that need to be considered.

Among the herbarium material of *Artocarpus altilis* collected by Banks and Solander on Cook's first voyage, Diment & al. (1987: 157) indicated "2 sheets, 1 – Otaheite, 2 – Otaheite, Huahine, Ulhietea (? syntypes)". At BM there are two specimens. The first sheet, with barcode BM000752555 (Fig. 1), bears two branches with leaves; it includes a small printed label "SOCIETY ISLANDS 1769 / BANKS & SOLANDER", a larger printed label "PLANTS OF / CAPTAIN COOK'S FIRST VOYAGE / (H.M.S. ENDEAVOUR) / 1768–1771 / SOCIETY ISLANDS: Otaheite / 13 April – 1 June 1769 & 4 June – 13 July 1769 / 'hab. in Otaheite, Huahine, Ulhietea / reliquisque insulis elevationibus oceani / pacifici' / Coll. JOSEPH BANKS & DANIEL SOLANDER" and a determination label by J. Florence dated 1993. The digital image in Fig. 1 shows an annotation "Tahiti – Banks & Solander (Cook's 1st Voyage).", which presumably has been digitally copied from the verso and pasted onto the recto. Berg (1998: 21; 2015: 4) cited this specimen as a syntype "Tahiti, Banks & Solander s.n. (BM!)". The second sheet, with barcode BM001209950 (Fig. 2), bears two branches with leaves and two separate leaves (all very deeply lobed); it includes a hand-written label "*Sitodium altile*. Mscr", a small printed label "SOCIETY ISLANDS 1769 / BANKS & SOLANDER", a larger printed label "PLANTS OF / CAPTAIN COOK'S FIRST VOYAGE / (H.M.S. ENDEAVOUR) / 1768–1771 / *Artocarpus communis* / TAHITI [and '(1769)' in pencil] / Coll. JOSEPH BANKS & DANIEL SOLANDER", a label indicating that the specimen was sampled for DNA in 2017 and a determination label by J. Florence dated 1993. The digital image in Fig. 2 shows an annotation "Tahiti – Banks and Solander (Cook's 1st Voyage)", which presumably has been digitally copied from the verso and pasted onto the recto.

These two specimens at BM, although very different, belong taxonomically to *Artocarpus altilis* and were undoubtedly collected on Cook's first voyage. Clearly important is that both specimens lack any annotation by Parkinson and neither is linked to any of Parkinson's illustrations (Carter & al. 1981) (see below), and therefore they cannot be considered as original material (*ICN* Art. 9.3). On the other hand, the term "?syntype" used by Diment & al. (1987: 157) and Berg (1998, 2015) is inappropriate because the specimens were not cited in the protologue (*ICN* Art. 9.5), and use of the term syntype cannot logically be corrected to lectotype under *ICN* Art. 9.9. In this sense, Smith (1981: 207) wrote "there may be Tahitian collections of the breadfruit at BM from the first Cook voyage, but it would seem unwarranted to consider any of them a holotype".

There are, however, unpublished illustrations that are undoubtedly original material for *Sitodium altile*. While in the Society Islands, Parkinson made 15 sketches and 113 finished watercolours, all preserved at BM (Stearn 1978; Carter & al. 1981; Diment & al. 1987). Among them, there is one finished watercolour of *Artocarpus altilis* (Fig. 3), depicting a branch with leaves, three infruct-

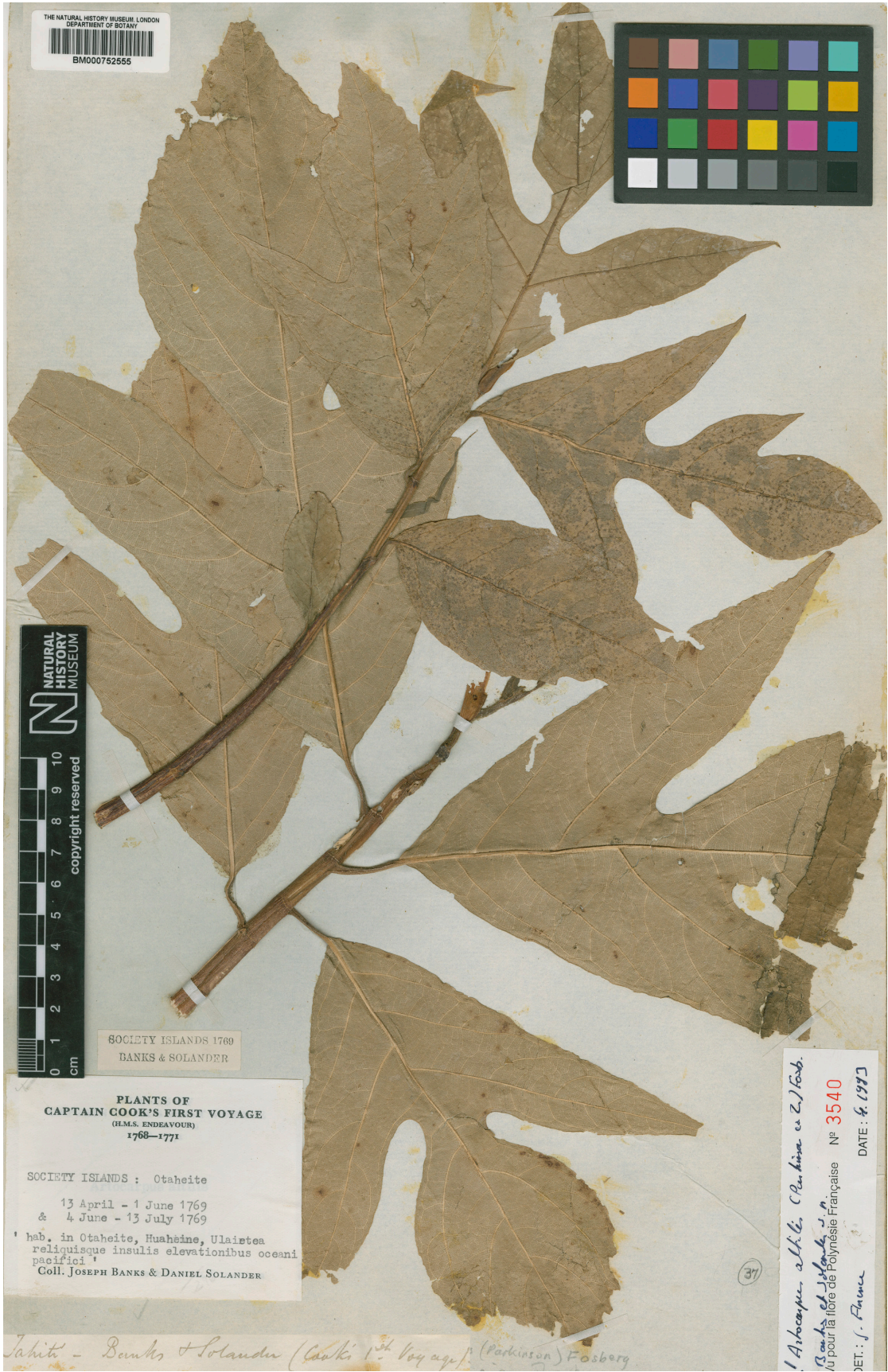


Fig. 1. Specimen of *Artocarpus altilis*, showing two branches with leaves, collected by Banks & Solander in 1769 in Tahiti, preserved in BM (barcode BM000752555). – Image reproduced with kind permission of the Trustees of the Natural History Museum, London.



Fig. 2. Specimen of *Artocarpus altilis*, showing two branches with three leaves, collected by Banks & Solander in 1769 in Tahiti, preserved in BM (barcode BM001209950). – Image reproduced with kind permission of the Trustees of the Natural History Museum, London.

escences (syncarps) and a male inflorescence, annotated “*Sitodium altile*. / Sydney Parkinson pinxit 1769” in one hand and “*Artocarpus incisa*, L. f.” and “Otaheite” in two other hands. From this watercolour, John Frederick Miller made a copy in pen-and-ink wash, which is also at BM, together with five original pencil sketches by Parkinson, four of which are annotated “*Sitodium altile* / Otaheite”. The five sketches comprise two drawings of branches with syncarps, one of a branch with male inflorescences, one of a single syncarp in longitudinal and cross-section, and a remarkable study of a single leaf (see Diment & al. 1987: 157–158). At the bottom of one of the sketches of a branch with syncarps, there is the annotation “The leaves dark grass green with pale yellow green veins the underside pale green with prominent veins, the male flower & spatha pale yellow green, the fruit a yellow green.”

The watercolour painting and the five pencil sketches comprise the extant original material of the name *Sitodium altile*. Fosberg (1960) noted that the type on the name could be selected from these drawings. From among the original material we designate Parkinson’s excellent finished watercolour as the lectotype of *S. altile*. This illustration is very complete and the best original element. Most importantly, it can be identified unambiguously as representing the traditional concept and current use of the name *Artocarpus altilis* (e.g. Parkinson 1773; Fosberg 1960; Florence 1997; Zerega & al. 2005; Ragone 2006; Berg & al. 2006, 2015).

Sitodium altile Parkinson, J. Voy. South Seas: 45. 1773 [“*Sitodium-altile*”] = *Artocarpus altilis* (Parkinson) Fosberg in J. Wash. Acad. Sci. 31: 95. 1941. – **Lectotype (designated here)**: Parkinson’s watercolour illustration, annotated “*Sitodium-altile*. / Otaheite / Sydney Parkinson pinxit 1769” and preserved at the Natural History Museum London (Fig. 3).

= *Sitodium altile* Parkinson ex Zorn in Naturforscher (Halle) 4: 244. 1774, nom. illeg. (ICN Art. 53.1) = *Artocarpus altilis* O. Deg. & I. Deg. in Phytologia 39: 144. 1978, nom. illeg. (ICN Art. 53.1). – Lectotype (designated by Florence 1997: 143): [illustration] “*Der Brodbaum*” in Parkinson (1774: t. 2) [illustration reproduced from Parkinson’s watercolour illustration].

= *Artocarpus communis* J. R. Forst. & G. Forst., Char. Gen. Pl., ed. 2: 102. 1776. – Lectotype (designated by Jarrett 1959b: 307 [as “holotype”, corrected here according to ICN Art. 9.9]): *Forster s.n.* (BM [barcode BM000900567]!; isoelectotype: K [barcode K000357659]!).

= *Radermachia incisa* Thunb. in Kongl. Vetensk. Acad. Handl. 37: 253. 1776 = *Artocarpus incisus* (Thunb.) L. f., Suppl. Pl.: 411. 1782. – Lectotype (designated by Jarrett 1959b: 307 [as “holotype”, corrected here according to ICN Art. 9.9]): Java, *Thunberg s.n.* (UPS 135210!; isoelectotype: L [barcode L0052850]!).

= *Artocarpus rima* Blanco, Fl. Filip.: 671. 1837 [“*Arcthocarpus*”]. – **Neotype (designated here)**: [Philippines], Manila, Luzon, Mar 1914, *Merrill Species Blancoanae* No. 603 (US [barcode 00688527, US catalog no. 904280]!).

Artocarpus camansi

The name *Artocarpus camansi* was published in the first edition of Francisco Manuel Blanco’s *Flora de Filipinas* (Blanco 1837: 670), but he did not cite any gatherings. This species was also included in the second edition of Blanco’s work (Blanco 1845: 467). Most of his descriptions were based on fresh material collected by himself or brought to him by other persons, and some descriptions were based on dried specimens received from his various colleagues, but the original material did not survive (Merrill 1918).

With the aim of resolving the problem of the status of Blanco’s names, Merrill distributed an exsiccata of 16 sets of “illustrative specimens” for each species that functioned as replacements for the lost original material (Merrill 1918). Many of Blanco’s names have been neotypified based on the “illustrative specimens” from Merrill’s series *Species Blancoanae* (Nicolson & Arculus 2001). However, although Merrill (1918: 124) wrote “*Merrill: Species Blancoanae* No. 830” from Manila, Luzon, Philippines as “illustrative specimen” of *Artocarpus camansi*, this is a gathering consisting of several specimens and could therefore serve only as a “first-step” neotypification according to ICN Art. 9.17, but only if Merrill’s statement were considered to be a designation of a type in accordance with ICN Art. 7.10 (see Nicolson & Arculus 2001). Much more recently, Zerega & al. (2005) wrote “NEOTYPE: Manila, Luzon, Philippines, *Merrill Species Blancoanae* 830, designated by Merrill in Sp. Blanco. 124. 1918 (US!, No. 00904515)”. However, this intended neotypification is ineffective because, in lacking the phrase “designated here” or an equivalent, which is required from 2001 onwards, it is contrary to ICN Art. 7.10. We therefore designate here the same specimen as the neotype of *A. camansi*.

Artocarpus camansi Blanco, Fl. Filip.: 670. 1837. – **Neotype (designated here)**: [Philippines], Manila, Luzon, Feb 1915, *Merrill Species Blancoanae* No. 830 (US [barcode 00730771, US catalog no. 904515]!; isoneotype: L [barcode L0817646]!).

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Fig. 3. Lectotype of *Sitodion altilis* Parkinson (\equiv *Artocarpus altilis* (Parkinson) Fosberg). Finished watercolour by Sydney Parkinson of the breadfruit tree (as *Sitodion altilis*), made at Otaheite (Tahiti) in 1769 during James Cook's first voyage. – Image reproduced with kind permission of the Trustees of the Natural History Museum, London.

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