

## Bibliographic Notes on G. Forster's "De plantis esculentis insularum oceani australis" (1786)

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THERE ARE CERTAIN overlooked aspects of G. Forster's small book of 80 pages issued in 1786. The first is that there were two editions, one the doctorate thesis printed at Halle ad Salam in 1786 and a reprint of this with a new title page issued in Berlin in the same year; and the second aspect is that various new names, with very ample descriptions, were herein published anterior to their appearance in Forster's *Prodromus*, in which only very short diagnoses were provided.

No date closer than the year appears on either edition, both bearing the legend: "Datum Vilnae Lithuanicae, anno MDCCLXXXVI." I have detected no differences in the technical parts, pages 25-80, but the Halle edition (the thesis) carries a 14-line footnote on page 19 which was eliminated in the Berlin issue, whereas the former bears at the end of the introduction, page 20, the name Georgivs Forster, and the latter D. Georgivs Forster. One can only conclude that the Halle issue appeared first and the Berlin edition somewhat later. The eliminated footnote is interesting, and, as it throws some light on what happened, it seems desirable to reproduce it here:

Dedarat in pater optimus, flagitanti amico ut aliquot centurias plantarum ex Itinere relatarum, magni nominis Viro et modo non montes auri pollicenti ea tamen lege atque omine, dono concederet, ne iis quisquam uteretur, ad descriptiones ex siccis speciminibus parandas; quum scilicet easdem Pater et Ego juncta opera evulgare nobis proposuissemus. Verum in *Supplemento Plantarum Systematis Vegetabilium a CAROLO a LINNE Filio Brunsvigae* 1781, edito, in qualibet pagina plantis

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Oceani Pacifici, Botanophili mirantur iam nunc nomen Equitis Baeck, adscriptum; qui nunquam hoc mare adiit.

Sic Vos non Vobis

Hos ego versiculos feci, tulit alter honores!

It was customary in the eighteenth century often to add to labels or to statements added to herbarium sheets (and thus mentioned in publications) the name of the donor rather than the name of the collector, when a set of specimens had been received as a gift from an intermediary. Abraham Baeck (or Bäck) was one of Linnaeus' most intimate friends and was accustomed to acquire botanical material from time to time and to present the specimens to Linnaeus. It was unquestionably Baeck who purchased a set of duplicates of the Forster Collection. As Linnaeus died early in January, 1778, these specimens found their ultimate resting place in the herbarium of the son. This in turn was acquired by Sir James Edward Smith when he purchased the entire Linnaean Herbarium; but the herbarium of the younger Linnaeus was distributed into the Smith Herbarium, now maintained separately at the Linnaean Society in London. Willdenow continued this system as he built up his large herbarium which is, as to specimens, the basis of his greatly amplified edition of Linnaeus' *Species plantarum*, 1797-1824. Another strange practice that was continued up to at least the middle of the nineteenth century in some botanical centers was the writing of the name of the species and that of the collector on the herbarium sheets and the discarding of the original labels and notes (if any).

Thus it is that in the younger Linnaeus, *Supplementum plantarum* (1781) the references

to his new species based on Forster collections from Tahiti, New Zealand, and elsewhere are such that one would infer that Baeck was the collector. Examples are *Aeschynomene coccinea* L.f., and *Melaleuca villosa* L.f., "Equ. Bäck," *Anthoxanthum crinitum* L.f., "Eques Bäck," etc., as well as included J. R. and G. Forster species credited to Baeck as their source although the specimens were collected by the Forsters.

Surely the younger Forster was wisely advised in eliminating the footnote above quoted when the Berlin issue of his minor work was printed. After all, from the liberties he took with numerous Solander names, he certainly had little justification in criticizing the actions of others whose work impinged slightly on his own tardily developed field. There are at least hints that there were some rather caustic letters from Forster to the younger Linnaeus, but I have not followed this lead, such data being irrelevant now.

In our day, when sets of duplicates are sold by collectors, the situation is different than it was in earlier times, because now no reservations are made or implied. It is safe to assume that the sets of Forster specimens recorded by de Candolle as being at Paris and at the University of Kiel were actually sold by the older Forster, because of his financial straits following the London debacle in 1777 caused by his breaking of his signed agreement not to publish a journal of Cook's second voyage. This restriction was neatly by-passed: the son, 17 years old when the expedition left England, is the indicated author, as nobody thought of requiring him to sign an agreement not to publish an account of the trip. It seems to be clear that the father contributed materially to it, or at least guided his son in the preparation of the text. At any rate the younger Forster's account of the voyage was published in both English (London, 1777) and German (Berlin, 1778), the former several months before Cook's official journal was issued in London in 1777.

This strange act alienated all the Forsters'

friends and supporters in England and naturally offended the Admiralty. The situation became so acute that neither father nor son was able to secure remunerative employment in that country. Thus they were forced to return to Germany, their situation being ameliorated by the elder Forster's receiving an appointment at the University of Halle in 1780. A brief summary of this now more or less forgotten episode appears in the biographical sketch of J. R. Forster included in volume fifteen of the Rees Cyclopaedia (1810). In it there is a beautiful example of British understatement regarding this episode: "... the father was supposed to have had a considerable share in it." Stansfield in 1935 summarized the episode thus: "This action of the Forsters, which was admittedly sharp practice, prevented their obtaining further posts in this country, and for a time they both fell on lean times"—another example of British understatement. This is no reflection on the ability of the individuals concerned, as they were both highly educated, able, and productive; but today we would say that they were distinctly unethical. However, for practical purposes the action taken by them in London in underhandedly breaking the signed agreement appertaining to the journal prevented much further detailed consideration of results of their field work in the Pacific, because at that time it was only in London that library facilities and extensive reference collections were available to them. What the younger Forster later accomplished on the Pacific collections was in no respect noteworthy, and what was published came approximately a decade after the London debacle. I have not elaborated this episode in detail because certain documents are not available to me, but William Wales (1778) apparently took some part in the controversy, to which the younger Forster responded (1778).

I had noted, incidentally, that most of the new species of Forster f. which appeared with very ample descriptions in *De plantis esculentis* (1786) appeared also in the *Prodromus* (1786)

with exasperatingly short diagnoses consisting of but one or two to three or four (rarely five) lines. The introduction is dated at Vilna, Lithuania, June 30, 1786. It was published in Göttingen. Moreover, in the *Prodromus*, in almost every case where the same new species was involved, there was a reference to the binomial and to the page where it appeared in *De plantis esculentis*. This is proof that the latter work was printed before the *Prodromus* was published. Because the descriptions of new species appearing in *De plantis esculentis* are in general very ample, in contrast to the greatly abbreviated *Prodromus* diagnoses, I was naturally surprised to note that in botanical literature nearly all references are to the *Prodromus* rather than to the earlier *De plantis esculentis*.

The priority of issue of *De plantis esculentis* over the *Prodromus* is again proved by the reviews of both works appearing very shortly after the small volumes were published. In the *Göttingische Anzeigen von gelehrten Sachen* (volume three for 1786, the September 25 number, pp. 1538–1542) there is an ample review of *De plantis esculentis* (the Berlin issue, not the original thesis), while the *Prodromus* has an equally ample review in the November 13 number (pp. 1816–1820). This is a spread of over 1½ months. The net result of these investigations is a series of corrections to the entries in *Index Kewensis*, in which the references are to the *Prodromus*. One striking thing indicating the unfinished character of the *Prodromus* is that, among approximately 75 vascular cryptogams so briefly diagnosed as to be scarcely described, more than 30 of the new species are not even localized; and the vast region from which the specimens came extends from Easter Island and the Marquesas to Tahiti, the Friendly Islands, New Zealand, New Caledonia, and the New Hebrides. The real importance is that the *Prodromus* entries are merely one- to three-, rarely four- to five-line diagnoses, whereas the earlier published descriptions in *De plantis esculentis* are, for the most part, in great detail.

In the following lists, the dagger (†) preceding a specific name indicates a correction to the *Index Kewensis* entries and the asterisk (\*) an unlisted binomial.

**Areca** †*sapida* Soland. ex Forst. f., Pl. Esculent. 66, 1786, Prodr. 94, 1786. New Zealand. = *Rhopalostylis sapida* (Soland ex Forst. f.) Wendl. & Drude. The data appertaining to this New Zealand species in the first reference are notes rather than a technical description; the second entry is a nomen nudum.

**Avicennia** †*resinifera* Forst. f., Pl. Esculent. 72, 1786, Prodr. 45, 1786. New Zealand. This is currently but erroneously reduced by most workers to *A. officinalis* L., a species with flowers 10 to 15 mm. in diameter, its type from Ceylon, and which is not known farther to the southeast than New Guinea. The New Zealand form with very much smaller flowers, 2.5 to 5 mm. in diameter, is *A. marina* (Forsk.) Vierh. var. *resinifera* (Forst. f.) Bakh. (Bul. Jard. Bot. Buitenz. III. 3: 103, 210, pl. 16, 1921).

**Cocos** \**rubra* Forst. f., Pl. Esculent. 67, 1786, *nom., nota*, sub *Areca sapida* Soland. Tonga. = *Cocos nucifera* L. Forster f. merely stated: "Huius forte generis [Areca] est *Niu-gula*, (*Cocos rubra*), Palma, cuius *Cookius* meminit in Tonga insula, *itineris novissimi* tomo I. p. 332." The reference is to Cook's account of his third voyage (1784: 332). His *neeogula*, or red coconut, is mentioned as a kind of cabbage tree not distinguishable from the coconut, with an insipid tenacious kernel, the fruits scarcely 2 inches long assuming a reddish cast when ripe. In spite of the indicated small size of the fruit, this is certainly a teratological form of *Cocos nucifera* L.

**Convolvulus** †*chrysochizus* (Soland.) ex Parkinson, Jour. 37, 1773, *nom., nota*; Soland. ex Forst. f., Pl. Esculent. 55, 1786, *nom., nota ampl.*, Prodr. 89, 1786, *nom. nud.* = *Ipomoea batatas* (L.) Poir. In his long discussion Forster f. gave the range

as from Easter Island to New Zealand, considering it correctly as merely a form or variety of *Ipomoea batatas* (L.) Poir., the common sweet potato. He compiled other information from Rumphius, indicating the significance of the names used for it in the Moluccas before about 1680 (*castila*, *uby-*, *ima-*, and *lutu-castila*, and *camotes*), these names having been introduced there from the Philippines. However, the sweet potato was first recorded from Guam, Cebu, and the Moluccas by Pigaletta when these islands were first discovered by Magellan in 1421, a too often overlooked record. The name *camotes* is of Mexican origin.

**Coriaria †sarmentosa** Forst. f., Pl. Esulent. 46, 1786, descr. ampl., Prodr. 71, 1786, diagn. New Zealand. The first reference is to a very detailed one-and-one-third page description, the second to a four-line diagnosis.

**Crataeva †religiosa** Forst. f., Pl. Esulent. 45, 1786, descr. ampl., Prodr. 35, ampl., Prodr. 35, 1786, diagn. Tahiti and the Society Islands. The first reference is to a detailed, 40-line description, the second to less than a full line diagnosis. Here Forster f. appropriated Solander's name as his own, as he did in many other cases.

**Dracaena †indivisa** Forst. f., Pl. Esulent. 64, 1786, descr. ampl., Prodr. 24, 1786, diagn. New Zealand. = *Cordyline indivisa* (Forst. f.) Steud. The contrast here is a two-line diagnosis in the *Prodromus* to a 60-line detailed description and discussion in the original place of publication.

**Ficus †aspera** Forst. f., Pl. Esulent. 36, 1786, descr. ampl., Prodr. 76, 1786, diagn. New Hebrides (Tanna). In contrast to the two-line diagnosis in the *Prodromus*, the earlier description cited consists of about 15 lines and was based on specimens from Tanna. In the *Prodromus*, Namoka is also listed; this is Nomuka in the Tonga group.

**Ficus †granatum** Forst. f., Pl. Esulent. 37, 1786, Prodr. 76, 1786. New Hebrides (Tanna). The first published description

consists of about 20 lines, the diagnosis published later in the same year consists of three lines.

**Lepidium †oleraceum** Forst. f., Pl. Esulent. 69, 1786, descr. ampl., Prodr. 46, 1786, diagn. New Zealand. The first published description is a greatly detailed one of 35 lines; the diagnosis published later in 1786 consists of two lines only. Limited to New Zealand and neighboring islands.

**Lepidium †piscidium** Forst. f., Pl. Esulent. 70, 1786, Prodr. 46, 1786. Huaheine (easternmost of the Leeward group, Society Islands) and "botanices insula ad novam Caledoniam adjacente." Solander had this written up in his unpublished manuscript under a different specific name from Eimeo, Huaheine, Ulaietea, Tahiti, and Otaha, and observed: ". . . copiosissime autem in insulis depressionibus Oceani Pacifici." The original and first published description by Forster f. is in great detail, about 30 lines; the later published diagnosis of two lines only, but in the *Prodromus*, between Botanices insula and Huaheine, he added Teautea. Botanices insula is between New Caledonia and the Isle of Pines.

**Maba †major** Forst. f., Pl. Esulent. 54, 1786, descr., Prodr. 92, 1786, nom. nud. Friendly Islands. The first published description is a rather cursory one consisting of 11 lines, but therewith Forster f. records having observed the species on Tongatabu, Namoka [Nomuka], Euwa, Hopai, and other islands in the Friendly group.

**Solanum †aviculare** Forst. f., Pl. Esulent. 42, 1786, Prodr. 18, 1786. New Zealand. The original and first published description is a detailed one of nearly 30 lines, the later diagnosis consists of two lines only. Known also from Tasmania, Australia, and Norfolk Island.

**Solanum †viride** (Soland.) ex Parkinson, Jour. 38, 1773, nom., nota; Solander ex Forst. f., Pl. Esulent. 72, 1786, nom., nota, Prodr. 89, 1786, nom. nud. Society Islands. = *S. uporo* Dunal. Parkinson provided no

description, and the little that Forster f. wrote about it was taken entirely from the former's data. Parkinson's entire statement about the Tahitian *pourabeitee* was, "The leaves of this plant, baked, are eaten as greens." *Solanum anthropophagorum* Seem. (1862) is a synonym.

**Spondias** †*dulcis* (Soland.) ex Parkinson, Jour. 39, 1773; Forst. f., Pl. Esculent. 33, 1786, descr. ampl., Prodr. 34, 1786, diagn. Society and Friendly Islands. The detailed description in *De plantis esculentis* consists of about 50 lines, the species is there credited to both the Society and the Friendly Islands; "in Taheiti frequentissima." In the *Prodromus* only the Society Islands were mentioned, and the diagnosis was limited to six words. Here Forster appropriated Solander's unpublished binomial (Solander MS., p. 257). There is a Parkinson plate and also a Forster one. These documents are at the British Museum (Nat. Hist.). Among all the new species of Solander actually considered by Parkinson in 1773, the latter's descriptive notes on this *Spondias* present, I judge, his nearest approach to a botanical description. If this be not accepted, then the next older name is *Mangifera pinnata* L. f. (1781) = *Spondias pinnata* (L.f.) Kurz; and the next validly published name, *Spondias cytherea* Sonn. (1783), was based on material grown in the Île de France from seeds introduced by Commerson direct from Tahiti. (Commerson was the botanist on Bougainville's expedition that visited Tahiti in 1768 between Captain Wallis's discovery of the island in 1767, and Captain Cook's first visit in 1769).

**Terminalia** †*glabrata* (Soland.) ex Parkinson, Jour. 40, 1773, *nom., nota*; Forst. f., Pl. Esculent. 52, 1786, descr. ampl., Prodr. 74, 1786, diagn. Society and Friendly Islands. The species as first amply described by Forster f. in his *De plantis esculentis* (nearly 50 lines) is a distinct one, confused by some workers with the very different

*T. catappa* L. His later diagnosis in the *Prodromus* consists of four words only.

**Tetragonia** †*halmifolia* Forst. f., Pl. Esculent. 67, 1786, descr. ampl., Prodr. 39, 1786, diagn. New Zealand and the Friendly Islands. = *Tetragonia expansa* Murr. (1783). The usually cited later publication of the binomial consists of 12 words; the earlier published detailed description occupies about 40 lines of type.

#### SIXTEEN OVERLOOKED "BINOMIALS" IN MUSA

It is somewhat disconcerting to note that on pages 29 to 32 of George Forster's *De plantis esculentis* there are 16 validly published but unlisted *Musa* binomials, all based on the data recorded by Rumphius in 1747 (pp. 130-133). Although Rumphius is mentioned in the discussion, there is no direct reference to the *Herbarium Amboinense* under any of the binomials; yet the sequence of the arrangement of the taxa are the same in both works, and the Malaysian native names listed by Forster f. are the same as those recorded by Rumphius. Thus there is no doubt as to the source of the younger Forster's data. All of these "species" are forms of the *Musa paradisiaca* = *Musa sapientum* complex, unless one or two of them might eventually prove to belong with *M. troglodytarum* L. (*M. febi* Brotero). Rumphius was not misled but spoke of these as varieties. We are now assured by the geneticists (and this is apparently correct) that both the Linnaean "species," *Musa paradisiaca* L. and *M. sapientum* L., are derivatives from *Musa balbisiana* Colla and *M. acuminata* Colla. In these modern days it is improbable that any taxonomist would think of applying a binomial to any of these *Musa* forms, yet Forster f. ennobled all of them in 1786 by assigning binomials and providing Latin descriptions. They are:

**Musa** \**acicularis* Forst. f., Pl. Esculent. 30, 1786.

**Musa** \**coarctata* Forst. f., l. c., 32.

**Musa** \**coriacea* Forst. f., l. c., 30.

- Musa** \*corniculata Forst. f., l. c., 29. This eliminates *M. corniculata* Lour. (1790), and *M. corniculata* Kurz (1878).
- Musa** \*dorsata Forst. f., l. c., 31.
- Musa** \*exsucca Forst. f., l. c., 29.
- Musa** \*fatua Forst. f., l. c., 32.
- Musa** \*granulosa Forst. f., l. c., 31.
- Musa** \*lunaris Forst., f., l. c., 32.
- Musa** \*mensaria Forst. f., l. c., 30. This replaces *M. mensaria* Moench. (1794).
- Musa** \*papillosa Forst. f., l. c., 32.
- Musa** \*pumila Forst. f., l. c., 32.
- Musa** \*punctata Forst. f., l. c., 31.
- Musa** \*purpurascens Forst. f., l. c., 31.
- Musa** \*regia Forst. f., l. c., 31.
- Musa** \*tetragona Forst. f., l. c., 30.

These 16 binomials appertain to forms occurring in the Moluccas and in other parts of Malaysia. They are strangely hidden in a little book otherwise appertaining strictly to Polynésia, New Zealand, and very slightly to the New Hebrides and New Caledonia.

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