

# **Athrodactylis and Pandanus: A brief comment on the 'Characteres Generum Plantarum' of J. R. and G. Forster**

by

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Although it is well known that, in the work "Characteres Generum Plantarum" of 1776 by Johan Reinhold and Georg Forster, these authors boldly and improperly utilized information they had acquired through their relationship with Sir Joseph Banks in working on the materials which Banks and Solander had amassed during the first of Captain Cook's voyages, in somewhat the same way that had been earlier done by the brother (Parkinson) of the expedition artist, it is interesting to discover that they did not confine their borrowings to any one source.

While working briefly in the Herbarium of St. Xavier's College in Bombay I was able to use originals of the Forsters' work, as well as a number of other ancient and precious volumes. One of these was the "Horti Indici Malabarici" of Henricum van Reede tot Draakestein (published between 1678 and 1703). Studying in particular the references to *Pandanus* I then turned to the Forsters' work, and was immediately struck by the resemblance virtually to the point of identity between the drawing of a fruit (phalange) in fig. 6 of Reede's "pars secunda" with the name "Kaida Taddi" and the illustration (fig. 75) of the Forsters' "Athrodactylis spinosa" (i.e. *Pandanus*). The Forsters' illustration (titled "Appendix Palmae") shows (a) one stamen, (b) one phalange, and (c) one seed. The last two are almost exact copies from Reede's illustration of "Kaida Taddi".

This copying, for such I am sure it was, tallies logically with the Forsters' descriptive text, where (p. 150) they give the diagnosis of "spinosa. 1. ATHRODACTYLIS." in the Linnaean manner, with the synonyms "*Bromelia Sylvestris*. Lin. Flor. Zeyl. Burm. Ind. 79.; *Keura* Forskal Arab.; *Kaida* Rheed. Hort. Malab. p. II. t. 1-8. *Pandanus* Rumph." This is somewhat confusing, but it seems to suggest that the Forsters considered all these names synonymous with their species "Athrodactylis spinosa," although Reede's figures show clearly (to the modern reader) about four distinct species of *Pandanus*. The Forsters' list of synonyms beneath the "species" rather than beneath the "genus" diagnosis (although, strictly speaking, there is no separate botanical diagnosis of the species; only an explanation of the generic name, followed by the "Explicatio" for Tab. LXXV.) seems to a modern reader a mixture of generic and specific synonyms. It is difficult to come to a conclusion as to whether the Forsters thought that all the synonyms they cite really referred to a single species or to a single genus. The only post-Linnaean name cited is *Keura* Forskal. This was monotypic, and thus by citing it in synonymy we would expect the epithet of the species to be taken up if we apply the current nomenclatural Code. The full name of Forskal's plant was *Keura odorifera*. This name is based on material which Forskal purchased in a small village in southwestern Arabia, where the staminate inflorescences were on sale as a perfume.



To this day in both India and in adjacent regions the practice persists, and in 1968 in the villages on Madh Islet in Bombay (for example) one can still see these inflorescences for sale; children and women carry and wear them, "harvesting" them from the trees. The plants are as common in cultivation as wild, especially along the coast. Forskal's genus *Keura* is certainly synonymous with *Pandanus* Stickm. of 1754; the publication of Forskal's "Flora Aegypto-Arabica" was in 1775. The generic name *Athrodactylis* J. R. & G. Forst. is thus clearly a synonym since Forskal's publication was cited. Unfortunately the type material of *Keura* no longer exists. It is, however, very likely to be the plant which is still used in the way mentioned — as perfume — along the coasts of India and is traded for such in adjacent areas. This is clearly identical with *Pandanus odoratissimus* L. f. (the type of which is from Ceylon). At any rate, it is clear that: (1) *Athrodactylis*, as a genus, is equivalent to *Pandanus*; (2) *Athrodactylis* as a name is not nomenclaturally usable, being published with a valid name in synonymy (i.e. *Keura*); (3) the epithet "spinosa" is also illegitimate since the epithet "odorifera" of Forskal should have been taken up; (4) except for the reference to *Pandanus* Rumph. the remaining synonyms all refer to Indian or Ceylon plants; thus it is plain that *A. spinosa* is none other than *Pandanus odoratissimus* L.f. This is borne out convincingly by the fact that to illustrate *A. spinosa*, the Forsters copied Reede tot Draakestein's illustration of "Kaida Taddi" which is unquestionably *P. odoratissimus* L.f.

As a final point it is interesting to note that G. Forster in his later work on Pacific Island Plants (Prodr. 69. 1786) used the binomial *Pandanus odoratissima* (sic). This certainly means that he then considered *Pandanus* as the correct generic name, and by taking up Linnaeus filius' specific epithet also (though altering it to feminine gender) he apparently also meant that the Tahitian plants which he was discussing were to be equated with the Indian and Ceylon species. This interpretation can perhaps therefore be viewed as a confirmation of the conclusions given above.

It is interesting to note further that although much of the 'Characteres Generum Plantarum' was based on Pacific Islands plant collections, the "Appendix" with *Athrodactylis* does not specifically mention any Pacific materials. The reference to Rumphius suggests Forsters' belief that the species of India and Ceylon extended into the East Indies. But there is no mention of *Pandanus-tectorius* (sic) of Parkinson (attributed by many authors to Solander, but never published by him; Parkinson wrote it as a monomial hence it is illegitimate) which appeared in 1773 (Journ. Voy. South Seas ... H.M.S. 'Endeavour' p. 46). There is no mention of any collection by either of the Forsters, although certainly they must have seen many *Pandanus* plants while they were in Tahiti.

## BIBLIOGRAPHY

- Forster, J. R. and G. 1776. Characteres Generum Plantarum. Londoni.  
 Reede tot Draakestein. Henricum van. 1678–1703. Horti Indici Malabarici.





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