

## Two nomina nova in Malagasy *Grewia* L. (Malvaceae-Grewioideae)

David J. Mabberley<sup>1</sup> and René Capuron<sup>†</sup>

<sup>1</sup>Wadham College, University of Oxford, UK; Universiteit Leiden and Naturalis Biodiversity Center, Leiden, The Netherlands; Macquarie University and National Herbarium of New South Wales, Sydney, Australia: [david.mabberley@rbgsyd.nsw.gov.au](mailto:david.mabberley@rbgsyd.nsw.gov.au)

### Abstract

An account of the current state-of-affairs of the taxonomic study of *Grewia* L. (Malvaceae-Grewioideae) in Madagascar is presented. *Grewia capuronii* Mabb. and *G. madagascariensis* Capuron are new names for the Malagasy endemics, *G. lanceolata* Bak., non Miq., and *G. discolor* Baill., non Fresen., respectively.

### Introduction: *Grewia* in Madagascar

This note comprises parts of the final paper on Malagasy *Grewia* originally prepared in the sequence of *praecursores* initiated by Capuron (1963, 1964). In the 1990s, at the invitation of Philippe Morat, DJM worked several summers in Paris to bring order to the late RC's MSS and germane specimens then made available to him there. This led to two published papers - Capuron and Mabberley (1999) and Mabberley and Capuron (1999), in which some of the difficulties encountered in completing this study were set out - and one so far unpublished one.

For Madagascar, where there are some 82 species (Mabberley [2014: 375]; Mabberley and Capuron unpublished). In revising them, Capuron had decided to follow, more-or-less, the sections recognised by Burret (1910) for the genus in Africa (*sensu lato*) but he made two subgenera (*Burretia*, *Vincentia*) of sect. *Pluriovulatae* Burret (re-established as genus *Vincentia* Bojer by Burret [1926]). Besides sect. *Axillares* Burret, accepted by Capuron (1964), Burret also recognised sect. *Microcos* (L.) Benth. (re-established at generic level by Burret [1926], but there are no Malagasy species), sect. *Oppositiflorae* Burret (a superfluous name for sect. *Grewia*, as the type species was included) and sect. *Glomeratae* Burret (no Madagascar species).

With the publication of the four papers above, all but *Grewia* subg. *Grewia* were revised, and for that subgenus Capuron (1964) dealt with sect. *Axillares* Burret. The final joint unpublished paper covered the rest of the subgenus as found in Madagascar and the Comoro Islands and, like the other two joint ones, it largely followed Capuron's (sometimes rudimentary and, for this final paper, frequently non-existent) manuscripts. The paper, complete with plates prepared under the supervision of both RC and DJM, was submitted and edited for publication over 15 years ago, but, since that time, a great deal of new material has been collected, while the plates have apparently been mislaid.

### Importance to Malvaceae studies

Besides updating of these *praecursores* and MSS it remains to synthesize a more homogeneous *Flore de Madagascar* account from them, combined with analysis of the materials received since Capuron's time, the early papers in the series being written over 50 years ago. To aid identification it will be necessary to prepare diagnostic keys in addition to those of the type initiated by Capuron in the *praecursores*, not least because several taxa are known only from fruiting specimens and the keys, as they stand, often require the examination of flowers. But, even then, the completion of the *Flore de Madagascar* account must be seen merely as one step, albeit an important one, towards the understanding of this widespread and ecologically important Old World genus, which has become something of a Cinderella taxonomically: it cries out for molecular studies, for DJM is not confident of the naturalness of much of the system lately adopted (see Mabberley and Capuron [1999]). However, with the, albeit provisional, account of the genus in Madagascar, perhaps the most important centre in terms of diversity and species numbers, completed, such work can now go ahead.

Nonetheless, there are many taxonomic questions raised in these papers, notably questions of inter- and intra-specific variation that can probably only be answered through fieldwork in Madagascar. Similarly, the range in size of stamens in some species strongly suggests that the possible incidence of dioecy or subdioecy, now increasingly detected in tropical woody species (cf. Braggins et al. [1999] for discussion), may be a phenomenon well worth investigating in Madagascar *Grewia* (cf. Whitehouse [2001: 7], on the genus in East Africa, 'flowers...bisexual or possibly rarely unisexual'), but that too can only be effectively investigated in the field. Furthermore, a very interesting area for study is the propensity in Madagascar for the evolution of twiggy shrub forms allied to more typical small trees: this has happened in parallel in different parts of the genus, notably in the Toliara (Tuléar) area of the south-west.

Madagascar is crucial for an understanding of not only *Grewia* but also of Malvaceae-Grewioideae in general. Moreover, for the order Malvales in its current circumscription of ten families (Angiosperm Phylogeny Group 2016), it is perhaps the region of greatest diversity, harbouring two endemic families (Sarcolaenaceae and Sphaerosepalaceae) and representatives of most of the rest of the families now recognised.

Since the first draft of the foregoing paragraphs above was written to preface the unpublished final paper, germane material seen by the authors has been distributed to herbaria, the sheets representing new or re-named species bearing the new names (some appearing on JSTOR for example) and witness to the taxonomic concepts of that MS paper. However, besides the mislaying of the plates, a decision has since been taken in Paris to await further analysis of new material, rather than provide Capuron's framework, as imperfect as it is, to help those now burdened with these specimens and names. But there are no resources to carry out this analysis and it has therefore been decided in Paris that portions of the manuscript of the final unpublished *praecursor* will be modified in the light of the new materials available - and published as a series of articles piecemeal. This, then, like Wahlert & al. (2015, 2016), is such a contribution. [D.J.M.]

### *Grewia* subg. *Grewia*, sect. *Grewia*

*Grewia* L. subg. *Grewia*; Capuron, Adansonia sér. 3, 21: 8 (1999)

Type species: *Grewia occidentalis* L. (Africa).

For typification see Chung (1999).

In subg. *Grewia*, species are marked by a capitate style (or one apically divided into obtuse branches) and a fruit with four pyrenes (or fewer by abortion), each containing one to several seeds (Capuron & Mabberley 1999); those of sect. *Axillares* (all found in western Madagascar) are readily distinguished in their axillary inflorescences, entire stipules, carpels with 4–10(–12) superposed ovules and a sometimes lateral style (see Capuron [1964]).

Species of sect. *Grewia* are found almost throughout Madagascar at low to medium altitudes, and are rain-forest trees at one extreme, prostrate shrublets near the coast at the other. Moreover the section is notable for the range of form of the fruits, from spherical to deeply lobed, sometimes with almost free mericarps, large to very small, spiny or not, with thick or thin mesocarp. What are (or perhaps were?) the different kinds of animals that ate these different kinds of fruits and thus dispersed the seeds? [D.J.M.]

“Les espèces de la sect. *Grewia* sont nombreuses et nous avons éprouvé de grosses difficultés dans leur étude. Ces difficultés commencent dès que l'on veut placer les espèces malgaches dans les cadres proposés par BURRET [see above]. Elles se poursuivent dans le délimitation des espèces elles-mêmes. Certes plusieurs espèces se laissent parfaitement caractériser par quelques particularités tirés de leur structure florale ou carpiques; c'est

le cas pour un bon nombre de celles que nous classerons dans la sect. *Grewia*. Il n'est pas le même pour tout un ensemble d'espèces dont le caractère commune est d'avoir des carpelles toujours 2-ovulés, fleurs jaunes et un androgynophore simple, la «fluidité» des caractères est ici telle que l'on se trouve devant deux alternatives: soit multiplier sans limite les «espèces» pour essayer de leur donner des contours assez nets, soit au contraire essayer de s'en tenir à quelques grandes unités, quelques «grandes espèces». Nous devons reconnaître que dans les deux cas les résultats sont bien peu satisfaisant pour l'esprit: d'un côté, la liste des espèces risque de s'allonger indéfiniment, de l'autre l'éventail des variations présenté par certaines «grandes espèces» risque d'effrayer non seulement les «pulverisateurs» mais encore beaucoup de systematiciens «réunisseurs»". [R.C.]

In our unpublished MS account of the section, where RC's philosophy prevails, there is analysis of already described species and species complexes, besides 24 new species, two of which have now been described in the papers cited above, but there are also two species given new names there; these *nomina nova* are now proposed here. [D.J.M.]

## Nomina nova

### 1. *Grewia capuronii* Mabb., **nom. nov.**

*Grewia lanceolata* Bak., J. Linn. Soc. Bot. 20: 104 (1883), *non* Miq. (1852, = *G. glabra* Blume).

Type: Madagascar, 'Between Tankay [Tangay] and the east coast', *Baron 1530*; holo K (K000200488); iso P (P00156909)).

Further analysis of modern collections is now needed to ascertain the complete distribution of this endemic eastern Madagascar species.

Eponymy. It is a great pleasure to commemorate René Capuron (1921–1971), not merely because of his pioneering work on this vexing genus, but also in gratitude for his facilitating my work (on woody Compositae [Asteraceae]) in Madagascar in 1971 – at a time when he was in excruciating pain from the devastating illness that killed him later that year. [D.J.M.]

### 2. *Grewia madagascariensis* Capuron, **nom. nov.**

*Grewia discolor* Baill., Bull. Soc. Linn. Paris 1: 551 (1886), *nec* Fresen. (1837, = *G. bicolor* Juss.), *non* Bak. (1889, = *G. baillonii* Viguier).

Type: Madagascar, Ambohitsi (Ambre), March 1880, *Hildebrandt 3375*, (holo P (P00156890); iso G (G00075599), JE (JE00002451, JE00002452), K (K000200500), M (M0109308, M0109309).

Cette espèce est très longtemps connue par le seul échantillon type récolté par HILDEBRANDT. Nous en possédons maintenant une soixantaine d'échantillons qui ont été récoltés sur tout le versant occidental de la Grande Ile ainsi que sur les hauts plateaux et dans la cuvette du Lac Alaotra. Elle se caractérise parfaitement parmi les espèces malgaches de la sect. *Grewia* par ses fruits sensiblement globuleux (parfois un peu déprimé) absolument dépourvus de lobation ou tout en plus légèrement bilobés au sommet. [R.C.]

## Acknowledgments

DJM. thanks Prof. Philippe Morat for help in 'decoding' certain parts of Capuron's manuscripts, but in particular for arranging invitations for him to work as a visiting professor in the University of Paris in the late 1990s. Laura Mabblerley helped in literature work in the library of Royal Botanic Gardens and Domain Trust in 1998. Mme F. Chauvet was responsible (in the 1960s) for the typing up of some of Capuron's manuscripts and was later helpful to both authors in many other ways.

## References

- Angiosperm Phylogeny Group (2016) An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. *Botanical Journal of the Linnean Society* 181: 1–20. <https://doi.org/10.1111/boj.12385>
- Braggins J, Large MF and Mabblerley DJ (1999) Sexual arrangements in kohe-kohe (*Dysoxylum spectabile*, Meliaceae). *Telopea* 8: 315–324. <https://doi.org/10.7751/telopea19995420>
- Burret M (1910) Verwandtschaftsverhältnisse und Verbreitung der afrikanischen *Grewia*-Arten, mit Berücksichtigung der übrigen. *Botanische Jahrbücher für Systematik* 44: 198–238.

- Burret M (1926) Beiträge zur Kenntnis der Tiliaceen. *Notizblatt des Botanischen Gartens und Museums zu Berlin-Dahlem* 9: 592–880. <https://doi.org/10.2307/3994327>
- Capuron R (1963) Révision des Tiliacées de Madagascar et des Comores. *Adansonia* 3: 91–127.
- Capuron R (1964) Révision des Tiliacées de Madagascar et des Comores (Suite). Les *Grewia* de la section *Axillares* Burret. *Adansonia* 4: 269–300.
- Capuron R and Mabberley DJ (1999) Révision des Malvaceae-Grewioideae («Tiliacées», p.p.) de Madagascar et des Comores. III. Les *Grewia* du sous-genre *Vincentia* (Benth.) Capuron. *Adansonia* 21: 7–23.
- Chung RCK (1999) Lectotypification of Linnaean binomials in *Grewia* (Tiliaceae). *Taxon* 48: 51–52. <https://doi.org/10.2307/1224621>
- Mabberley DJ (2014) *Mabberley's Plant-book*. Third edition, second reprint with corrections. Cambridge University Press.
- Mabberley DJ and Capuron R (1999) Révision de Malvaceae-Grewioideae (« Tiliacées », p.p.) de Madagascar et des Comores. IV. Les *Grewia* du sous-genre *Burretia* (Hochr.) Capuron. *Adansonia* 21: 283–300.
- Wahlert GA, Phillipson PB and Lowry PP (2015) A new species of *Grewia* L. (Malvaceae, Grewioideae) from northeastern Madagascar. *Candollea* 70: 201–205. <https://doi.org/10.15553/c2015v702a4>
- Wahlert GA, Phillipson PB, Lowry PP and Mabberley DJ (2016) *Grewia hispidissima* Wahlert, Phillipson & Mabb., *sp. nov.* (Malvaceae, Grewioideae): a new species with a restricted range from [sic] northwestern Madagascar. *Adansonia* 38: 117–121. <https://doi.org/10.5252/a2016n1a7>
- Whitehouse C (2001) *Grewia* In Whitehouse C, Cheek M, Andrews S and Verdcourt B. Tiliaceae. *Flora of Tropical East Africa* (ed. H.J. Beentje), *Tiliaceae & Muntingiaceae*. Balkema, Rotterdam/Brookfield.

Manuscript received 22 August 2016, accepted 13 February 2017