

Lectotypification of *Timonius pachyphyllus* Merr. (Rubiaceae, Guettardeae)

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Published on 29 December 2017

Chavez J. G., Alejandro G. J. D. & Meve U. 2017. — Lectotypification of *Timonius pachyphyllus* Merr. (Rubiaceae, Guettardeae). *Adansonia*, sér. 3, 39 (2): 145-148. <https://doi.org/10.5252/a2017n2a5>

KEY WORDS
Rubiaceae,
Philippines,
Elmer Merrill,
Yoshio Kondo,
Maximo Ramos,
lectotypification.

ABSTRACT

An earlier type designation for a Philippine taxon of the tribe Guettardeae to *Timonius pachyphyllus* Merr. is found to be erroneous, because the specimen designated is inconsistent with the original material as it clearly represent a different species. To clarify the application of the name *T. pachyphyllus*, it is thus lectotypified here with a specimen housed in the Muséum national d'Histoire naturelle, Herbarium national de Paris (P).

RÉSUMÉ

Lectotypification de Timonius pachyphyllus (Rubiaceae, Guettardeae).

La précédente attribution du type d'un taxon de la tribu des Guettardeae à *Timonius pachyphyllus* Merr. a été reconnue erronée, car le spécimen désigné correspond clairement à une espèce différente et n'est pas conforme au matériel original. Afin de clarifier l'application du nom *T. pachyphyllus*, un lectotype est désigné ici parmi les spécimens hébergés à l'Herbarium national de Paris (P), au Muséum national d'Histoire naturelle.

MOTS CLÉS
Rubiaceae,
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INTRODUCTION

Timonius DC. is the most speciose genus in the tribe Guettardeae of the Rubiaceae (Manns *et al.* 2012) and one of the largest in the family (Davis *et al.* 2009). It is comprised of approximately 200 species that are strictly distributed in the Paleotropics (excluding Africa), extending to tropical Australia and the Pacific Islands (Darwin 2010). Currently, *Timonius* is characterized from other Guettardeae genera with its dioecious woody habit (rarely epiphytic); cymose and axillary inflorescences that bear few to many flowers in staminate plants, and reduced to single or few in pistillate plants; infundibular to salverform corollas with valvate lobes; inserted stamens that are equal to the number of corolla lobes; multi-locular ovary; drupaceous fruits with several to many pyrenes; and solitary, pendulous ovule in each pyrene. The increased understanding on this genus is based from the seminal works of Valeton (1909), Wong (1988) and Darwin (1993, 1994, 2010), wherein the latter has established clear-cut subgeneric classifications.

Within this genus, twenty-six specific names were established for the Philippines (Merrill 1923; Govaerts *et al.* 2017) making it one of its centers of diversity. However, only two are classified at subgeneric level namely: *Timonius appendiculatus* Merr. and *T. pachyphyllus* Merr., both belonging to the subgenus *Abbottia* (F.Muell.) S.P.Darwin (Darwin 1994). *Timonius pachyphyllus*, which is the focus of this paper, has not received great attention in taxonomic literature. It is one of the endemic species that is only found on the forested slopes of two mountain tops in Rizal province (Merrill 1925). In the course of an undergoing revision of Philippine *Timonius*, we noticed that *T. pachyphyllus* was inadequately typified. This paper clarifies this ambiguity and proposes the designation of a lectotype for *T. pachyphyllus* according to ICN art. 9.2 and recommendation 9A (McNeill *et al.* 2012) to provide stability in the usage of the name.

LECTOTYPIFICATION

Merrill (1925) based his description of *Timonius pachyphyllus* on two collections from Rizal Province by Maximo Ramos for the Herbarium of the Philippine Bureau of Science (currently PNH), viz. *Ramos sub BS 40794* (Mt. Angilog, IV.1922) and *Ramos sub BS 42277* (Mt. Irig = Mt. Irid, IV.1923), and cited the number 40794 as the type. In the morphological diagnosis of the new species, it is compared to the very close *T. appendiculatus* with its obscure venation and peculiar radiate or subradiate type of ultimate reticulations; but differs by possessing larger, thicker and obtuse leaves, and infructescences that bear one or two larger fruits on each branch.

This set of salient morphological characters allowed Darwin (1994) to assign these Philippine endemic species to the then newly described *Timonius* subgenus *Abbottia*. Furthermore, he mentioned that he had seen a duplicate of the type material of *T. pachyphyllus* in A, which was included in his type

citation as: “Type: PHILIPPINES. Luzon: Rizal Prov., Mount Angilog, 20 Apr 1922, *Philipp. Bur. Sci.* 40794 ♀ (holotype: PNH, destroyed; isotype: A!)” (Darwin 1994: 61). Assuming that the cited isotype specimen belongs to the single gathering from Mt. Angilog, it could be taken into account to serve as lectotype according to ICN art. 9.12 (McNeill *et al.* 2012).

However, in the attempt to search and re-analyze the possible type material, we finally traced two different specimens of *T. pachyphyllus* in A bearing the collection number 40794. The first sheet, *PNH 40794* (A, digital image [A00312918]) represents a fruiting *Timonius* material with an annotation from the Tulane University Herbarium (NO) which reads: “Philippine Bureau of Science 40794: ISOTYPE of/ *Timonius pachyphyllus* Merr./ *Philippine Journal of Science* 26: 494. 1925. (Vide S. Darwin in *Syst. Bot. Monogr.* 42: 61 (1994))”. In our examination, this specimen was collected by Yoshio Kondo in Ticao Island, Masbate on March 31 during the Philippine-Hawaii Expedition in 1957 (van Steenis-Kruseman 1973: 56), and would therefore be unlikely encountered when Merrill described *T. pachyphyllus* in 1925. We also traced a duplicate of this material in L, which bears the field label from PNH indicating that this specimen belongs to Kondo’s field collection number 118, and that 40794 is the herbarium number. It is important to note that duplicate collection numbers are widespread in plant specimen repositories, but collector and locality are unique. We postulate that the annotation label was erroneously placed on this sheet not by S. P. Darwin himself but by a staff from NO who may have overlooked the collector and locality. Furthermore, the specimen bears obovate leaves that are in whorls of threes, with evident lateral veins and solitary infructescences, which does not conform to the concept of *T. pachyphyllus*. Hence, this specimen cannot belong to the original material and is to be ignored for typification purposes. Despite of this, we are uncertain whether this material which is identified as *T. philippinensis* Merr. was used in the updated morphological description of the species by Darwin (1994).

The second sheet of *BS 40794* in A has the label of the Herbarium of the Philippine Bureau of Science only, and lacks the annotation from NO. This material can be clearly identified as *T. pachyphyllus*, and it is labelled as collected by M. Ramos in Mt. Angilog, Rizal Province on April 1922. We were also able to trace duplicates of this material in P and K, which were obviously not known to Darwin (1994). These specimens which bear fruits, exhibit characters that clearly correspond to the description and diagnostic features in the protologue of Merrill (1925). Therefore, there is no doubt that these are part of the original type material *Ramos BS 40794*.

Timonius pachyphyllus Merr.
(Fig. 1)

Philippine Journal of Science 26: 494 (1925).

LECTOTYPE (DESIGNATED HERE). — **Philippines**. Luzon, Rizal Province, Mount Angilog, IV.1922, ♀, *M. Ramos sub BS 40794* (lecto-, P[P03906974]!; isolecto-, A!, K[K000763548] digital image!).



Fig. 1. — Lectotype of *Timonius pachyphyllus* Merr., Ramos sub BS 40794 (P03906974).

REMARK

The search for the holotype of *T. pachyphyllus* in PNH was futile, and it must have been destroyed during the Second World War (see Madulid 2000). All the three identified original type specimens from Mt. Angilog (*Ramos BS 40794*) in A, P and K are well-preserved. Of these, we selected the herbarium sheet in P to serve as the lectotype because this material is most represented with regards to reproductive structures including flower buds and fruits.

Acknowledgements

We would like to extend our gratitude to the curators of A, L, P, PNH, PUH, US and USTH for loans and/or access to their collections. This research received support from the SYNTHESIS Project (<http://www.synthesis.info>) which is financed by the European Community Research Infrastructure Action under the FP7 “Capacities” Program; and the Deutscher Akademischer Austauschdienst grant provided for J. G. Chavez.

REFERENCES

- DARWIN S. P. 1993. — A revision of *Timonius* subgenus *Timonius* (Rubiaceae-Guettardeae). *Allertonia* 7: 1-39. <http://www.jstor.org/stable/i23185853>
- DARWIN S. P. 1994. — Systematics of *Timonius* subgenus *Abbotia* (Rubiaceae-Guettardeae). *Systematic Botany Monographs* 42: 1-86. <https://doi.org/10.2307/25027838>
- DARWIN S. P. 2010. — A taxonomic revision of *Timonius* subgen. *Pseudoboea* (Valeton) S.P. Darwin (Rubiaceae). *Candollea* 65 (2): 217-240. <https://doi.org/10.15553/c2010v652a5>
- DAVIS A. P., GOVAERTS R., BRIDSON D. M., RUHSAM M., MOAT J. & BRUMMITT N. A. 2009. — A global assessment of distribution, diversity, endemism, and taxonomic efforts in the Rubiaceae. *Annals of the Missouri Botanical Garden* 96: 68-78. <https://doi.org/10.3417/2006205>
- GOVAERTS, R., RUHSAM K., ANDERSSON L., ROBBRECHT E., BRIDSON D., DAVIS A., SCHANZER I. & SONKE B. 2017. — *World Checklist of Rubiaceae*. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet: <http://apps.keew.org/wcsp/> (last accessed January 2017).
- MADULID D. A. 2000. — Status of plant systematic collections in the Philippines. *National Science Museum Monographs* 18: 59-63.
- MANN S. U., WIKSTROM N., TAYLOR C. M. & BREMER B. 2012. — Historical biogeography of the predominantly Neotropical subfamily Cinchonoideae (Rubiaceae): Into or out of America?. *International Journal of Plant Sciences* 173 (3): 261-286. <https://doi.org/10.1086/663971>
- MCCONNELL J., BARRIE F. R., BUCK W. R., DEMOULIN V., GREUTER W., HAWKSWORTH D. L., HERENDEEN P. S., KNAPP S., MARHOLD K., PRADO J., PRUD'HOMME VAN REINE W. F., SMITH G. F., WIERSEMA J. H. & TURLAND N. J. (eds) 2012. — International Code of Nomenclature for algae, fungi, and plants (Melbourne Code) adopted by the Eighteenth International Botanical Congress Melbourne, Australia. *Regnum Vegetabile* 154: 1-208.
- MERRILL E. D. 1923. — *An Enumeration of Philippine Flowering Plants*. Vol. 3. Bureau of Printing, Manila, 628 p. <https://doi.org/10.5962/bhl.title.49412>
- MERRILL E. D. 1925. — Philippine flora I: Rubiaceae. *Philippine Journal of Science* 26: 492-496.
- VALETON T. 1909. — Beiträge zur Kenntnis der Gattung *Timonius*. *Bulletin du Département de l'Agriculture aux Indes néerlandaises* 26: 1-61. <https://biodiversitylibrary.org/page/52568721>
- VAN STEENIS-KRUSEMAN M. J. 1973. — *Flora Malesiana ser. 1, 8: Cyclopaedia of collectors, Supplement II*. Noordhoff-Kolff, Jakarta.
- WONG K. M. 1988. — The Antirheoideae (Rubiaceae) of the Malay Peninsula. *Kew Bulletin* 43: 491-518. <https://doi.org/10.2307/4118980>

*Submitted on 31st May 2017;
accepted on 1st September 2017;
published on 29 December 2017.*