



## Typification of Angiospermae described from the Bonin Islands 1: Metachlamydeae

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### Abstract

During the preparation of a database of plant specimens from the Bonin Islands, Japan, we found several cases in which type material for taxa described from the islands was uncertain. This is either because specimens were not cited, because cited specimens in protologues include multiple collections, or because the citations contained ambiguous locality and/or collector data. Thus, many Bonin Islands species require typification. Here, lectotypes are newly designated or reconfirmed for 10 taxa, based on the herbarium materials of Metachlamydeae at the Botanical Gardens section of TI Herbarium, the University of Tokyo.

**Key words:** Apocynaceae, Asteraceae, Convolvulaceae, Ericaceae, Loganiaceae, Myrsinaceae, Ogasawara, Rubiaceae, Sapotaceae, typification, nomenclature

### Introduction

The Bonin Islands, also known as Ogasawara-Shoto, are an archipelago of subtropical islands situated in the Pacific Ocean, approximately 1000 km south of Tokyo, Japan. They consist of more than 30 islands arranged in four island-groups: the Mukojima, Chichijima, Hahajima, and Iwotoh (Volcanic) islands, from north to south. The Bonin Islands are volcanic in origin, having been formed from boninite or dacite that rose from the Pacific basin floor, and have never been connected to another landmass (Ishizuka 2008). Despite being small islands without high mountains (total area 106 km<sup>2</sup>: the highest elevation 804 m on Kita-Iwotoh, the second highest elevation 463 m on Hahajima), ca. 500 species of vascular plants, including many endemic species of spermatophytes (Gymnospermae: one sp., Monocotyledoneae: 36 spp., Archichlamydeae: 53 spp. and Metachlamydeae: 39 spp.; Ono & Kobayashi 1985) and pteridophytes (over 20 spp.; Ohba 1971), have been recorded. Several groups (*Pittosporum*, *Crepidiastrum*, *Callicarpa*, *Machilus* and *Symplocos* etc.) have diversified through adaptive radiation across the islands (Ito 1998). Consequently, the Bonin Islands have been called the "Galapagos of the Orient" and were designated a Natural World Heritage site in 2011. However, many endemic species are now endangered, and a few have already become extinct due to recent human activities (Toyoda 1983). To gain a better understanding of the flora of the islands, we initiated the "Oceanic Islands Plant Specimen Database" in cooperation with four Japanese herbaria (KAG, MAK, RYU, and TI). During this work, we became aware of several plant taxa that were not typified.

According to the expedition records (Bongard 1837; Hooker & Arnott 1841; Kittlitz 1844), a British expedition in 1827 was the first botanical research and gathered several specimens on Chichijima, some of which are now kept at the Kew Herbarium. Botanists from Russia and the United States conducted explorations, Russia in 1828 and 1854 and the U.S. in 1854 (Wilson 1919; Nakai 1928a). In 1879, a Japanese