



Synopsis of *Couepia* (Chrysobalanaceae) in Costa Rica, with a description of two new species

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Abstract

We provide a synopsis to the Costa Rican species of *Couepia* (Chrysobalanaceae), including a description of two new species: *C. hallwachsiae* and *C. janzenii*.

Key words: Central America; Chrysobalanaceae; *Couepia*; Mesoamerica; taxonomy

Introduction

Couepia Aubl. (1775: 519) is a Neotropical genus of Chrysobalanaceae that is distributed from Mexico to Paraguay. Most species are found in the Brazilian Amazon and the Guyanas (Sothers *et al.* 2014), while diversity is relatively low in Mesoamerica (i.e., 7 spp.). This genus is characterized by flowers with a hollow receptacle that bears a unilocular ovary at its mouth, (10–) 15–300 free stamens that are inserted in a complete circle, semi-circle, or unilaterally around the mouth of the receptacle, and fruits with a single seed (Sothers *et al.* 2014). In Costa Rica, *Couepia* is most similar to *Maranthes* Blume (1825: 89), but *Maranthes* is distinguished by two conspicuous sessile glands on the underside of the leaf where the leaf lamina meets the pedicel, paniculate corymb inflorescences, and 2-locular ovaries.

Couepia is economically important. The ornamental trees *C. chrysocalyx* Benth. ex Hook. f. (1867: 42) and *C. subcordata* Benth. ex Hook. f. (1867: 46) are cultivated for their edible fruits and as shade trees in Colombia and Brazil, Colombia, and Peru, respectively (León 1987; Prance 1972; 2001; 2004). *Couepia bracteosa* Benth. (1840: 215), native to Colombia, Peru, Brazil, French Guiana, Surinam, and Guyana, is also grown for its edible fruits. This species has been attributed to Costa Rica based on the collection K. S. Bawa 383 (MO!), a cultivated plant on the grounds of CATIE in Turrialba, Cartago (Prance and Sothers 2003); upon closer inspection, this specimen represents *Diospyros* L. (Ebenaceae). More broadly in Central America, *C. polyandra* (Kunth) Rose (1899: 196) is used as a shade tree in coffee plantations, particularly in El Salvador, and is cultivated for its fruits, which can sometimes be found at local farmers markets (Chízar-Fernández *et al.* 2009; Durán-Espinoza & Lorea-Hernández 2010; Guevara & Rueda 2009; Zamora *et al.* 2004).

The genus, whose name is derived from its common name in French Guiana (Prance 1972), has been treated taxonomically on two occasions (Prance 1972; Prance & Sothers 2003). The first monograph (Prance 1972) recognized 55 species, and the second (Prance & Sother 2003) recognized 71. Recent molecular phylogenetic studies (Bardon *et al.* 2013, Yakandawala *et al.* 2010, Sothers *et al.* 2014) have demonstrated that *Couepia*, as originally described, is not monophyletic, with some species falling within other genera of Chrysobalanaceae. In order to revise the taxonomy to reflect evolutionary relationships, Sothers *et al.* (2014) transferred four of these species into the genera into which they were phylogenetically resolved: *Acioa* Aubl. (1775: 698) (2 spp.), *Hirtella* L. (1753: 34) (1 sp.), and *Licania* Aubl. (1775: 119) (1 sp.). They additionally erected a new genus, *Gaulettia* Sothers & Prance (2014: 181), to accommodate a morphologically distinct group of nine former *Couepia* species that fell outside of the core *Couepia* clade *sensu* Sothers *et al.* (2014), but did not correspond to any existing genus. The only taxonomic change relevant to the Costa Rican species is the transfer of *C. platycalyx* Cuatrec., (1950: 66) to *Licania platycalyx* (Cuatrec.) Sothers & Prance (2014: 193). With these newly proposed changes, the recent publication of *C. osaensis* Aguilar & D. Santam., (2014–64: 2), and the two new species described here, *Couepia* comprises 61 species, four of which are present in Costa Rica.