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Mt. Banahaw reveals: The resurrection and neotypification of the name *Rafflesia lagascae* (Rafflesiaceae) and clues to the dispersal of *Rafflesia* seeds

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The southeast Asian holoparasite genus *Rafflesia* Brown (1821: 207; Rafflesiaceae) is famous for producing the largest flowers on record (Kuijt 1969). Following a series of discoveries of new *Rafflesia* species and populations, the Philippines recently emerged as one of the centers of its diversity. It is home to no less than ten currently recognized *Rafflesia* species (Barcelona *et al.* 2009, Balete *et al.* 2010). Here, we report two discoveries that resulted from recent fieldwork in the Mts. Banahaw - San Cristobal Protected Landscape in Luzon and show how these new data impact the taxonomy and biology of Philippine *Rafflesia*.

Resurrection and neotypification of the name *Rafflesia lagascae* (Rafflesiaceae)

Rafflesia manillana Teschemacher (1844: 65) was originally described from the island of Samar in the Philippines, but until recently, extant populations by this name were only known from Luzon. In 2007, however, Madulid *et al.* (2008) found a *Rafflesia* population on Samar. This population was located in the municipality of Basey, which is the general area where the type of *R. manillana* was originally collected. This type specimen was a set of three flower buds and is presumed lost (Madulid & Agoo 2008; Barcelona *et al.* 2009). Upon inspection of flowers from the Samar population, Madulid *et al.* (2008) concluded that these plants belong to a different species than the Luzon populations referred to as *R. manillana*. They subsequently described these Luzon populations as *R. panchoana* Madulid, Buot & Agoo (2008: 44), maintaining the name *R. manillana* only for the population of plants from Samar. Barcelona *et al.* (2009) did not follow Madulid *et al.* (2008) in recognizing the Luzon and Samar *Rafflesia* as distinct species. They pointed out that the characters that were used by Madulid *et al.* (2008) to distinguish the two species are quite variable in the Luzon populations and overlap with those reported from Samar. Furthermore, they concluded that examination of more open flowers would be needed to confirm that the characters used by Madulid *et al.* (2008) are consistent across individuals and populations.

In 2011 Barcelona visited the Samar population and was able to study many fresh flowers. This confirmed the overlap in most character states between the Luzon and Samar flowers that Madulid *et al.* (2008) listed as features distinguishing the two species. As discussed by Barcelona *et al.* (2009), many of these characters are correlated with flower size. However, two characters indeed show consistent morphological differences, although these are perhaps not as discrete as is suggested by Madulid *et al.* (2008): the diaphragm color, and the relative size of the diaphragm aperture (Fig. 1). *Rafflesia* flowers from Luzon (Fig. 1A) have bicolored diaphragms of which either the speckles or the background is concolorous with the perigone lobes. In contrast, flowers from Samar (Fig. 1B) have whitish diaphragms, similar to those seen in *R. lobata* Galang & Madulid (2006: 2). Moreover, flowers from Luzon typically have a much wider diaphragm aperture (i.e. considerably wider than the diameter of the disk) than those from Samar. These morphological differences, together with the disjunct distribution of the Luzon and Samar populations, may indicate a current absence of gene flow between them, and that they merit taxonomic recognition as different species under a biological species concept (Mayr 2000).

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