## Floral and pollinator behaviour of flexistylous Bornean ginger, Alpinia nieuwenhuizii (Zingiberaceae)

## **Abstract**

Flexistyly is a unique floral mechanism involving extreme curving of the style. It was first described in Chinese ginger (Amomum, Zingiberaceae). This is a pioneer report on flexistylous gingers of Malesia, where most species of this family grow. We observed the floral behaviour and flower visitors in Alpinia nieuwenhuizii Val., a Bornean endemic. Although the floral behaviour and effective pollinators (carpenter bees, Xylocopa) were similar between the Bornean species and the previously reported flexistylous Alpinia, the pollinator behaviour between them strikingly differed with regard to the visit frequency of the pollinators showing a bimodal pattern during the day. This was a better match for the floral behaviour of the flexistylous Alpinia. Some gender differentiation observed between the two types of morphs is also discussed in the present study.