

## Plant Association of Lanternflies (Hemiptera: Fulgoridae) from Malaysian Borneo

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### ABSTRACT

The family Fulgoridae is known for their distinct morphological structures and striking colouration. Despite so, comprehensive documentation of insect-plant interaction from this charismatic family is greatly scarce. Presented here are records of plant association across four species of Fulgoridae from Malaysian Borneo. The current study was based on voucher specimens and field samplings from selected localities in Sarawak and Sabah, Malaysian Borneo. A total of 11 species of plants belonging to 11 genera and nine families were recorded. Three fulgorid species namely *Penthicodes quadrimaculata*, *Pyrops intricatus* and *Py. sultanus* shares the same host plant being the mata kucing fruit tree (*Dimocarpus longan* ssp. *malesianus*). The most speciose insect-plant association belongs to *Pe. farinosa* and *Py. sultanus* with six species documented. This is the first record of host plants reported for *Py. intricatus*, *Pe. farinosa* and *Pe. quadrimaculata* in Malaysian Borneo.

Keywords: Fulgoridae, host plant, insect-plant association, Malaysian Borneo, Sabah, Sarawak

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### INTRODUCTION

The Fulgoridae or lanternflies is a family of homopteran bugs known for their striking colouration and head ornamentation. Despite these charismatic traits, little is known of their biology particularly on insect-plant associations. The group was assumed to feed on dicotyledonous trees in tropical forests (Wilson & Wheeler, 1992). Nagai and Porion (1996) stated that very few Fulgoridae have been reported to be of any economic importance, *Rhabdocephala brunnea* on *Baccharis sarothroides*, *Phrictus diadema* on *Theobroma cacao* (Malvaceae), *Phrictus quinquepartitus* on *Terminalia oblonga* (Combretaceae), *Enchophora sanguinea* on *Simarouba amara* (Simaroubaceae), *Fulgora laternaria* on *Hymenaea courbaril* (Fabaceae), *Amycle pinyonae* on *Pinus monophylla* (Pinaceae) and *Pyrops candelaria* on *Dimocarpus longan* (Sapindaceae) and *Mangifera indica* (Anacardiaceae).

The family Fulgoridae lacks documentation on records of host plants. Very little is known on the possible hosts of Fulgoridae as they are rarely seen feeding on trees (Goemans, 2006). Most species do not seem to be host plant specific but obtain nourishment from several vegetable species (Nagai & Porion, 1996). Eastop (1972) stated that tropical sap feeding insects are ought to be polyphagous. Johnson and Foster (1986) on the other hand found that some fulgorid species might be monophagous and are very selective of tree species even in a diverse forest. There are few known host plants associated with Fulgoridae, mostly from Sapindales (Bourgoin, 2020). Until recently, *Pyrops sultanus* was only known to feed on wild rambutans (*Nephelium* spp.) and tarap (*Artocarpus odoratissimus*) (Bosuang *et al.*, 2017). The aim of this study is to provide new host records for Fulgoridae from Malaysian Borneo. Presented here are records of plant associations for the species *Penthicodes farinosa*, *Pe. quadrimaculata*, *Py.*