Recent record of the Phalakron Plain Plushblue *Flos apidanus phalakron* (Lepidoptera: Lycaenidae) in South Sumatra after 91 years break

Muhammad Iqbal[1*], Andes Syahputra[2], Arum Setiawan[3], Indra Yustian[4]

[1] *Biology Program, Faculty of Mathematics and Natural Sciences, Sriwijaya University, Palembang*
[2] *Student of Department of Biology, Faculty of Mathematics and Natural Sciences, Sriwijaya University, Indralaya*
[3,4]*Department of Biology, Faculty of Mathematics and Natural Sciences, Sriwijaya University, Indralaya*

**email: kpbsos26@yahoo.com*

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ABSTRACT

An individual of Phalakron Plain Plushblue Flos apidanus phalakron *was observed and photographed on 17 March 2020 at campus Sriwijaya University, Indralaya, South Sumatra province. In South Sumatra, this butterfly only known from a historical record in 1929. The recent observation of Flos apidanus phalakron in Indralaya represent a new record for South Sumatra province after 91 years break.*

Introduction

Family Lycaenidae (lycaenid butterflies) are large group of butterflies comprise more 5.000 species (Holloway *et al*., 2012). These groups are small to medium sized butterflies, and many are rare or have localized distribution (Ek-Amnuay, 2012). Generally, the males are more highly coloured than females (Fleming, 1983). Many more undoubtedly remain to be discovered as most of the tropical species spend their entire lives undetected in the rainforest canopy (Hoskins, 2015).

Flos is one genus of family Lycaenidae that having a broad dark band on underwing and hindwing without a tail or with a weakly dentated or rounded tail at the marginal border (Ek-amnuay, 2012). There are six species of genus *Flos* in Sumatra, including *Flos apidanus*, *Flos anniella*, *Flos bungo*, *Flos diardi*, *Flos fulgida* and *Flos morphina* (d'Abrera, 1986; Savela, 2020). This genus under subfamily Theclinae, a large subfamily of family Lycaenidae, with many species of varying patterns and colour (Kirton, 2014). Subfamily Theclinae occurs on and continents and in all habitats, including moors, grassland, deciduous woodlands and tropical rainforests (Hoskins, 2015).

As the second largest island of Indonesia, Sumatra has rich animal diversity (Whitten *et al*., 2000). The island had at least

756 species of butterflies (de Niceville & Martin, 1896), but this number must be increased recently. The Plain Plusblue *Flos apidanus* is one species of butterfly that occur in Sumatra (d'abrera, 1986). In 1914, few specimens of *Flos apidanus* from Sumatra were described as a distinct subspecies with original name *Arhopala apidanus phalakron* (Fruhstorfer, 1914). A comprehensive study of the genus *Arhopala* group of family Lycaenidae redesigned *Amblypodia apidanus* to *Flos apidanus*, then *Flos apidanus phalakron* was named for this Sumatran butterfly (Evans, 1957).

This paper describe a recent finding of *Flos apidanus phalakron* in Indralaya, South Sumatra province. The occurrence of *Flos apidanus phalakron* from Indralaya is represent a recent record in South Sumatra province after 91 years break.

Materials and Methods

On 17 March 2020, a lycaenid butterfly was observed and photographed at arboretum of campus Sriwijaya University, Indralaya (03°14'29"S, 104°39'54"E). Unfortunately, the butterfly is unable to caught and no specimen was preserved. However, distinct morphological features of the butterfly were clearly seen from some pictures taken from prosumer Fuji Film Pinefix S1 with 50x zoom lens camera. The butterfly was identified to species level with appropriate butterfly guides.

Results and Discussion

The lycaenid butterfly found at campus of Sriwijaya University in Indralaya has small-medium butterfly size (*c*. 20 mm of forewing length, and 34 mm of wingspan), hindwing with weakly dentated, underwing is pale yellowish brown, with a dark reddish brown area at bases of hindwing, forewing discal and postdiscal bands evenly curved, hindwing with irregular discal gray bands from midcosta to the mid dorsum and darker towards the borders (Figure 1). These characters are fitted well to characters of *Flos apidanus* in selected references (d'Abrera, 1986; Corbet & Pendlebury, 1992; Khoon, 2010; Ek-Amnuay, 2012).

There are two subspecies of *Flos apidanus* in Sumatra, *Flos apidanus phalakron* (Fruhstorfer, 1914) and *Flos apidanus saturatus* (Snellen, 1890). *The Flos apidanus phalakron* is distributed from Weh Island (Aceh) to Palembang (South Sumatra), and *Flos apidanus saturatus* distributed in Riau archipelagos to Bangka Belitung islands (Snellen, 1890; Fruhstorfer, 1914; Toxopeus, 1929; d'Abrera, 1986).

Figure 1. An individual of *Flos apidanus phalakron* found on 17 March 2020 at campus Sriwijaya University in Indralaya, South Sumatra.

Record of *Flos apidanus* at campus Sriwijaya University in Indralaya is an unexpected record. There are 40 species of butterflies at the campus Sriwijaya University of Indralaya, but *Flos apidanus* was absent from the list (Lamin *et al*., 2016). *Flos apidanus* is usually absent from many lists on the study of butterflies diversity in Sumatra (eg. Rahayu & Basukriadi, 2012; Rusman *et al*., 2016; Panjaitan *et al.,* 2019; Pratiwi & Dahelmi, 2019; Setiawan *et al.,* 2020). The known records of *Flos apidanus* in Sumatra after Toxopeus 1929 are from Brastagi, North Sumatra, on 25 March 1973; from Batam island, Riau Archipelagos, on 31 May 2008; Mount Betung, Lampung, between 1998 to 2011; Puhawang island, Lampung, in August 2013; Gita Persada, Lampung, in 2019 (Chaiyen, 2008; Soekardi, 2011; Soekardi, 2013; Teshirogi *et al*., 2016; Gita Persada 2019). The records above suggest *Flos apidanus* is a rare species in Sumatra.

Recent observation of *Flos apidanus phalakron* at the campus of Sriwijaya University in Indralaya is a recent record of this subspecies in South Sumatra province after 91 years break. This subspecies different from other subspecies by having much duller with the purplish cast of the hindwing missing, and the tornus of the hindwing appear to extensive green metallic green scaling (d'Abrera 1986). This subspecies has been known occur in Palembang based on a historical record in 1929 (Toxopeus 1929), but no information available since this report. The host plants known for *Flos apidanus* are plant from family Lythraceae and Myrtaceae (Robinson *et al.* 2001). The plants from both families are relatively able to find in Sumatra. Further study to monitoring the occurrence of *Flos apidanus phalakron* in Sumatra is needed, to looking at spatial distributions and trends of population in the future.

Conclusion

Recent observation *Flos apidanus phalakron* at campus Sriwijaya University in Indralaya is a rediscovery record in South Sumatra province after the first time reported in 1929. This recent observation is represent a second record for South Sumatra after 91 years break.

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