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edited by

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CHAPTER 11

Odonates

Choong Chee Yen, Hanisah Ali & Ng Yong Foo

Introduction

Dragonflies and damselflies are a group of insects in order Odonata. Globally, close to 6000 extant species in 625 genera have been described up to 2010 (Dijkstra et al. 2013). However, the species distribution is more concentrated in the tropics and subtropics. Odonata is normally found at various types of freshwater bodies such as forest streams, rivers, ponds, swamps, waterfalls and marshes. In Peninsular Malaysia, 230 species had been documented (Orr 2005). However, this figure has been increased to more 250 by year 2014 with the discoveries of new records (Choong 2006; Choong et al. 2008; Dow 2010; Ng et al. 2011; Dow et al. 2012; Choong & Cheah 2013) and new species (Dow et al. 2007, 2010). The number is still on the increase when more samplings are conducted, particularly in some of the remote areas in the Peninsular Malaysia.

Odonata of Bangi Forest Reserve and its adjacent UKM main campus has been reported by Choong et al. (2008). They recorded 74 species in 12 families. Even with this number of species being recorded, there will still be potential finding of new records for Bangi Forest Reserve.

Sampling

Sampling was carried out in two trails (trails D and E). Both the trails have suitable aquatic habitats for Odonata. Trail D has streamlets and trail E has streamlets and swamps. Adult Odonata were collected using handheld nets. Specimens were preserved with acetone treatment and drying in silica gel. Classification of Odonata follows

Dijkstra et al. (2013). Specimens were identified to species with the aid of a microscope, by reference to the relevant literatures, and direct comparison with materials from other places.

Species Richness

A total of 20 species from 16 genera in seven families was collected during the expedition (Table 11.1; Figure 11.1). The families recorded were Libellulidae, Coenagrionidae, Devadattidae, Euphaeidae, Gomphidae, Platycnemididae and Calopterygidae.

TABLE 11.1 Odonata species collected during the scientific expedition

| Family | Species | Trail D | Trail E |
|---|---|---------|---------|
| Calopterygidae | <i>Vestalis amethystina</i> Lieftinck 1965 | √ | |
| Devadattidae | <i>Devadatta argyroides</i> (Selys 1859) | √ | |
| Euphaeidae | <i>Euphaea impar</i> Selys 1859 | √ | |
| Platycnemididae | <i>Coelliccia octogesima</i> (Selys 1863) | √ | |
| | <i>Copera vittata</i> (Selys 1863) | √ | |
| | <i>Prodasineura notostigma</i> (Selys 1860) | √ | |
| Coenagrionidae | <i>Ceriagrion cerinorubellum</i> (Brauer 1865) | | √ |
| Gomphidae | <i>Ictinogomphus decoratus melaenops</i> (Selys 1858) | | √ |
| Libellulidae | <i>Aethriamanta gracilis</i> (Brauer 1878) | | √ |
| | <i>Lyriothemis biappendiculata</i> (Selys 1878) | √ | |
| | <i>Nannophya pygmaea</i> Rambur 1842 | | √ |
| | <i>Neurothemis fluctuans</i> (Fabricius 1793) | | √ |
| | <i>Orthetrum chrysis</i> (Selys 1891) | √ | |
| | <i>Orthetrum luzonicum</i> (Brauer 1868) | | √ |
| | <i>Orthetrum testaceum</i> (Burmeister 1839) | √ | |
| | <i>Rhyothemis obsolescens</i> Kirby 1889 | | √ |
| | <i>Rhyothemis triangularis</i> Kirby 1889 | | √ |
| | <i>Trithemis aurora</i> (Burmeister 1839) | | √ |
| <i>Trithemis festiva</i> (Rambur 1842) | | √ | |
| <i>Urothemis signata insignata</i> (Selys 1872) | | √ | |



FIGURE 11.1 Odonata species from UKMPFR. Left (from top to bottom): *Coeliccia octogesima*, *Prodasineura notostigma*, *Ictinogomphus decoratus* and *Rhyothemis obsolescens*; Right (from top to bottom): *Devadatta argyroides*, *Vestalis amethystina*, *Nannophya pygmaea* and *Rhyothemis triangularis*

The most abundant family was Libellulidae with 60% (12 species) of the species being recorded and followed by Platycnemididae (10%; three species). The remaining families were only 5% (one species in each family). The species composition in UKMPFR and HPA was more to eurytopic species with very few species from families Gomphidae and Calopterygidae which adapted to aquatic habitats with fast flowing water.

Choong et al. (2008) recorded 74 Odonata species in Bangi Forest Reserve and its adjacent UKM main campus. Therefore, the number of species recorded from the expedition was only 27% of the species. The low number of species being recorded was due to the short sampling period and limited aquatic habitat coverage in the expedition. However, it is worth to note that *Vestalis amethystina* was recorded during the expedition (trail D), and it is not in the checklist of Choong et al. (2008). With the discovery of *V. amethystina*, the number of species known to Bangi Forest Reserve and UKM main campus is now 75. It is believed that the number of species would increase when more inventory work is carried out.

Conclusion

A total of 20 species from 16 genera in seven families of Odonata was collected during the expedition in UKMPFR. The recorded families were Libellulidae, Coenagrionidae, Devadattidae, Euphaeidae, Gomphidae, Platycnemididae and Calopterygidae. The most abundant family was Libellulidae with 12 species. On the other hand, three species were recorded from family Platycnemididae, and the remaining families had one species each. *Vestalis amethystina* is a new record for UKMPFR.