

## NEW RECORD OF A DRAGONFLY, *ZYXOMMA OBTUSUM* ALBARDA, 1881 IN SINGAPORE (ODONATA: ANISOPTERA: LIBELLULIDAE)

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### INTRODUCTION

Five species are currently recognised from the genus *Zyxomma*. In Singapore, only one species *Zyxomma petiolatum* Rambur, 1842 has hitherto been recorded (Tang et al., 2010). This paper reports a second congener, *Zyxomma obtusum* Albarda, 1881 and thus a new Odonata record for Singapore.

### SIGHTING DETAILS

On 30 Mar.2011 mid noon, PSN spotted a total of six, apparently similar dragonflies perching on a tree branch along a forest edge in Pulau Ubin (Fig. 1). The site was shaded by a nearby fallen tree. The dragonflies flew to a higher branch when approached thus only one photograph of a single individual was taken. Using Tang et al. (2010), the species could not be identified. In the following week, PSN managed to take clearer photographs of the same species at the same location, which subsequently were identified as *Zyxomma obtusum* Albarda, 1881 based on Orr (2005). There were three males and two females, as well as several *Zyxomma petiolatum* Rambur, 1842 perching at the site. Both species was continually observed from 30 Mar.2011 to 20 Apr.2011 by PSN from 1200 hours to 1500 hours. After 20 Apr.2011 *Zyxomma obtusum* was no longer observed although females of *Zyxomma petiolatum* were still present until PSN ceased regular observations on 25 May 2011.

The site of the discovery is situated in an area of Pulau Ubin, known locally as RDC (Resource Development Corporation), which is the company that formerly ran the granite quarry when it was still operational. Until the late 1990s, granite was mined at the quarry.



Fig. 1. The secondary forest edge in Pulau Ubin where *Zyxomma obtusum* was first observed on 30 Mar.2011.



### SPECIMEN DETAILS

Following the initial sightings by PSN, subsequent searches to obtain a voucher specimen were unsuccessful. Thus the following specimen details are based on photographs taken during the period of 30 Mar.2011 to 20 Apr.2011.

The male (Fig. 2) was almost entirely covered with white pruinescence. The frons were of light brownish colour, darker dorsally. The eyes were mostly very light green with black areas above. In lateral view, the legs were light brown while white pruinescence could be seen when the legs were viewed from the front. As with the body, the mainly hyaline wings were also pruinose-white for almost their entire length except for the darkened tips which began about the 9<sup>th</sup> or 10<sup>th</sup> postnodal vein. Abdominal segments S1–S3 were swollen and the secondary genitalia could be prominently seen. S10 and the anal appendages were dark.

Unlike the male, the female (Fig. 3) did not bear white pruinescence. In anteroposterior view, the eyes were light green. The thorax was a very pale shade of brown. The wings were mostly completely clear except for a light brownish-amber tint at the hindwing base and in the space between the subcosta, radius and nodus veins. The legs were a fulvous brown. As in the male, abdominal segments S1–S3 were swollen. In general the colour of the abdomen was, from its base to its tip, a pale shade of brown to yellowish-ochre. Thin black intersegmental transverse bands were also present along the abdomen.

Based on the photographs, there is no doubt the species is *Zygomma obtusum* Albarda, 1881.



Fig. 2. A male *Zygomma obtusum*, photographed on 6 Apr.2011. Estimated hind wing length) = 37 mm, based the average for male odonates. (Photograph by: Philip Ngoi).



Fig. 3. Female individual photographed on 6 Apr.2011. Estimated hind wing length = 38 mm, based on the average for female odonates. (Photograph by: Philip Ngoi).

## DISCUSSION

This new record of *Zyxomma obtusum* brings the total number of Odonata species ever recorded from Singapore to 125.

There are some explanations why *Zyxomma obtusum* has not been observed until now. One reason may be because *Zyxomma* species are typically crepuscular in habit (Silsby, 2001). In Brunei, *Zyxomma obtusum* is especially known to commence activity only after sunset (Orr, 2003). For the greater part of the day, individuals will remain inactive under the shade of plants. Thus this inconspicuous behaviour coupled with the relatively under-studied location in Pulau Ubin could have allowed *Zyxomma obtusum* to escape the attention of local researchers.

The island of Pulau Ubin is located north of Singapore, with the island's northern coast less than 2 km from the Malaysian state of Johor across the Straits of Johor. *Zyxomma obtusum* is a common species in Peninsular Malaysia. Thus it is very possible for individuals, owing to general dispersal such as females searching for suitable ovipositing sites, to make the flight across a short expanse of sea to Pulau Ubin. Therefore considering that the location where *Zyxomma obtusum* was discovered is at northern Pulau Ubin, it is a plausible explanation that the species is a recent arrival to Singapore.

The discovery of three males and two females suggests that a small population already exists at that locality. Pulau Ubin is a rustic village island, very unlike highly developed Singapore Island. Large areas of secondary forests, disused ponds and streams occur throughout Pulau Ubin (Fig. 4). These are all suitable habitats for *Zyxomma obtusum* (Orr, 2005). Hence it would be interesting to note if the population increases and with the species becoming more common on the island.

The discovery of *Zyxomma obtusum* is also significant in another way. Before the publication by Tang et al. (2010), local odonates were studied by a small group of enthusiasts. Since the availability of the book, odonates have become more accessible to nature lovers and laypersons thus helping to popularise odonates locally. This easy-to-use identification guide book has proven useful not only in helping non-experts identify species but also in encouraging users to alert local odonate researchers when rare or unusual species are spotted. This discovery by PSN and the recent sighting of the rare *Lyriothemis cleis* Brauer, 1868 (which has not been recorded locally for the past 15 years or so) by another nature photographer are good examples. With more people becoming interested in odonates, there is high hope that more new records and rare sightings will be discovered.





Fig. 4. An example of the suitable habitats scattered around Pulau Ubin, a forest pond, about 200 m from where *Zyxomma obtusum* was observed on 30 Mar.2011.

#### ACKNOWLEDGEMENTS

Robert Teo, Tang Hung Bun, Cheong Loong Fah, Albert G. Orr, and Matti Hämäläinen helped in species identification. The valuable editing and advice by an anonymous reviewer is greatly appreciated.

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