INSECT DIVERSITY IN THE NEARBY AND OFFSHORE ISLANDS OF ABU DHABI EMIRATE

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INTRODUCTION

Invertebrate assemblages of very few island habitats in Abu Dhabi have been documented (Gillett and Gillett, 2002). This survey aimed to provide a taxonomic inventory of terrestrial invertebrates and their habitat associations on a specific coastline site, Al Bahia and Al Bahrani, Bul Syayeef, Ras Garab and Sadiyat islands surrounding Abu Dhabi. The invertebrate survey was carried out during February to November 2008. In addition, three offshore islands – Zirku, Arzanah, and Sir Bani Yas were also studied for invertebrate diversity in 2001 and 2005 and the results have been included in this article.

METHODS

Locations of the invertebrate survey are shown in the (Figure 1). In the current study invertebrates were collected using different collection methods as described by Van Harten, (2007). These included aerial netting, beating method, malaise trapping, water trapping and aspirator method. A rapid baseline survey carried out using these collection methods during the day time with one or two visits to each site.

RESULTS & DISCUSSION

Approximately 77 invertebrate species representing 12 orders of insects were collected and identified from this survey. Of the 8 islands surveyed, Bul Sayeef was noted to have the highest insect diversity among all sites, whilst Al Bahrani was the lowest in regard to invertebrate diversity in terms of number of the family, genera, and species recorded, probably as a result of a lack of vegetation. The results suggest that insect diversity on the surrounding islands of Abu Dhabi is moderate with 12 of the 23 listed insect orders of UAE fauna recorded).

However, the orders currently listed the predominance of Hymenoptera and Diptera. This is a similar finding to those of mainland habitats of the UAE. Many insects and other invertebrates notably absent from the islands are those usually associated with specific mainland habitats. There were no endemic species found on the island. However, those that were identified showed that they were less abundant with an uneven distribution. According to Niemelä, et al. (1988) there is no clear relationship between the dispersal ability of a species and their island-mainland occurrence. This

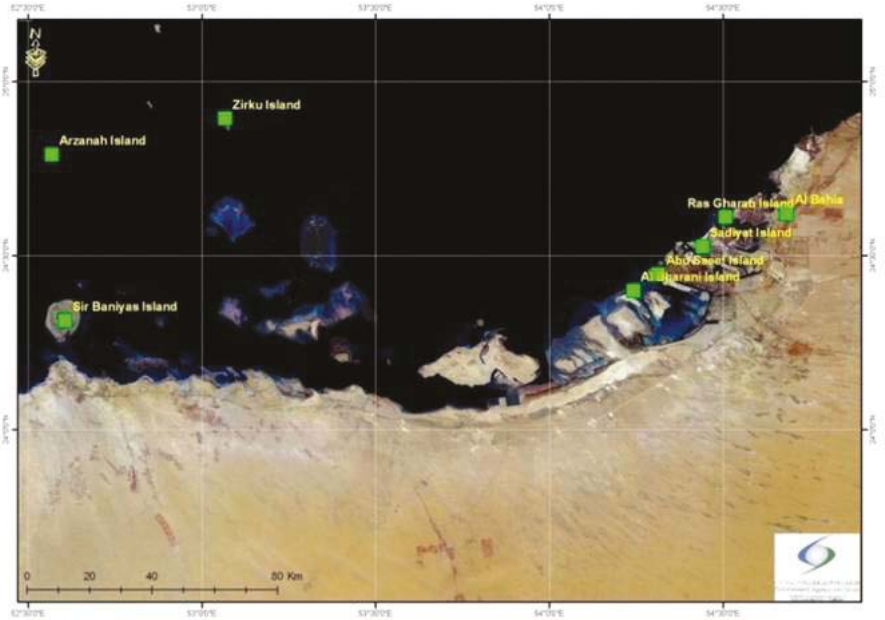

Fig 1. Map showing the location of surveyed islands during the study (EA, Abu Dhabi)

Fig 2. *Pachycodyla sennarrensis* (Samsum ant)- (from Sir Baniyas Island) (Anitha Saji)

could be the most probable explanation for uneven distribution of Tenebrionid beetle species observed in the current study among these islands. It is suggested that both habitat effects and island isolation determine the abundance and distribution pattern of the species. It is also believed that this is a baseline study and that the insect diversity on Abu Dhabi Islands would be far more diversified than the current observation's suggest.

Surveys for terrestrial insects and most other invertebrates should be carried out at the time of the year when the group is most active and at a time which will provide more accurate baseline information. Further studies/surveys at different times of the year, with altered collection techniques for specific habitats would certainly add many more insect and other arthropod species records to the present list.

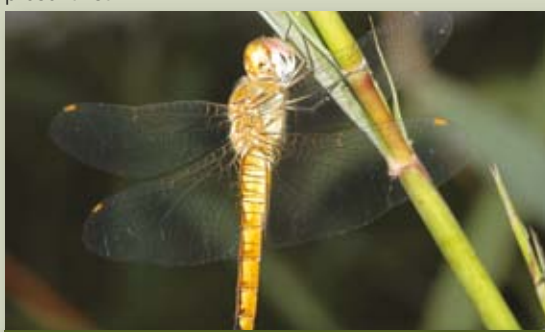

Fig 3. Dragonfly species recorded from Sadiyat Island (EA, Abu Dhabi)

Acknowledgments

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