

Short communication

BUTTERFLIES OF ATA'TA MOUNTAIN IN TAFILEH, SOUTHERN JORDAN

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Ata'ta (1050 m a.s.l.), the highest mountain in the Tafileh region, is located in southern Jordan. Although it is affected by the Mediterranean type of vegetation dominated by the *Quercus*, *Pistachia*, *Juniperus* and *Daphne* species, it nonetheless forces an intimate integration between flora and fauna components, especially butterfly species (AL MUSA, 1979; BOZANO, 1990; FABIANO, 1998).

This investigation promoted the management of the conservation of regional biodiversity. The integrated fauna of the butterfly diversity inventory was carried out between October and November 2007.

Canopy bait traps and timed sweep netting were used to collect butterflies. Traps were baited with pineapple and inspected for three days in the evening around 17:00 h and in the morning at 9:00 h at each of the two main habitats on Ata'ta mountain of Tafileh, notably the forest (upper part) and the grassland (lower part). Over a ten day period sweep netting was done hourly by two individuals in ten plots measuring about 300 m² selected from each of the two main habitats of the study area. Trapped butterflies were collected in butterfly envelopes and kept for identification at the Natural History Museum of Mutah University.

The taxonomy of the butterflies followed the international references: BENYAMINI, 1988, 1990; BOZANO, 1990; HEMMING, 1932; KATBEH-BADER *et al.*, 2003; LARSEN, 1974-1977, 1983, 1984a, 1984b, 1990; WALKER & PITTAWAY, 1987).

A total of 23 species of butterflies belonging to five families was collected after a survey of Tafileh between August and September 2007. The percentage of each butterfly was 14%, 16%, 11%, 8%, 9% and 6% respectively. *Papilio alexanor maccabaeus* Staudinger (23 specimens), *Gegenes gambica* Mabille (20 specimens) and *Zegris eupheme uarda* Hemming (16 specimens) were the most abundant butterflies in the sample. The majority of the butterfly species are found in open formations of water springs and about 30% of

southern butterfly species have widespread distribution in the Tafileh region. Tafileh appears to support relatively medium levels of biodiversity, but further monitoring is necessary.

The List of the Butterflies of the Tafileh region in southern Jordan collected, examined and identified can be summarized as:

Family Hesperidae

Subfamily Hesperinae

1. *Gegenes gambica* Mabille, 1878
2. *Pelopidas thrax thrax* Hübner, 1821

Subfamily Pyrginae

3. *Carcharodus alceae* Esper, 1780
4. *Carcharodus stauderi ambigua* Verity, 1925

Family Lycaenidae

Subfamily Aphnaeinae

5. *Apharitis acamas acamas* Klug, 1834

Subfamily Lycaeninae

6. *Lycaena phlaeas timeus* Cramer, 1777

Subfamily Polymmatinae

7. *Azanus jesous* Guerin-Meneville, 1849
8. *Polyommatus icarus zelleri* Verity, 1919
9. *Zizeeria karsandra karsandra* Moore, 1865

Subfamily Theclinae

10. *Deudorix livia* Klug, 1834

Family Nymphalidae

Subfamily Charaxinae

11. *Charaxes jasius jasius* Linnaeus, 1767

Subfamily Danainae

12. *Danaus chrysippus chrysippus* Linnaeus, 1758

Subfamily Nymphalinae

13. *Limenitis reducta schiffermuelleri* Higgins, 1933
14. *Melitaea arduinna evanescens* Staudinger, 1886
15. *Vanessa cardui cardui* Linnaeus, 1758

Subfamily Satyrinae

16. *Lasiommata megera emilyssa* Varity, 1919
17. *Maniola telmessia* Zeller, 1847

Family Papilionidae

Subfamily Papilioninae

18. *Papilio alexanor maccabaeus* Staudinger, 1891

Subfamily Parnassiinae

19. *Archon apollinus* Herbst, 1798

Subfamily Zerynthiinae

20. *Allancastris deyrollei eisneri* Bernardi, 1971

Family Pieridae

Subfamily Coliadinae

21. *Gonepteryx cleopatra tauranica* Staudeinger, 1881

Subfamily Pierinae

22. *Belenois aurota aurota* Fabricius, 1793
23. *Zegris eupheme uarda* Hemming, 1929

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The present checklist is unlikely to be complete and might expand substantially when sampling is done during other times of the year since invertebrate distributions and abundance can vary substantially with seasons. The present study found an average level of diversity of butterflies on Ata'ta mountain of Tafileh as compared to other regional ecosystems in southern Jordan, such as Shoubak forests and even Petra and the Wadi Musa region. Thus further monitoring of butterfly species is necessary to have a sustainable documentation of the butterfly fauna of the investigated area (FABIANO, 1998; GRAVES, 1925; LARSEN & NAKAMURA, 1983; NAKAMURA & AE, 1977; PITTAWAY, 1985; PITTAWAY *et al.*, 1994).

The study area is regularly burnt to manage the grass and perhaps to induce regeneration of more nutritious forage. In the event that grass management is crucial, other approaches such as controlled harvesting by the local community, perhaps at a fee, may be more realistic. The practice is less destructive to nature and may bring the community closer to the park management thus easing the human – biodiversity conservation conflict in addition to generating funds for running the targeted region.

Conservation of invertebrates will not only attract other biodiversity that uses them as a food source e.g. for birds (PITTAWAY, 1985; PITTAWAY *et al.*, 1994) but also result in improved ecosystem services such as pollination of wild and agricultural plants.

The relatively average level of butterfly diversity on the island does not mean that the habitat is of no conservation importance. The presence of both forest species and species of open formations suggests that the island might be a stepping stone for such species. This is important in facilitating the dispersal of highly migratory species such as butterflies. Moreover the mainland adjacent to Tafileh is characterized by dense human settlement and intensive agriculture with hardly any conserved habitats.

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ЛЕПТИРИ ПЛАНИНЕ АТАТА У ОБЛАСТИ ТАФИЛЕХ, ЈУЖНИ ЈОРДАН

САЛЕХ АХМАД Ал-Куран

Извод

У раду су представљени налази дневних лептира, сакупљени у октобру и новембру 2007. године на планини Атата, у области Тафилех у јужном Јордану. Најбројнији су били налази следећих врста: *Papilio alexanor massabaeus* Staudinger, *Gegenes gambica* Mabille и *Zegris eupheme uarda* Hemming. Највећи број врста уловљен је на отвореним теренима око извора.

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