

### D-30: Evidence for a lichen-butterfly association

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In habitats which are poor in nutrients and subject to extreme environmental conditions, lichens may form the dominant flora and thus provide important potential resources for herbivores.

In the present study we report, for the first time, occurrence of lichen substances on a butterfly identified as *Talicadia nyseus nyseus* which is closely associated with a crustaceous lichen.

Twelve adult butterflies and twelve pupae which were suspected to belong to the same butterfly, who were found in close proximity to the lichen BE/02 (herbarium specimen number), were collected near Beragala junction. Adult butterflies, the dried lichen and the butterflies which emerged from pupae were extracted into dichloromethane.

TLC of the extract of the lichen BE/02 showed six spots (eluent dichloromethane). Three of the spots were identified as usnic acid, atrononin and  $\beta$ -sitosterol. The extract of the butterflies exhibited four of the six compounds which the lichen contained, namely  $\beta$ -sitosterol, atrononin and two other as yet unidentified compounds. Importantly, the butterfly extract which emerged from pupae also carried the same four compounds.

Above evidence indicate that adult *Talicadia nyseus nyseus* larvae feed on the lichen BE/02. To the best of our knowledge, there are no previous reports of the butterfly family (Lycaenidae) feeding on lichens. In light of lichen substances such as atrononin being strongly antifungal, it is reasonable to assume that such lichen substances may help the herbivore in chemical defence against microbial pathogens.

Financial assistance from NARESA (Research Grant RG/96/C/04) is acknowledged