BP2.

SEQUESTRATION OF LICHEN COMPOUNDS BY THE BUTTERFLY *TALICADIA NYSEUS NYSEUS*

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Lichens comprise about 20,000 species and are distributed throughout the world commonly growing on rocks and poorly developed soils such as arid lands and boreal-Arctic regions or as epiphytes on trees. In habitats which are poor in nutrients and subject to extreme environmental conditions (such as hot or cold deserts), lichens may form the dominant flora and thus provide important potential resources for herbivores.

In spite of the toxic and deterrent effects of such lichen substances toward generalist herbivores, there are examples of specialised lichen feeders, such as orbit mites terrestrial gastropods and Lepidopterra, for example, family Arctiidae. In the present study we report, for the first time, occurrence of lichen substances in a butterfly identified as *Talicadia nyseus nyseus* (Guer) (red pierrot) which is closely associated with a crustaceous lichen growing on a roadside rock at the Beragala junction on the Badulla-Colombo road.

Twelve adult butterflies of *Talicadia nyseus nyseus* who were found in close proximity to the lichen BE/02 (herbarium specimen number) were collected near Beragala junction. Twelve pupae which were suspected to be belonging to *Talicadia nyseus nyseus* were also collected from the lichen surface at same location. Butterflies were extracted into CH_2Cl_2 at room temperature. The dried lichen BE/02 (herbarium specimen maintained in the Department of Chemistry) was also extracted into CH_2Cl_2 at room temperature. The CH_2Cl_2 extracts of both butterfly and lichen were subjected to thin layer chromatographic analysis (TLC). Adult *Talicadia nyseus nyseus* that emerged from the pupae were also extracted into CH_2Cl_2 and subjected TLC analysis, as before.

The dichloromethane extract of the lichen BE/02 showed six clear spots upon (eluent dichloromethane) TLC. Three spots were identified as usnic acid, atranonin and β-sitosterol, by co-TLC with authentic samples. Upon comparison, the dichloromethane extract of *Talicadia nyseus nyseus* exhibited four of the six compounds which the lichen contained namely β-sitosterol, atranonin and two other as yet unidentified compounds.

The presence of the lichen substances such as atranonin and β-sitosterol in adult *Talicadia nyseus nyseus* indicate that their larvae feed on the lichen BE/02. Although larvae of moths (Arctiidae) are known to be lichen feeders, to the best of our knowledge, there are no previous reports of the butterfly family (Lycaenidae) feeding on lichens. *Talicadia nyseus nyseus* usually feeds on crassulaceous plants such as *Bryophyllum calcinum.*

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