A NEW INSECT PEST OF A RARE GYMNOSPERM, *CYCAS RUMPHII* MIQ. FROM ANDAMAN ISLANDS

Butterflies and moths which are generally diurnal and noctural respectively belong to the insect group Lepidoptera and are well known as pollinating agents besides occasionally causing severe damage to several crop as well as wild plants. Although the butterflies are one of the most fascinating creations of nature sometimes cause severe damage as insect pests of crop plants and many other economically or aesthetically important plant species in the wild.

An ornamental, littoral but rare gymnosperm *Cycas rumphii* Miq. adorning the sandy seashores and beach forests in the A & N Islands is known to occur only in Sri Lanka, Myanmar, Thailand and the A & N Islands in India. In the present report an account of 'The Tiny Grass Blue' butterfly (*Zizina gaika* Trimen)-a species found in Sri Lanka, Myanmar, A & N Islands in India, N. Australia and E. Africa attacking the populations of *C. rumphii* is given. *C. rumphii* is important not only because of its aesthetic value but also for its tender foliage which is occasionally cooked as a curry, starch is extracted from the trunk, the orange-coloured ripe seeds are edible when cooked (but poisonous when eaten raw) and the mature leaves are used for thatching purpose by the locals.

This is for the first time some plants were seen attacked by the *Zizina gaika* Trimen butterfly (females) in the isles whose identity remained enigmatic for nearly a couple of months until its life-cycle was studied from the egg phase to the adult phase (Fig. 1-3).

For this purpose the instar larvae and the young leaflets on which the larvae feed were collected and incubated in test tubes capped with porous cotton plugs. Around 5th day nearly 3/4 of the larvae turned into pupae enclosed in their cocoons. On 9th day the butterflies emerged out of the cocoons and started flying inside the test tube which were carefully poisoned and fixed on the pinboard for photography.

It is also confirmed that the infected plants show renewed vigorous growth (Fig. 4&5) due to the inherent capacity of the plant to withstand the onslaught of the insects after about sixty days of aborted/retarted growth, that is, at the end of the season when the butterflies stopped visiting the plants for laying eggs on the lower surface of the leaflets. As a result spary of either chemical pesticides such as chlorophyriphos or neem based/bacterial insecticides to control the butterflies is not required.



Fig.1. Larvae of *Zizina gaika* Trimen butterfly on the leaf under surface in *Cycas rumphii* Miq.



Fig. 2. Pupae in the cocoons of *Z. gaika*



Fig. 3. Butterflies after emerging out from the cocoons



Fig. 4. Young leaves of *Cycas rumphii* Miq. at the beginning of infection by the larvae of *Zizina gaika* Trimen.



Fig. 5. New set of young healthy leaves emerging out of the stump after butterflies stopped visiting at the end of the season.

TAXONOMIC DESCRIPTION OF THE HOST PLANT

Cycas rumphii Miq., Bull. Sci. Phys. Neerl. 2 : 45. 1839 ; Monogr. Cycad. : 29. 1842; Parkinson, For. Fl. Andaman Is. 237. 1923.

Trees 2-5 m high, trunk rough. Leaves 1-2 m long, closely whorled at the top of the stem, dark green, glossy ; leaflets 50-60 pairs, confluent towards upper part of leaf. Male cone about 30 cm long, about 10 cm across, orange-coloured, faintly scented. Microsporophylls about 2 cm long, obcuneate with a fairly long, upcurved, not spinescent acumen. Megasporophylls about 23 cm long, 1.2 cm wide ; sterile part ovate to ovate-lanceolate, densely villous, teeth small. Ovules 4 pairs in the notches below the sterile part. Seed globular, about 5 cm across, orange-coloured when ripe.

TAXONOMIC DESCRIPTION OF THE BUTTERFLY (THE TINY GRASS BLUE)

Zizina gaika Trimen. Trans Ent. Soc. London, 3rd series, 1 : 403. 1862 ; Ident, Ind. Butterflies 2 : 234. 1932.

Diagnosis Expanse : Male about 7 mm, female about 11 mm.

Male : UP pale-blue, with a narrow brownish grey margin. Cilia white. UN whitish grey, with minute, whitish ringed black spots ; a thin, greyish, whitish edged mark closing the distal cell a transverse row of spots beyond the middle ; 2 dentate submarginal, lunular, greyish, whitish edged lines ; and a thin black, bounding line immediately within the cilia. HW with a basal black spot ; before middle a transverse row of 3 spots ; no metallic centered spots near the anal angle.

Female : UP smoky black with a slightly gross never with any blue colouration towards the base. UN as in male.

As the host plant *C. rumphii* and the butterfly *Z. gaika* are of restricted distribution in the world, elimination of any of the species to save the other will erode the biological diversity triggering ecological imbalance in the fragile insular ecosystem. Besides, insecticidal spray to contain the larval infection on a large scale will be detrimental to the aquatic fauna when the residual insecticides accumulate in the water bodies following the rains. It is, thus suggested not to resort to any measures aiming at the elimination of the pest but to allow the infected plants to show up naturally with the renewed growth after the insects stop visiting the plants at the end of the season.

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