# *COSTUS SPECIOSUS* (ZINGIBERACEAE) AS NEW LARVAL HOST PLANT FOR THE GRASS DEMON BUTTERFLY, *UDASPES FOLUS* (CRAMER, [1775]) (INSECTA: LEPIDOPTERA)

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**Abstract**

*Costus speciosus* is reported as a new larval host plant for Grass Demon Butterfly, *Udaspes folus* (Cramer) (Insecta: Lepidoptera: Hesperiidae), based on the repeated sightings of caterpillars on the plant leaves and its rearing till eclosion of the adult butterfly.

**Keywords:** Butterfly, observations, host records, Maharashtra.

**Introduction**

The Grass Demon Butterfly, *Udaspes folus* (Cramer, [1775]) (Insecta: Lepidoptera: Hesperiidae) is commonly abundant in the forests of Sanjay Gandhi National Park and Bombay Natural History Society (BNHS) Nature Reserve, Mumbai, Maharashtra, India, during the monsoon. The reported larval host plants for *U. folus* are summarized by Robinson *et al.* (2001) and later by Nitin *et al.* (2018) as *Fagraea racemosa* (Loganiaceae), *Oryza* (Poaceae), Zingiberaceae, *Curcuma aromatica*, *Curcuma decipiens*, *Curcuma longa*, *Hedychium*, *Zingiber*, *Zingiber officinale*, *Zingiber zerumbet* (Zingiberaceae) and Liliaceae. In this paper, based on repeated sightings of caterpillars of *U. folus* on *Costus speciosus* leaves and its larval rearing, *C. speciosus* is reported as a new larval host plant for the butterfly.

**Material and Methods**

The Bombay Natural History Society (BNHS) Nature Reserve is a forested area spread over 33 acres and is nestled between Dadasaheb Phalke Chitra Nagari (aka Film City), and Sanjay Gandhi National Park in Mumbai City of Maharashtra, India. The reserve also has a small butterfly garden spread over around a quarter of an acre. *Costus speciosus* is a common plant found in the area. Observations were made on the feeding of *U. folus* caterpillars on the leaves of *C. speciosus* in the nature reserve.

**Observations**

On 20 September 2020, we found two caterpillars of *U. folus* on the leaves of *C. speciosus* (syn. *Cheilocostus speciosus*) (family Zingiberaceae) (Fig. 1). These larvae were resting inside cells, which they had made by folding the leaf margin with fine silk threads (Figs. 2, 3). We collected the caterpillars along with the leaves for rearing. Every day we added one fresh leaf of the *C. speciosus* to the container and cleaned the frass. However, both the caterpillars died on 24 September 2020.

On 19 October 2020, we again found three caterpillars of *U. folus* on the leaves of *C. speciosus* plants. We collected them and reared them on a diet of fresh leaves of *C. speciosus*. One caterpillar started pupating on the underside of the container lid on 31 October 2020 (Figs. 7, 8). The pupa was seen

on 1 November 2020. An adult Grass Demon eclosed on 29 January 2021 morning, i.e., after 89 days (three months) (Fig. 9). The remaining two started pupating on 2 November 2020. On 3 November 2020, one caterpillar was found dead in the container, and the other pupated on the underside of a leaf. From this pupa, an adult Grass Demon eclosed on the morning of 4 February 2021, i.e., after 92 days (three months).

We found one more caterpillar in the final instar on the *C. speciosus* on 1 November 2020. Unfortunately, it was found to be infested with some parasitoids that were visible inside the caterpillar body (see image). The caterpillar died on 3 November 2020.

**Conclusion**

The repeated sightings of caterpillars of *U. folus* on the *C. speciosus* plants and its rearing till eclosion of adult butterflies clearly indicates the regular use of the plant as a larval host. Looking at the list of larval host plants reported previously, this is clearly a new record of the larval host plant for the *U. folus*.

**References**

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Fig. 1. Grass Demon Caterpillar.

Fig. 2. Grass Demon Caterpillar Making Cell.

Fig. 3. Grass Demon Caterpillar, Resting in a Cell.

Fig. 4. An infested Grass Demon Caterpillar.

Fig. 5. Spiral costus plant showing two cells of Grass Demon on the upper side of the leaf.

Fig. 6. Grass Demon Pupating Caterpillar.

Fig. 7**.** Grass Demon Pupa on Spiral Costus Leaf.

Fig. 8**.** Grass Demon Pupa on the underside of the Container Lid.

Fig. 9**.** Freshly eclosed adult of Grass Demon.