

Foraging behaviour of Demon butterflies (Family: HesperIIDae) on *Argyreia involucrata* (Family: Convolvulaceae)

Demon butterfly with hooked antennae at the tip belongs to the sub-family HesperIIDinae of the family HesperIIDae, which is the third largest family of butterflies in the world (about 3,650 species) and about 320 species in India. This family is popularly known as the “Skippers” and constitutes about 21% of the Indian butterfly fauna. Peninsular India reports 90 and Western Ghats complex 81 species (Gaonkar, 1996, Kunte, 2000). The present communication reports the foraging behaviour of demon butterflies belonging to genus *Notocrypta* and *Udaspes*. They are shade-loving and predominates in moist deciduous to semi-evergreen to evergreen forest areas. These butterflies are heterogenous group with varied appearances according to the prevailing environmental conditions.

Notocrypta curvifascia (Restricted Demon) is a medium sized butterfly, with a wing span of 38-50 mm, which is black above and dark brown below. Discal band in Upper forewing (UPF) not continued to costa. UPF with apical dots and with white scaling on the apical part of the forewing (FW) termen and on the terminal and middle portions of the hindwing (HW) (Figure 1).



Figure 1. Restricted demon (*Notocrypta curvifascia*) (Kunte, 2000)

Udaspes folus (Grass Demon) with a wing span of 40-48 mm and black with large semi-transparent white spots above. It is closely related to *Notocrypta curvifascia* in body size and wing span. FW has a spot across cell and an irregularly disposed discal spot in each interspace from 1b to 8, while HW has large semi-transparent central white area from 1c to 6 (Figure 2).

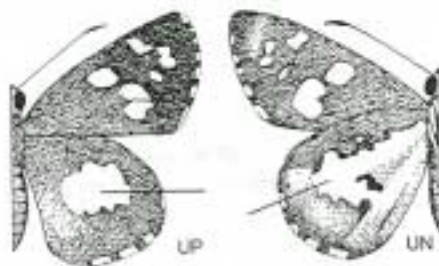


Figure 2. Grass demon (*Udaspes folus*) (Kunte, 2000)

These species seen foraging on *Argyreia involucreata* (Family: Convolvulaceae), in moist deciduous forests of canopy cover 66.7% (using densiometer). This host plant is a large twining to prostrate shrub with branches appressed-pilose or almost sericeous. Leaves of this shrub is about 22x12 cm, ovate-lanceolate, tapering to an acute or apiculate tip, rounded, truncate or cordate at base, densely appressed – pilose to subsericeous beneath; petioles up to 10 cm long. Flowers in peduncled, subcapitate axillary cymes. Peduncles 5-15 cms; bracts 2.75 cms. The bracts conspicuously persistent, sparingly hairy, flat. Sepals unequal, the outer longer and often caudate, the inner three shorter, acuminate. All sparsely strigose on the back. Corolla 5 cms, funnel-shaped, the corolla pinkish-grey or rose-purple, sparsely covered with long hairs outside, ultimately nearly glabrescent. Berry is dusky and pulpy with 1 to 1.5 cms in diameter, yellow when ripe (Bhat, 2003).

Foraging behavior of *Notocrypta curvifascia* and *Udaspes folus* was observed between 1130 – 1230 h IST on 22nd December 2004 near Mastimane (14°26'30"N and 74°38'30"E, 28 m above mean sea level) in Kummat taluk, Uttara Kannada district of Karnataka state. Butterflies visited *Argyreia involucreata* flowers thrice during this period. Both the species before landing on the flower flew vigorously around the plant and later sat on the corolla lip. In this posture, they opened their coiled mouthpart (Proboscis) and slowly entered into the corolla tube. Foraging time was 120 ± 30 seconds (range: 60- 180 sec) for *N. curvifascia*, and 150 ± 30 (range: 120 – 180 sec) for *U. folus*. After foraging, they slowly came out of the corolla tube and sat for few seconds on the corolla lip, before they flew away. In this process, they carried pollen grains on their head, proboscis and some parts of wings.



Figure 3. Different postures of Restricted Demon (*Notocrypta curvifascia*) foraging on *Argyreia involucrata*



Figure 4. Grass Demon (*Udaspes folus*) foraging on *Argyreia involucrata*

This flower has long corolla tubes and deep-seated nectar glands requiring pollinators to have long proboscis. Long proboscis observed in Hesperiiidae is attributed to the co-evolution with flowers having long corolla tube (Kunte, 2000). This highlights host specificity and mutuality between *A. involucrata* with *N. curvifascia* and *U. folus*, with the plant providing nectar to the pollinators with long proboscis, which in turn facilitate pollination.

References:

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