

vein 2 and the lack of white spots on the forewing. On the basis of the above, I have placed the specimen under consideration as *Endoclyta chalybeatus*, although this is a tentative placement.

The range of *Endoclyta chalybeatus* is Burma (=Myanmar) Thailand and Malaya according to Barlow, and that of "*Phassus signifer*" is Sylhet (Bangladesh), Burma and Borneo according to Hampson.

In any event, the appearance of a female in good condition belonging to this species or a very closely related one over one thousand

kilometres west of its known habitat is worthy of note. Barlow gives *Erythrina* as one of the larval host plants of *E. chalybeatus*. Two species of *Erythrina* occur in Jones Estate, i.e. *E. suberosa* Roxb. or the Coral Tree and *E. arborescens* Roxb. Therefore, if the specimen is *chalybeatus* after all, its appearance is perhaps not surprising, given the increasing influx of Indo-Malayan moth species in the Kumaon Himalaya.

August 28, 1997

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30. SIGHTING OF THE COMMON PALMFLY (NYMPHALIDAE: LEPIDOPTERA) IN MUMBAI

On 23 October, 1996 at around 0915 hrs, a common palmfly, *Elymnias hypermnestra caudata* was spotted flying low in the garden of Colaba woods, South Mumbai. The specimen was bright and its striking colour pattern with brownish-black forewings, with a prominent, single white band and rust orange hindwings was unmistakable. Recently, this garden acquired additional palm saplings of *Areca* sp. from Mangalore and it is quite possible that one of them carried the eggs and pupa of this species. It may be noted that Mumbai had inclement weather due to the cyclonic conditions prevailing on the west coast of India during that period.

Mr. Naresh Chaturvedi, Curator of the BNHS, confirmed the species and recommended that this sighting be recorded, as the common palmfly is rarely seen in Mumbai and the surrounding areas. The last sighting was in Kihim across on the mainland in September 1972 (Salman Abdulali *JBNHS* 70: 228).

Subsequently, four more specimens were sighted in Alibag on 7th and 8th June 1997.

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31. THE PLAIN PUFFIN *APPIAS INDRA* SWINHOE: BEHAVIOUR, LIFE-HISTORY AND DISTRIBUTION

(With one plate)

The Plain Puffin (*Appias indra* Swinhoe, Pieridae: Lepidoptera) is a medium-sized black

and white butterfly. Its distribution covers Sri Lanka, Western Ghats, Nepal, NE. India and

Myanmar southwards, covering most of SE. Asia, mainly around the subtropical evergreen forest zone (Wynter-Blyth 1956, Larsen 1987). It is generally considered to be rare. Wynter-Blyth (1956) gives its distribution in south India from Coorg to Travancore. There are a few records of this butterfly from Maharashtra, and in Pune there are recent records of breeding of the Plain Puffin.

I have personally sighted it in Maharashtra only from Bheemashankar. The Plain Puffin flies mostly in the canopy, occasionally descending to feed on flowers of *Leea* and *Adelocurrium* and more rarely to bask. At Bheemashankar, there would always be one or two Plain Puffins mudpuddling in the forest stream. In the late afternoon, from 3 to 5 pm, a group of 3 to 10 Puffins would be seen in the mud, sitting still with their forewings drawn into the hindwings (a habit of most *Appias* sp.).

The natural history of the Plain Puffin is poorly recorded. Neither Wynter-Blyth nor anybody else, as far as I know, has recorded its larval foodplant in the wild and other breeding habits. Interestingly, four years ago this forest dwelling butterfly was found breeding on *Putranjiva roxburghii* Wall (family Euphorbiaceae) in the environs of Pune city. A single larva was successfully reared by Mr. Shonil Bhagwat. A few caterpillars were discovered in January 1993 on the same plant. But the imagines were never seen. For next two years, there was no record of adult butterflies, but in mid-September, 1996, came the burst of Plain Puffins. The butterflies were seen feeding on the flowers of *Melia* sp. in a school compound. On searching, some 50 caterpillars of various instars were found feeding on the tender leaves of *Putranjiva* plants.

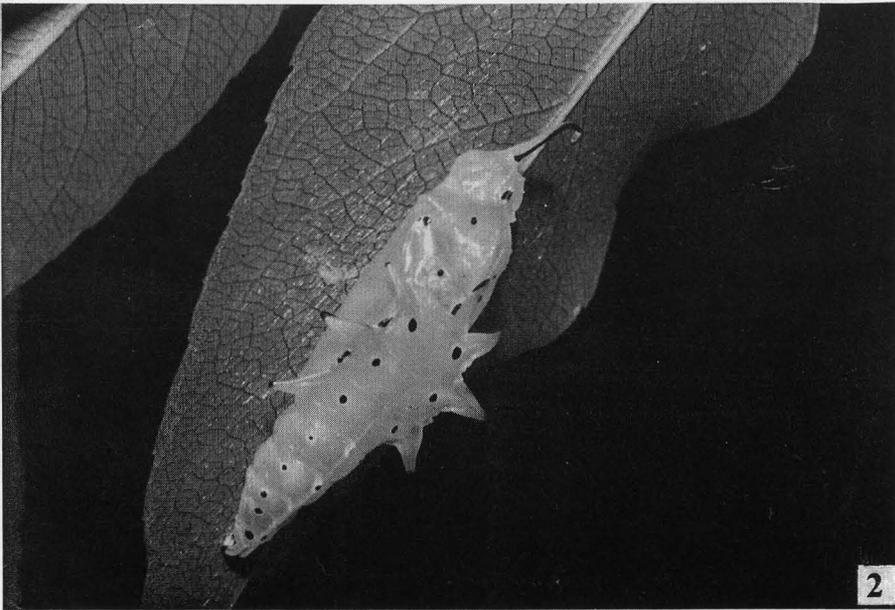
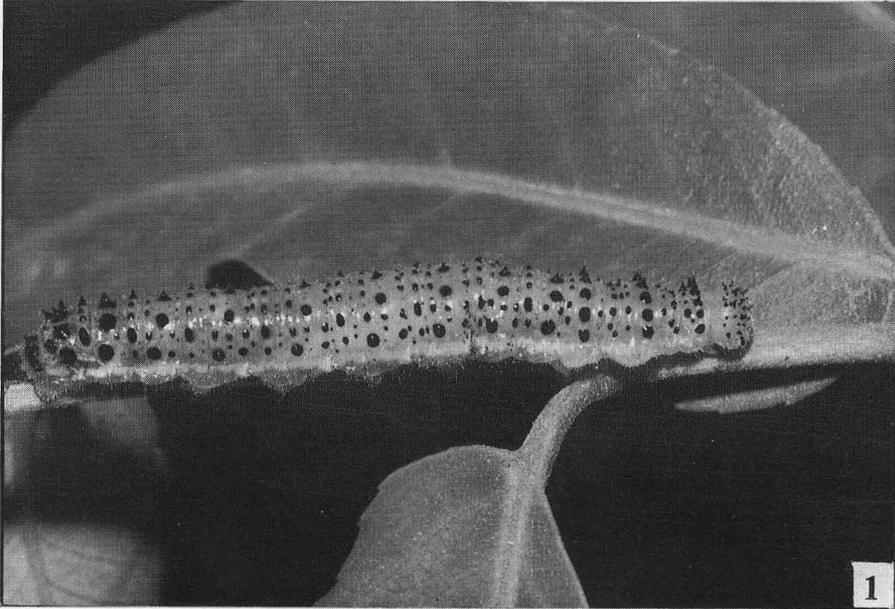
Life cycle: The eggs are laid on the underside of tender leaves in batches of 4 to 8. The egg is yellow, typical of a pierid, bottle-shaped and ribbed on the sides.

Larva: The little caterpillar, just after hatching out, is quite difficult to locate due to its extremely small size and pale yellow colour,

which matches the mid-rib and veins on the leaf perfectly. It remains pale yellow till it grows upto 4 mm or so in length. Then it begins to develop a remarkably beautiful, rich cerulean-blue coat with black conical projections. It is lemon-yellow on the underside and a similar yellow line runs on each side along the length of the body. The head is yellow. The caterpillar refuses to eat mature leaves, and feeds on young leaves, petioles and even the shoots which bear them. It rests on the underside of young or old leaves, branches etc. without any effort at concealment, though the bright colours make it conspicuous. The caterpillar attains its full length, around 3.5 cm., in about 17 ± 4 days. The body-band is very thin and tightly spun around the caterpillar. The caterpillar is arguably among the finest and most handsome ones from our region.

Pupa: The pupa is found on the underside of the host leaf and is unusual in colour: the ground colour varies from lemon yellow to shades of greenish yellow, with small black dots on it. A long, pointed projection, which is generally upturned at the tip, is present before the head. On the back of the thorax are three flat projections on each side, making a broad flat area on the thorax. Their tips are commonly curved downwards. The pupal period varies from 6 to 9 days.

Parasites: Out of the 20 caterpillars I collected, 2 were parasitized by a wasp belonging to family Chalcidae. Generally, the parasites on butterfly caterpillars are minute in size, but this one was 6 mm long. On pupation, the infected pupa turned dark yellow within 3 days. The parasite could be seen as active within the puparium. The parasite larva pupated inside the dead puffin pupa, without making a cocoon, commencing 3-4 days after the Puffin pupation began. The host pupa was completely devoured except for the eyes, and the parasite pupa could be seen in the thoracic region of the Puffin puparium. After 11 days, that is 6 days after the butterflies from healthy pupae had emerged, the chalcid wasps emerged through the thorax of the



1. Caterpillar; 2. Pupa of Plain Puffin (*Appias indira*)

dead host pupae by making a round exit-hole 3 mm in diameter. The pressure of the chalcid parasites on the Plain Puffin caterpillar population seems to be high. Out of about 40 pupae investigated in the field, 8 were parasitized by the chalcid wasps, i.e. approximately 20%. Some caterpillars were found to be attacked and killed by unidentifiable microbes and still more by the wandering larvae of unidentified lacewing flies (order Neuroptera).

Out of 18 butterflies that emerged successfully almost half (8) were females and this proportion was also seen in the free-ranging imagines recorded.

The butterfly is consistently present, perhaps in growing numbers, and is breeding here since the last four years. Given the abundant foodplant (*Putranjiva* has been planted as a roadside avenue plant at many places) and temperate climate, it may not be very hard for the Plain Puffin to establish itself in the city.

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32. COMMON SILVERLINE CATERPILLAR FEEDING ON *CADABA INDICA*

The Common Silverline (*Spindasis vulcanius* Fabricius: Lycaenidae: Lepidoptera) larvae have been recorded feeding on various species of plants belonging to families Rubiaceae, Rhamnaceae and Verbenaceae. Their choice of larval foodplant does not seem to depend much on the plant itself, but on the presence of attending ants, so the butterfly has managed to breed on species of diverse plant families.

Dr. Makarand Dabak found a caterpillar of a Lycaenid in a small cell made of a few *Cadaba* sp. (Capparidaceae) leaves, constantly attended by small black ants. I reared it at home and the caterpillar fed happily on the leaves of *Cadaba*. After it was full grown it went into pupation and formed a jet black pupa. The Common Silverline emerged out of the pupa.

No Lycaenid has been recorded as feeding on plants of Capparidaceae, which are common foodplants of many of the Pierids. The present record adds the family Capparidaceae to the host plants of the Lycaenidae. This record also supports the postulated tight relationship between Silverline caterpillars and ants which attend them, and also demonstrates that chemical composition of the foodplant seems to have little relevance in this relation.

April 15, 1997 KRUSHNAMEGH KUNTE
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