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REDISCOVERY OF *LETHE EUROPA TAMUNA* WITH NOTES ON OTHER THREATENED BUTTERFLIES FROM THE ANDAMAN AND NICOBAR ISLANDS

Additional key words: Legal protection, status reassessment.

Drawing on data from the IUCN Conservation Monitoring Centre, the United Nations Environment Program (UNEP) (1987) listed six species of butterflies as threatened from the Indian coastal region. Four of these—one species and three subspecies—are endemic to the Andaman and Nicobar islands (Table 1). Three of these taxa have been termed "very rare" while *Graphium epaminondas* Oberthur was termed "locally common" by both Evans (1932) and Ferrar (1948). Khatri (1996) recently reported that two of these taxa, *Lethe europa tamuna* de Niceville and *Neptis sankara nar* de Niceville, were extirpated on these islands. We present here new information on three of the four taxa rated "threatened" from the Andaman and Nicobar islands, including biological notes on the rediscovery of *Lethe europa tamuna*.

Lethe europa tamuna de Niceville (Nymphalidae: Satyrinae). This is one of the rarest butterflies from the islands, being known previously from a single female specimen collected on Little Nicobar. Ferrar (1948) reported observing another female on Great Nicobar some time before he left the islands in 1931. On a collecting trip to Great Nicobar Island in December 1996, the senior author observed four females, and found two eggs and two larvae of this butterfly at three localities in the Campbell Bay area of Great Nicobar. Both the adults and immatures were found along roadsides where the forests had been disturbed by human activity. One of the females was seen resting on moist sand on the banks of a stream. Another female was observed ovipositing on the upper surface of a leaf of the climbing bamboo, *Dinochloa andamanica* Kurz. Eggs were laid on leaves well within the clump, not on the fringes. The larvae (Fig. 1B) were sleeved and observed periodically for about two weeks. They fed and passed through several instars, and confirmed *D. andamanica* as a host plant that supports development. We suspect this butterfly is not as rare as previously thought, but its status can be reliably assessed only after further studies are conducted.

Doleschallia bisaltide andamana Fruhstorfer (Nymphalidae: Nymphalinae). This butterfly has been considered rarer in the Nicobars (Car and Central Nicobar) than in the Andaman islands (Evans 1932, Ferrar 1948). Its cryptic habits have perhaps contributed to an underestimate of its abundance. We have observed eggs, larvae and adults of this butterfly at S. Andaman and at Great Nicobar. The larvae completed their life cycles on the plants on which they were found, when sleeved (see Table 1). We found from 15 to 58 adults feeding on the small white blossoms of medium sized trees of *Ligustrum glomeratum* Blume (Oleaceae) at Chidyatapu (Fig. 1D) in S. Andaman in 1994, 1995 and 1996. At Campbell Bay on Great Nicobar, 16 eggs were observed on *P. album* (Nees) Merr. (located in less than 30 min of search); 3 females were also observed in flight.

TABLE 1. Threatened species of butterflies for the South Asian Seas region from the data base of the IUCN Conservation Monitoring Centre (UNEP 1987). Status represents ratings by Evans (1932) and Ferrar (1948); IUCN categories are as defined prior to Mace & Lande (1991) and Mace & Stuart (1994). All except *Graphium epaminondas* are listed as Schedule I species in the Indian Wildlife (Protection) Act, 1972 as revised to 1991.

Taxon	Region	Distribution	Status	IUCN Category	Larval Foodplant
Lethe europa tamuna	India	S. Nicobars	very rare	rare	*Dinochloa andamanica* Kurz (Poaceae)
Doleschallia bisaltide andamana	S. Asia	Andamans	not rare	rare	*Pseuderanthemum album* (Nees) Merr. (Acanthaceae)
		Car Nicobars	very rare		*Phaulopsis imbricata* (Forst.) Sweet (Acanthaceae)
		Central Nicobars	very rare		
Neptis sankara nar	India	N. Andaman	very rare	rare	unknown
Graphium epaminondas	S. Asia	Andamans	not rare, locally common	insufficiently known	*Uvaria rufa* Bl. (Annonaceae)

Graphium epaminondas Oberthur (Papilionidae: Papilioninae). Although this butterfly was among the first collected from the islands (Hewitson 1874), nothing was known about its biology until its larval host plant and life cycle were worked out (Prashanth Mohanraj & Veenakumari 1994). It has a very short flight period with adults on the wing between April and June (Prashanth Mohanraj & Veenakumari 1996). It is localized in its distribution on S. Andaman. Mount Harriet National Park and some other localities on S. Andaman continue to support good populations of the butterfly, but we consider it has declined in abundance from the earlier reports by Evans (1932) and Ferrar (1948). The species is not currently threatened though some of its breeding localities have been destroyed (Prashanth Mohanraj & Veenakumari 1996).

Neptis sankara nar de Niceville (Nymphalidae: Nymphalinae). About half a dozen historical specimens of this species have been collected from the Andaman islands (Ferrar 1948). No specimens have been collected recently, and we have not encountered the species in our studies. If the butterfly is confined to N. Andaman (where Ferrar spotted his only specimen) then we may well have missed this species on our short, sporadic visits to the island. We doubt the species is extirpated, as N. Andaman is far less disturbed than S. Andaman.

Over one fourth of the butterflies of the Andaman and Nicobar islands have been rated as "rare" or "very rare" by Ferrar (1948), the only person to have collected diligently for as long a period as eight years from these islands. Given the relative paucity of data, we feel that until more detailed field studies on Andaman and Nicobar butterflies are conducted, statements about the status of the islands' species should be made with caution.

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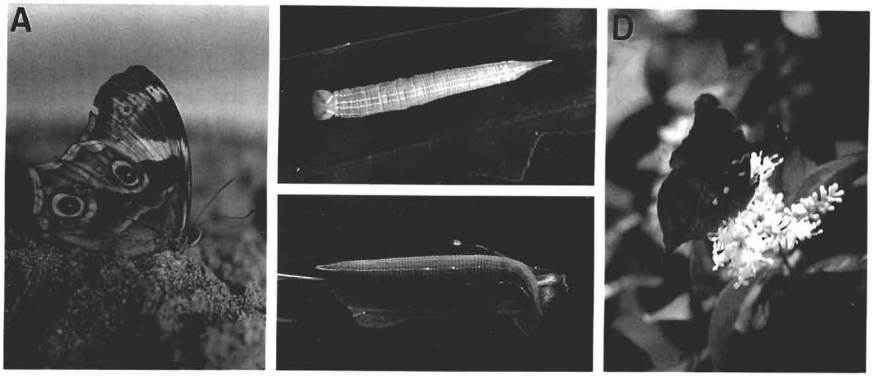

FIG. 1. Lepidoptera from Andaman and Nicobar Islands: A, adult *Lethe europa tamuna*; B, larva of *Lethe europa tamuna*; C, the strikingly different larva of *Lethe europa nudgara* (ssp. *tamuna* is confined to the S. Nicobars while ssp. *nudgara* is restricted to the Andamans); D, *Doleschallia bisaltide andamana* feeding on a blossom of *Ligustrum glomeratum* Blume.

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