Abstract: Dark larval colour morphs of Danaus gilippus (Cramer, 1775) and Danaus plexippus (Linnaeus, 1758) (Lepidoptera: Nymphalidae, Danainae) from Costa Rica are reported. A possible mimicry complex is discussed.

Key words: Danaus plexippus, Danaus gilippus, Danainae, Lepidoptera, colour morphs, larvae, melanism, mimicry, pigmentation, Costa Rica.

Introduction
Recently colour morphs, especially dark ones, of larvae of Danaus plexippus (Linnaeus, 1758) have been reported from Costa Rica (van der Heyden & Jiménez 2013). A few additional observations are reported here.
**Danaus plexippus (LINNAEUS, 1758)**

In 2012 and 2013, Daniel Jiménez found several dark larvae of *Danaus plexippus* (Figs. 1–3) feeding on *Asclepias curassavica* (Apocynaceae, Asclepiadoideae) at two different sites in the province of Cartago.

The first site, a premontane wet forest in Navarro about 1360 m above sea level, is a very sunny and humid habitat with an annual average temperature of 20.3°C and annual rainfall of 2500–3000 mm. At that site Daniel Jiménez found a dark larva of *D. plexippus* on 8. iv. 2012, another one on 14. iv. 2012 and, one year later, another one on 19. iv. 2013. The second site is located in Paraíso about 1315 m above sea level. This site is much drier than the one in Navarro, with an annual average temperature of 20.3°C and annual rainfall of 1500–2000 mm. At that site Daniel Jiménez found a dark larva on 20. iv. 2013 and another one, previous to pupation, on 7. v. 2013.

The distance between the two locations is approximately 10 km (van der Heyden & Jiménez 2013). Most likely, these morphs are not the result of a thermally induced melanism, but of genetic causes.

**Danaus gilippus (Cramer, 1775)**

 Shortly after Daniel Jiménez had found dark larvae of *D. plexippus*, together with larvae with normal pigmentation, in his backyard in Paraíso, he also found a dark larval phenotype of *Danaus gilippus* (Cramer, 1775) at the same site: A specimen (Figs. 4, 5) was found on 8. ix. 2013, again among plants of *Asclepias curassavica*. It was not feeding on the plants, but discovered on grass leaves.

An additional dark-coloured larva of *D. gilippus* (Fig. 6), which was about to pupate, was found on 23. ix. 2013.

**Discussion and conclusions**

For example, in the United States of America dark larval colour morphs of *D. gilippus* are very rare (Willmott et al. 2011). However, Willmott et al. (2011) reported a possible larvae mimicry complex in neotropical danaine butterflies from the Dominican Republic (island of Hispaniola), which includes dark-coloured larvae of *D. gilippus* and *D. plexippus* as well as dark larvae of other sympatric danaine species, which are endemic to the Caribbean: *Danaus cleophile* (Godart, 1819), *Anetia briarea* (Godart, 1819) and *Anetia jaegeri* (Ménétriers, 1832).

It seems to be possible that a similar mimicry complex arises or exists in Costa Rica (or even in a greater area of the Central American mainland), including dark-coloured larvae of *D. gilippus*, *D. plexippus* and maybe other danaine species, for example *Danaus eresimus* (Cramer, 1777), which are more or less “hidden” among larvae with normal pigmentation.

Further investigations might be helpful to answer this question.

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**References**


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