EENY460

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Cassius blue, tropical striped blue *Leptotes cassius* (Cramer) (Instecta: Lepidoptera: Lycaenidae: Polyommatinae)[1]

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Introduction

The cassius blue, *Leptotes cassius* (Cramer), is a beautiful tiny butterfly that is locally common throughout peninsular Florida — particularly along the coasts. It is sometimes known as the tropical striped blue (Scott 1986). There are two subspecies in the United States, *theonus* in Florida and *striata* in Texas. Blues in the genus *Leptotes* are collectively known as the "zebra blues" (Brower 2008) because of the characteristic dark stripes on the under surface of the wings.

Distribution

The cassius blue, *Leptotes cassius theonus*, is resident in southern peninsular Florida but occasionally strays to more northern areas. It is cold sensitive and cannot survive even the winters of northern Florida. The mechanism by which individuals arrive at more northern localities is not known. Perhaps some are carried by wind. Daniels (2005) found larvae on ornamental leadwort plants in South Carolina that had been shipped from Florida and suggested that piggybacking on ornamental host plants may account for the some of the northern strays.

Description

Adults: The average wing spread of adults is approximately 1.2 cm. (slightly less than one half inch) (Opler and Krizek 1984). The undersides of the wings are striped with two eyespots on the margin of each hind wing. Males are pale to bright blue above. Females are bluish-white to white above on basal areas of wings with broad dark borders on the front wings and a dark spot on the rear margin of the hindwing (Cech and Tudor 2005, Minno and Minno 1999).

Eggs: The eggs are whitish-green and the surface is sculptured with a network of knobs and ridges.

Larvae: Full grown larvae are approximately 0.5 inch in length (Minno et al. 2005). Body color is green with faint dark markings or patterned with faint white markings (formed by numerous tiny white

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Figure 1. Dorsal view of the wings of an adult female cassius blue, *Leptotes cassius* (Cramer). Credits: Jerry Butler, University of Florida

Figure 2. Ventral view of the wings of an adult female cassius blue, *Leptotes cassius* (Cramer). Credits: Jerry Butler, University of Florida

Figure 3. Egg of the cassius blue, *Leptotes cassius* (Cramer). (Collected by Marc Minno). Credits: Jerry Butler, University of Florida

hair-bearing tubercles [chalazae]) or red markings and white chevrons.

Figure 4. Larva of the cassius blue, *Leptotes cassius* (Cramer). Credits: Jerry Butler, University of Florida

Pupae: The pupae are tan with dark markings and numerous short white hairs.

Figure 5. Pupa of the cassius blue, *Leptotes cassius* (Cramer). Credits: Jerry Butler, University of Florida

Life Cycle and Biology

The cassius blue is found throughout the year in Florida and has at least three generations per year (Glassberg et al., Minno et al. 2005).

The eggs are laid singly on the flower buds of the host plants and larvae eat the buds, flowers, and developing seeds (Minno and Minno 1999, Minno et al. 2005). There are four larval instars in Florida (Downey and Allyn 1979).

The larvae are well-camouflaged and may be attended by ants for which they provide sugary secretions from a honey gland on the dorsal surface

of the seventh abdominal segment (Downey and Allyn 1979, Opler et al. 2009).

As is the case with most lycaenids, pupae stridulate with a scraper and file in the dorsal cleft between the fifth and sixth abdominal segments (Downey and Allyn 1979). The stridulation is assumed to serve a defensive purpose.

Downey and Allyn (1979) found a braconid wasp in the genus *Pelecystoma* parasitizing larvae, and the tachinid fly *Eusisyropa boarmiae* [Coq.] parasitizing pupae. In a collection of eggs from early June, they found 17% parasitized by the generalist egg parasite *Trichogramma minutum* Riley.

Adults feed on nectar from a wide variety of flowers.

Hosts

The larval hosts of the cassius blue are a variety of vines, shrubs, and trees in the pea family (Fabaceae) (Minno and Emmel 1993, Minno and Minno 1999, Minno et al 2005) including the:

- milkpeas, *Galactia* spp.

Figure 6. Downy milkpea, *Galactia volubilis* [L.] Britton, a host of the cassius blue, *Leptotes cassius* (Cramer). Credits: Don Hall, University of Florida

- blackbeads, *Pithecellobium* spp.
- hairy cowpea, *Vigna luteola* [Jacq.] Benth.
- false tamarind, *Lysiloma latisiliquum* [L.]Benth.
- Florida fishpoison tree or Jamaican dogwood, *Piscidia piscipula* [L.] Sarg.
- and the exotic rosarypea, *Abrus precatorius* L. Rosarypea, also known by many other common names, is invasive and disruptive to native plant communities (FLEPPC 2007), and its seed is extremely poisonous (INCHEM undated). Therefore, it should never be planted.

Figure 7. Florida hammock milkpea, *Galactia striata* [Jacq.] Urb., a host of the cassius blue, *Leptotes cassius* (Cramer). Credits: Don Hall, University of Florida

Figure 8. Florida Keys blackbead, *Pithecellobium keyense* Britton ex Britton & Rose, a host of the cassius blue, *Leptotes cassius* (Cramer). Inset is of new growth showing arrangement of leaves. Credits: Don Hall, University of Florida

- One of the most common larval hosts is the widely-planted exotic ornamental cape leadwort (*Plumbago auriculata* Lam.) in the leadwort family (Plumbaginaceae).
- Doctorbush (*Plumbago scandens* L.), a native leadwort species, is also used (Minno and Minno 1999).

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Figure 9. Catclaw blackbead, *Pithecellobium unguis-cati* [L.] Mart., a host of the cassius blue, *Leptotes cassius* (Cramer). Credits: Don Hall, University of Florida

Figure 10. False tamarind, *Lysiloma latisiliquum* [L.]Benth., a host of the cassius blue, *Leptotes cassius* (Cramer). Credits: Don Hall, University of Florida

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Figure 11. Rosarypea, *Abrus precatorius* L., a host of the cassius blue, *Leptotes cassius* (Cramer). Credits: Don Hall, University of Florida

Figure 12. Cape leadwort, *Plumbago auriculata* Lam., a host of the cassius blue, *Leptotes cassius* (Cramer). Credits: Don Hall, University of Florida

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