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Rynchops niger (Linnaeus, 1758)

foto: S. Peña

The immature stages of *Euclera rubricincta* (Burmeister, 1878)

(Lepidoptera: Erebidae: Arctiinae: Arctiini)

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Abstract: The immature stages of *Euclera rubricincta* (Burmeister, 1878) are described. In the wild a female was found in the Paraguayan Chaco in the department of Presidente Hayes. In the laboratory the larvae were fed with artificial food. Generation (oviposition to imago) lasted 74 days. Egg, larval instars, cocoon, pupa and adults are illustrated.

Resumen: Se describen los estadios inmaduros de *Euclera rubricincta* (Burmeister, 1878). En la naturaleza una hembra fue encontrada en el Chaco paraguayo, en el departamento de Presidente Hayes. En el laboratorio se alimentaron las larvas con alimento artificial. Generación (oviposición a imago) duró 74 días. Huevo, estadios larvales, capullo, pupa y adultos se ilustran.

Zusammenfassung: Die Entwicklungsstadien von *Euclera rubricincta* (Burmeister, 1878) werden beschrieben. In freier Wildbahn wurde ein Weibchen im paraguayischen Chaco im Departament von Presidente Hayes gefunden. Im Labor wurden die Larven mit künstlicher Nahrung gefüttert. Generation (Eiablage bis Imago) dauerte 74 Tage. Ei, Larvenstadien, Kokon, Puppe und Imagos werden abgebildet.

Key words: Paraguay, Erebidae, Arctiinae, Arctiini, *Euclera*, early stages.

Introduction

Of the five species of the genus *Euclera* occurring in South America two species have been reported so far in Paraguay: *E. rubricincta* in the west of the eastern region and in the Chaco and *E. meones* (Stoll, [1780]) in the eastern Atlantic forest. *E. rubricincta* was described by Burmeister as *Charidea rubricincta* from Argentina, later redescribed by Druce as *Androcharta leechi* from Ceará, Brazil.

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Material and methods

The starting material for the breeding was a female (figs. 1 and 2) that was found sitting on a house wall in the Paraguayan Chaco. She was transferred to a plastic bag in which she put over 200 ova during the following two nights. The ova were transported to the laboratory and repeatedly sprayed with water during the ten days until hatching of larvae. The larvae were fed during the first two instars with *Lactuca sativa* (Asteraceae), during third to fifth instar with an artificial diet, modified after Bergomaz & Boppré (1986) and Harbich (1994) and in the sixth and seventh instar again with *L. sativa*. Measurements of ova were taken with a binocular microscope with micrometric eyepiece.



Figs. 1-2: *E. rubricincta* female

Ova: The yellow ova are deposited in groups, have a diameter of 1.1 mm, are semispherical and attached with the flat side to the substrate (fig. 3). Just before hatching, the larvae in the ova are visible, the brown head capsule and the black hair of the body are clearly perceivable behind the transparent egg shell (fig. 4).



Figs. 3-4: *E. rubricincta* ova; 3) immediately after oviposition; 4) nine days after oviposition

First instar: The first instar larvae hatched after 10 days since oviposition. Head and body amber, six rows of warts on abdominal and thoracic segments, two dorsal, subdorsal and lateral respectively. Each wart wears a long black hair, half as long as the body of the larva (fig. 5). Duration of the first instar 5 days.



Figs. 5-6: *E. rubricincta* larvae; 5) first instar; 6) second instar

Second instar: Head and body amber, six rows of warts on abdominal and thoracic segments, each wart now wears three to five long black hairs. The third thoracic segment and penultimate abdominal segment bear two white hairs, longer than the black ones (fig. 6). Duration of the second instar 5 days.



Figs. 7-8: *E. rubricincta* larvae; 7) third instar; 8) fourth instar

Third instar: Head and body amber, each wart now wears numerous long brown hairs. The longer white hairs of thoracic segment are directed forward and of abdominal segment backward. Dorsally and laterally all segments bear a longitudinal line of white spots (fig. 7). Duration of the third instar 4 days.

Fourth instar: Color and hairs of the larva as in the third instar, the white spots increased in number and bigger (fig. 8). Duration of the fourth instar 5 days.



Figs. 9-10: *E. rubricincta* fifth instar larvae

Fifth instar: Color and hairs as before, now bearing an additional sublateral line of white spots (fig. 9 and 10). Duration of the fifth instar 11 days.



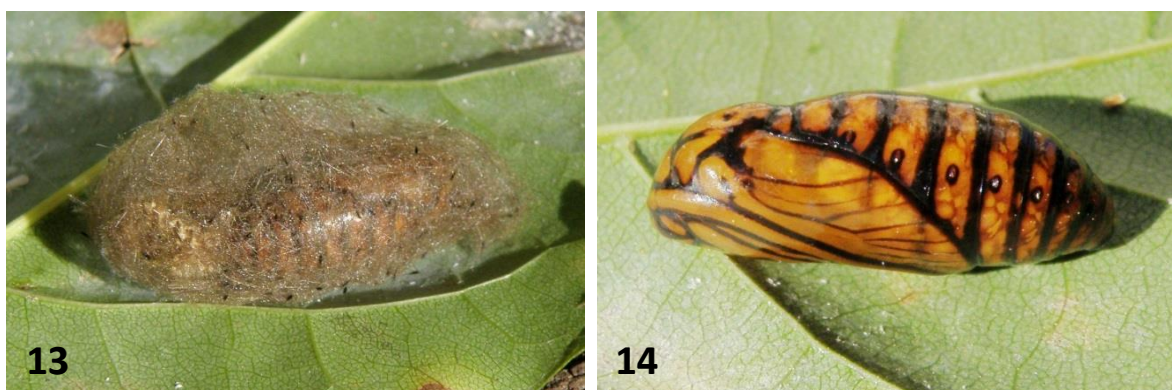
Figs. 11-12: *E. rubricincta* larvae; 11) sixth instar; 12) seventh instar

Sixth instar: Color largely as before, between the brown hairs on the warts small tufts of short black hair. On the third thoracic segment and penultimate abdominal segment insert subdorsal dense dark brown tufts of hair, resembling a flat brush (fig. 11). Duration of the sixth instar 7 days.

Seventh instar: Color and hairs as in the sixth instar (fig. 12). Duration of the seventh instar 7 days.

Cocoon : The cocoon is made from brown silk, hairs are woven together with silk (fig. 13). The cocoon is not very tight, the stripped larval skin and the pupa are clearly visible.

Pupa: The basic color of the pupa is orange brown, all the dividing lines between the different body parts such as abdominal and thoracic segments, head, wings, legs, antennae marked with dark brown-black lines. Abdominal spiracles are marked with a white spot and surrounded by a black ring (fig. 14).



Figs. 13-14: *E. rubricincta*; 13) cocoon; 14) pupa

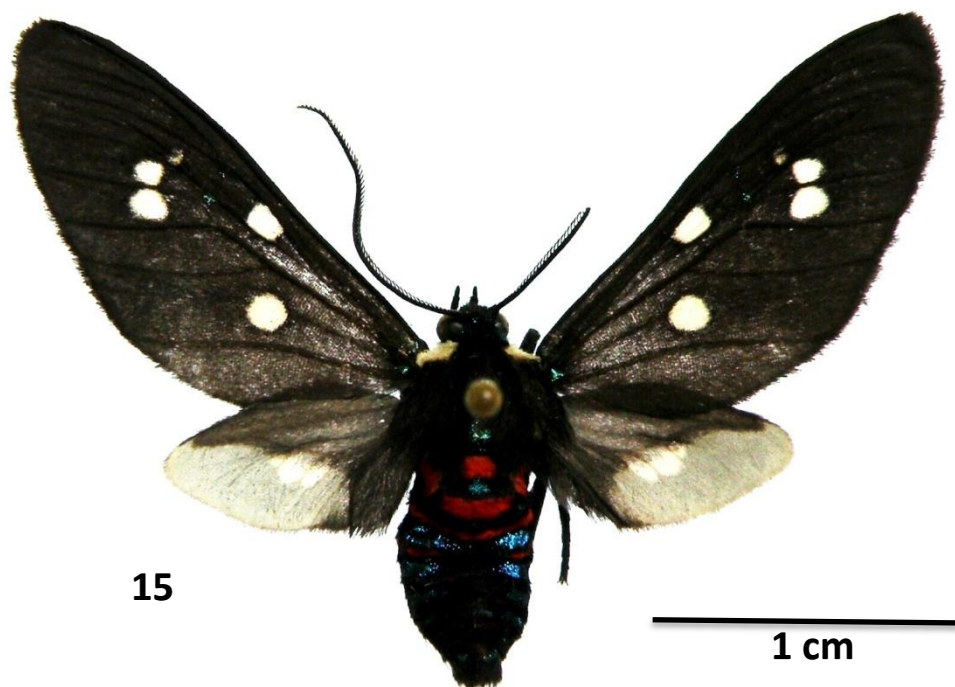


Fig. 15: *E. rubricincta* spread imago

Imago: The first adult moths hatched after 22 days of pupal development, additional moths appeared later up to 10 days. Females that hatched in the afternoon were mated on the same evening, the copula held until the following morning. Oviposition began in the following night, and after another three nights the total stock of ova was depleted. Males died after four to five days and females after 6 days.

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