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A NEW SPECIES OF RIODINIDAE FROM COLOMBIA

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ABSTRACT. A new riodinid species, ***Calydna volcanicus***, from Cerro Aguacatal and Cerro Clavijo in the western department of Caldas, Colombia, is described and illustrated. Comments on its habitat and adult behavior are presented, with a list of other Riodinidae found in the same habitat and a range extension for *Amphiselenis chama* (Staudinger 1888).

Additional key words: neotropical South America, coffee plantations.

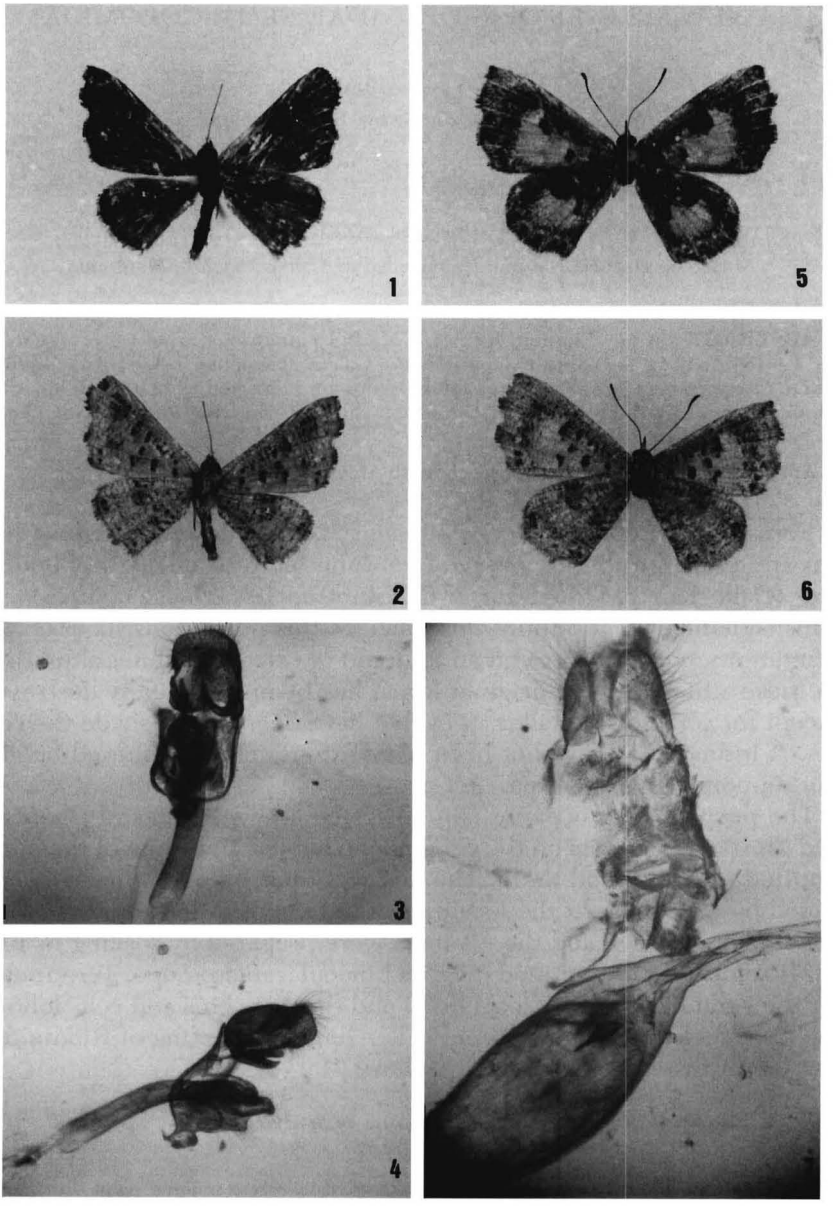
Forests at altitudes between 1300 and 2200 m in the Colombian Andes are fertile for the discovery of new and interesting riodinid butterflies (Callaghan 1983, Salazar & Constantino 1993, Salazar, 1993). An unusual habitat for riodinids described in this paper consists of coffee plantations, considered to be an example of extreme habitat alteration. In these situations, the original forest has been completely destroyed except for some of the taller trees that have been left to shade the coffee. If insecticides have not been used extensively, this altered habitat can support a diverse fauna.

The purpose of this paper is to describe a new species of *Calydna,* and present comments on the coffee zone habitat and some of the other riodinid species found there. The description is based on material collected by J. Escobar at the localities noted below. Measurements were done with a caliper, and the genitalia were prepared by soaking in 10% KOH solution and examined under a binocular microscope. Terminolgy for the genitalia follows Klots (1970) and that for veins and cells follows the Comstock-Needham system (Miller 1969). The citing of Riodinidae as a family instead of a subfamily follows Harvey (1987).

Calydna volcanicus Callaghan & Salazar, new species
(Figs. 1–7)

Description. Eyes brown, not hairy, surrounded by white scaling; palpi dimorphic, those of female longer than male; antenna length 6.4 mm, 0.59 length of forewing; shaft with white scales between segments, club flat, spoon shaped; forewing costa straight, apex pointed, distal margin scalloped at the end of cell M_3-CU_1; hindwing with apex rounded, margin scalloped between CU2 and 2A; anal angle pointed, inner margin straight; fringe light brown.

Male (Figs.1, 2): forewing length of holotype 13 mm, range of material examined 11–13 mm (n = 3). Thorax ventrad and appendages with long, white hairs; abdomen brown with



FIGS. 1–7. *Calydna volcanicus*, new species. **1,** male holotype, dorsal surface; **2,** same, ventral surface; **3,** male genitalia, caudal view; **4,** same, lateral view; **5,** female, dorsal surface; **6,** same, ventral surface; **7,** female genitalia.

long, white hairs ventrad on first 5 segments; long, lateral scent hairs on last segment. Dorsal surface of wings dark brown with faint black and orange maculations and black distal margins. Forewing with two faint black parallel lines at end of cell, a single spot below the cell between CU_2 and 2A and faint disperse orange scaling in discal area between CU_2 and 2A. Hindwing with 2 faint parallel black lines beyond end of cell and long disperse scent hairs in discal area. Ventral surface light brown with striated dark brown maculations. Forewing with two large black spots beyond end of cell; one in cell CU_1 and three in cell CU_2. Hindwing with numerous black maculations. *Genitalia* (Figs. 3, 4): with socii unlobed; gnathos simple, unmodified; vinculum narrow, slightly bowed halfway down each side, saccus small, pointed; valvae broad with two protrusions, dorsad and basad, the dorsal protrusion longer and curving inward; transtilla broad, rounded caudad; annellus with a long, pointed process curving caudad; aedeagus with the tip forming a broad plate with teeth projecting caudad.

Female (Figs. 5, 6): forewing length 13.0–13.5 mm (n = 2). Body dark brown dorsad, white ventrad. Dorsal surface of wings dark brown and yellow-orange with black maculations. Forewing with discal area between M_3 and 2A orange-yellow, extending to M_1 past end of cell, and with some scattered orange-yellow scaling within cell; two black spots in cell M_1 beyond cell and two in cell CU_2 below discal cell. Hindwing with large irregular yellow-orange spot in discal area between R_s and cell 2A; limbal area with faint, irregular dark brown spots along margin between the veins. Ventral surface light brown and light orange, with lighter brown maculations. Forewing submargin white with brown maculations; discal area with light yellow spot as in dorsal surface; three black spots in discal cell, one in cell CU_1 and three in cell CU_2. Hindwing distal half white with numerous dark brown striated maculations; basal half same but with ground color light brown. *Genitalia* (Fig. 7): with ostium bursae opening wide with sclerotized process cephalad; ductus seminalis joins ostium bursae at same point as ductus bursae; corpus bursae with two blunt siga; located far cephalad in abdomen, concurrent with segments A2–A4; papillae anales rounded, setose.

Types. *Holotype*: male, Cerro Aguacatal, Mpio Riosucio, Caldas, Colombia, 15 April 1993, leg. Salazar. *Paratypes*: 6 males, 2 females as follows: Cerro Aguacatal, Mpio Riosucio, Caldas 1300 m, 1 April 1994; Cerro Clavijo, Mpio Riosucio, 20 July 1994. The holotype is deposited in the Museo de la Universidad Nacional, Bogota, Colombia. The paratypes are in the collections of C. Callaghan, J. LeCrom, and E. Schmidt-Mumm of Bogota, and the Universidad de Caldas, Manizales.

Diagnosis. *Calydna volcanicus* is closely allied to *Calydna hemis* Schaus from southeastern Brazil, and therefore is provisionally assigned to the same genus. However, both these species differ from *Calydna thersander* (Stoll), the type species of the genus, in the large, sexually dimorphic palpi and the structure of the genitalia, suggesting that they belong to an undescribed genus.

Distribution and Habits. The species was discovered by J. Escobar on two small mountain ranges, Cerro Aguacatal and Cerro Clavijo, both on the eastern slope of the Cordillera Occidental in the Municipio of Riosucio, Caldas Department between 1200 and 1600 m above sealevel (Fig. 8). The climate is Very Humid Premontane Forest (IGAC 1977) with a mean annual rainfall of 2000–4000 mm and a biotemperature of between 18–24°C. The area has been extensively cultivated for coffee (*Coffea arabica)* with the consequent alteration of the original vegetation. The upper slopes of the Cerro Aguacatal (1300 m) are practically devoid of vegetation and a concrete cross is at the summit. *Calydna volcanicus* flies below the summit in a deep canyon with low bushes growing on the slopes. Males perch on low bushes after 1200 h, resting with wings spread on the upper leaf surface. When disturbed, they fly rapidly, engaging other males in a whirling chase before returning to their original spot. The lower slopes of the Cerro Aguacatal (1500–1600 m) and the Cerro Clavijo are occupied with coffee plantations shaded by native trees of the genera *Inga* and *Albizzia*. Here, males perch along trails through the plantations between 1300–1400 h, always on the upper leaf surfaces with wings spread. Females frequent the same areas and visit flowers.

Etymology. The name *volcanicus* has no significance.

Other riodinid species recorded from the same habitat include: *Siseme pallas*

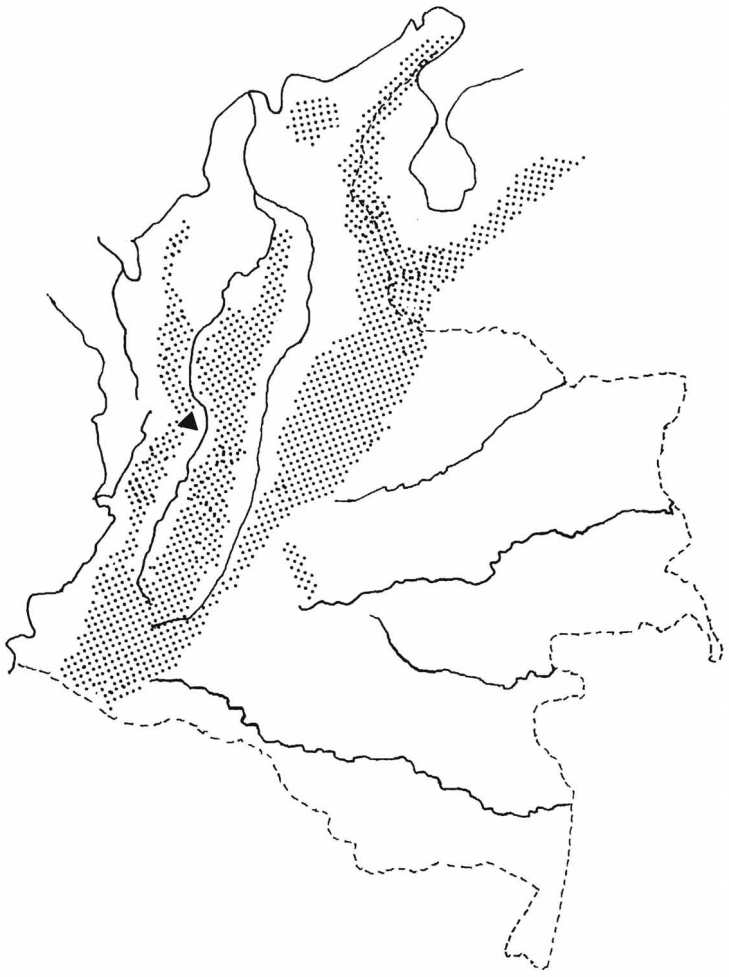


FIG. 8. Map of Colombia. Hatched areas represent zones above 1000 m. Triangle indicates type locality of *Calydna volcanicus*.

(Latreille), *Catocyclotis elpinice* (Godman), *Amphiselenis chama* (Staudinger), *Melanis cratia* (Hewitson), *Adelotypa densemaculata* (Hewitson), *Charis* nr. *zama* (Bates), and *Calephelis schausi* McAlpine. The discovery of *Amphiselenis chama* in north central Colombia constitutes an extension of its previously known range in the Venezuelan Andes. Examination of *Amphiselenis* from both Colombia and Venezuela revealed no consistent variation in phenotype between the two populations.

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