

A NOTE ON *CARIA DOMITIANUS* AND *INO* (RIODINIDAE),
WITH DESCRIPTION OF A NEW SUBSPECIES

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The *Caria* that flies commonly in southern Texas has been referred by most authors to the species *domitianus* Fabricius. Opinion has differed on whether the subspecies name should be *ino* Godman & Salvin or *melicerta* Schaus, there being a question of the distinctness of these two. Recently Mr. Roy O. Kendall, of San Antonio, Texas, asked me what the correct name of the Texas populations should be. Examination of available material has shown that the validity of the two subspecies was not the only point wanting clarification. The present paper summarizes the results of that examination.

In brief, two species are present rather than one: *domitianus* (from Guatemala south) and *ino* (from southern Mexico north). They are distinguishable in pattern, body color, wing shape and in male genitalia. Each has two known subspecies. Texas specimens should be known as *Caria ino melicerta* Schaus.

For information on the type of *melicerta* and on other material in the United States National Museum, I am grateful to Dr. Lee D. Miller, of the Catholic University of America, Washington, D. C. Records from the National Museum, provided by Dr. Miller, are indicated below by the abbreviation U.S.N.M.; records in Carnegie Museum by C.M. In the references TL stands for type locality. Descriptions below are coordinate and comparative, and mention little that is not a species or subspecies difference.

CARIA DOMITIANUS

Male. Prothoracic legs and abdominal venter greyish. Forewing with pointed apex; upperside of forewing having a dark patch at cell-end with a smaller overlay of emerald green scaling, especially costally; hindwing with a thick, subterminal, emerald green line. Underside with ground evenly brick-red, apical and terminal areas not darkened on either wing; spot pattern faint or partly absent; no terminal blue line on either wing.

Female. Prothoracic legs and abdominal venter ochreous yellow. Forewing much less pointed than male. Hindwing below with subterminal and terminal spots fused together in each interspace below M_1 , making a single series of much enlarged spots. Otherwise as described for male.

Male genitalia (Fig. 1, holotype of *d. vejento*, new subspecies). Phallus with portion distad of the bend shorter than portion proximad; frenum (heavily sclerotized strap linking proximal part of the phallus to base of valvae) with a hook-like distal process extending well beyond processus inferior of valva. Valva with processus superior broad and subquadrate, armed with two large, apical setae and three smaller, subapical setae, all peg-like, much thicker than ordinary setae.

The species occurs from Guatemala to northern South America. There are two subspecies.

CARIA DOMITIANUS DOMITIANUS (Fabricius)

Hesperia domitianus Fabricius, 1793, Ent. Syst. 3: 315 (TL "Guadeloupe" [probably incorrect]).

Symmachia galbula (Felder, 1861, Wein. Ent. Monatschr., 5: 99 (TL Prov. Caracas, Venezuela); Kirby, 1871, Syn. Cat. D. Lep.,: 313; Stichel, 1910, Gen. Ins., fasc. 112A,: 173 (with further references).

Symmachia domitianus: Kirby, 1871, Syn. Cat. D. Lep.,: 313.

Caria domitianus: Godman & Salvin, 1886, Biol. Centr.-Amer. Lep. Rhop., 1: 448; Stichel, 1910, Gen. Ins., fasc. 112A,: 173 (with further references); Seitz, 1917, *in* Seitz, Grossschmett. Erde 5,: 683, pl. 135 f; Holland, 1931, Butterfly Book (rev. ed.),: 217, pl. 76, figs. 1, 1a (specimen figured is from San Mateo, Costa Rica, in USNM).

Male. Ground color above rather pale; forewing with the patch of green scales large, occupying over half the dark patch; upperside discal spot pattern (spots in basal area; pm line elements) visible on both wings; underside spots faint, entirely absent in discal areas of both wings.

I have seen no females but Dr. Miller writes that they agree with the males in the above traits, except for absence of the green patch. On the underside females are more prominently spotted than males, and these spots are never completely absent, though they are little silvered.

Range. Costa Rica to northern South America.

Specimen records. COSTA RICA: San Mateo X, XI-II (CM; USNM); Esperanza VIII (USNM). COLOMBIA: Savaville (USNM); Santa Marta (Godman & Salvin, *l.c.*). VENEZUELA: Prov. Caracas (Felder, *l.c.*). Also in USNM, 1 ♂ "C. Allegre" [not located], 19.XI.1898.

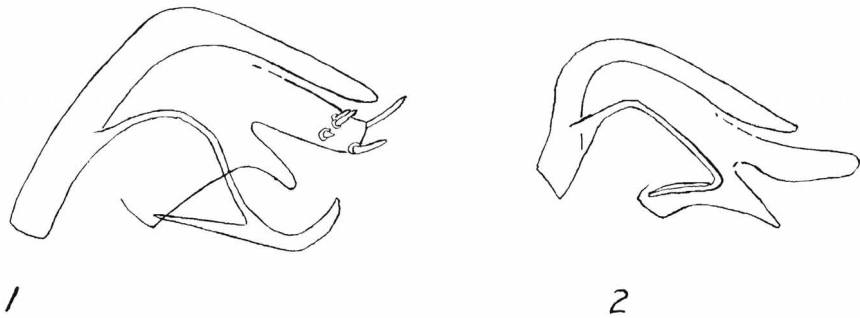
***Caria domitianus vejento* Clench, new subspecies**

Caria domitianus ? (in part): Godman & Salvin, 1886, Biol. Centr. Amer. Lep. Rhop., 1: 448.

Differs from nominate *domitianus* as follows: Male larger; ground color of upperside darker, about as dark as *ino*; dark cell-end patch present, the superimposed green scales reduced in extent, covering less than half the dark patch; discal and basal spots of both wings faint, nearly absent. Underside with spots present uniformly over both wings. Female with blurred spot elements above on both wings; underside with all spots large, mostly quadrate, all prominently silvered except subterminal row on forewing below M_1 , blackish.

Holotype, male (genitalia, slide C-1114), and paratype female: Guatemala, Zacapa, September, *leg.* W. Schaus; Carnegie Museum Ent. type series no. 511. Two male and three females from the same locality and collector (IV, VI) in the U.S.N.M. agree with the above diagnosis (*teste* L. D. Miller) but I have not seen them.

In addition there are in the U.S.N.M. a male from Cayuga, Guatemala, X, *leg.* Schaus, and a male "from L. Thiel, S. Sebastian, Retalhuleu," also Guatemala. Godman & Salvin (*l.c.*) record *domitianus* from Chontales, Honduras, quite possibly referring to this subspecies.



EXPLANATION OF FIGURES

A portion of the male genitalia in *Caria*: the phallus with its frenum, and the outline of one valva. The proximal border of the latter is thin and poorly defined and is not shown. Fig. 1. *C. domitianus vejento* Clench, holotype ♂ (slide C-1114). Fig. 2. *C. ino melicerta* Schaus, ♂, Cameron Co., Texas (slide C-1111).

CARIA INO

Male. Prothoracic legs and abdominal venter brick-red (apparently unique in the genus). Forewing with apex less pointed (*i.e.*, about as in *Calephelis*); upper-side of forewing with no dark discal patch, almost no green scaling beyond a slender bar at cell-end, this bar silver or green; hindwing with subterminal green line thin or absent. Underside ground brick-red darkening to fuscous broadly along termen of forewing, less markedly on hindwing termen; spot pattern prominent, spots partly silvered; a terminal bluish metallic line on both wings.

Female. Prothoracic legs and abdominal venter ochreous yellow, not differing from female *domitianus*; forewing less pointed than male, not differing from *domitianus*. Hindwing below, with subterminal and terminal spot rows both present, not fused.

Male genitalia (Fig. 2, *ino melicerta*). Phallus with portion distad of the bend longer than portion proximad; frenum without a hook-like distal process, reaching only to base of processus inferior of valva. Valva with processus superior rounded-acuminate, slender, armed with thin, ordinary setae only.

Males differ from *domitianus* in the color of the fore legs and ventral surface of abdomen, in the darkened fuscous border of the forewing below, in wing shape and in male genital characters; females in the unfused subterminal and terminal spots of the hind wing below; and both sexes differ in the absence of the discal dark patch of the fore wing and the absence of the green scaling on it.

The distribution of *Caria ino* corresponds closely to that of the thorn forests in Mexico, at least where relevant information is available. Thorn forest formations occur in southern Texas, in much of Tamaulipas, in an isolated area of central Veracruz east of Jalapa (whence the type of *melicerta* came), and in northern Yucatan. *C. ino melicerta* occurs in all these areas. Thorn forests are also prevalent along the west coast of Mexico, such as at Mazatlán, where the type and many subsequent specimens of *ino* were taken.

CARIA INO INO Godman & Salvin, new status

Caria ino Godman & Salvin, 1886, Biol. Centr.-Amer. Lep. Rhop., 1: 449, pl. 43, figs. 22-25 (TL Ventanas [now Villa Corona], Durango, Mexico); 1901, *op. cit.*, 2(suppl.): 705; Holland, 1931, Butterfly Book (rev. ed.); 217, pl. 76, figs. 3, 3a (specimen figured, hardly recognizable, from Venadio, Sinaloa, in USNM).

Caria domitianus ino: Stichel, 1910, Gen. Ins., fasc. 112A: 174; Seitz, 1917, *in* Seitz, Grossschmett. Erde 5: 683; Hoffmann, 1940, An. Inst. Biol. Mex. 11: 697 (in part).

Male. Forewing with bar at cell-end leaden or dull silver; hindwing with cell-end bar and one or two costal spots of the pm series dull metallic (leaden) color; subterminal green line of hind-wing thin but distinct. Underside of hindwing with cell-end bar metallic, terminal line or spot row thick, the spots nearly contiguous.

There appear to be no useful discriminating characters in the female.

Range. Apparently confined to western Mexico, from the vicinity of Mazatlán south to Oaxaca.

Specimen records. SINALOA: Mazatlán 24-27.X.1961, 5♂ 1♀, *leg.* Cary-Carnegie Mus. Exp. (CM); Mazatlán, 1♂ (USNM); Venadio, 5♂ 1♀ (USNM). DURANGO: Ventanas [now Villa Corona] (Godman & Salvin 1886, *l.c.*). COLIMA: Colima, 1♀, *ex* Acad. Nat. Sci., Philadelphia. GUERRERO: Sierra de Guerrero 13.III, 1♀ (USNM); Venta de Zopilote (Godman & Salvin 1901, *l.c.*). OAXACA: no further data, 1♂ (USNM).

CARIA INO MELICERTA Schaus, new status

Caria melicerta Schaus, 1890, Entom. Americana, 6: 18 (TL, Paso de San Juan, Veracruz, Mexico); Godman & Salvin, 1901, Biol. Centr.-Amer. Lep. Rhop. 2 (suppl.): 705; Dyar, 1903, Bull. U. S. Natl. Mus., 52: 35 ("1902"); Holland, 1931, Butterfly Book (rev. ed.): 217, pl. 76, figs. 2, 2a (hardly recognizable; specimen figured is the type).

Caria domitianus melicerta: Seitz, 1917, *in* Seitz, Grossschmett. Erde, 5: 683.

Caria domitianus ino: Stichel, 1910, Gen. Ins., fasc. 112A: 174 (= *melicerta*); Barnes & McDunnough, 1917, Check List Lep. Bor. America: 13; McDunnough, 1938, Mem. So. California Acad. Sci., 1: 23; Hoffmann 1940, An. Inst. Biol. Mex., 11: 697 (in part); dos Passos, 1964, Lep. Soc. Mem., 1: 50.

Caria domitianus (subspecies not specified): Klots, 1951, Field Guide to the Butterflies: 125; Ehrlich, 1961, *in* Ehrlich & Ehrlich, How to know the Butterflies: 247, fig. 488.

Male. Bar at end of forewing cell inclining to greenish; hindwing with no metallic scaling on cell-end bar or pm spots; subterminal line extremely thin, perhaps half as thick as in *i. ino*. Hindwing underside with cell-end bar fuscous, not metallic; terminal spot row thin, the spots discrete.

Female. No observed differences from nominate *ino*. Females divide readily into two types: (a) orange tinged above, terminal area little contrasting; (b) dark above, as dark as male, with a contrasting orange terminal area on both wings. (Form (a) is like the single female of nominate *ino* at hand).

Range. Southern Texas south to Yucatan.

Specimen records. TEXAS: Pharr, Hidalgo Co., 4.III.1945, 1♀, and 2.VIII.1945, 1♂, *leg.* H. A. Freeman; Cameron Co., 3.IV.1957, 6♂, *leg.* R. O. Kendall; San Patricio Co., 11.IX.1960, 4♂, *leg.* R. O. & C. A. Kendall, and 30.IX-7.X.1960, 7♀, *ex larva*, *leg.* R. O. Kendall. (All in CM). TAMAULIPAS: 1 mi. W. Soto La Marina, 100 m, 8.I.1966, 1♀ (Tamaulipan thorn forest), *leg.* H. K. Clench and L. D. Miller; no further data (Hoffmann, *l.c.*). VERACRUZ: Jalapa, 1♂ each in CM, USNM; Paso de San Juan, 6♂ 2♀, including type (USNM). YUCATAN: Chichén Itzá, 22,25.VIII.1954, 2♀, *leg.* E. C. Welling; Halacel, 8.IV.1954, 1♀, *leg.* E. C. Welling.