

**A REVIEW OF THE GENUS *TELEBASIS* WITH
DESCRIPTIONS OF EIGHT NEW SPECIES
(ZYGOPTERA: COENAGRIONIDAE)**

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Received February 22, 1994 / Revised and Accepted November 23, 1994

An overall review of the genus *Telebasis*, occurring from southern US to northern Argentina, is presented. Included are 37 spp., 8 being newly described. Locations and depositions of holotypes are: *abuna* sp.n. (Brazil, Rondonia State, Abuna, 15-III-1992, UMMZ); *brevis* sp.n. (Ecuador, Pichincha Prov., Tinalandia, 6-X-1988, IORI); *dunklei* sp.n. (Peru, Loreto Dept, Iquitos, 30-VIII-1989, IORI); *garrisoni* sp.n. (Colombia, Magdalena Dept, El Banco, 25-I-1917, UMMZ); *limoncocha* sp.n. (Ecuador, Napo Prov., Limoncocha, 4-XI-1980, FSCA); *racenisi* sp.n. (Venezuela, Amazonas State, Ventuari, 19-III-1957, IZA); *rubricauda* sp.n. (Brazil, Rondonia State, Abuna, 14-III-1922, UMMZ); *watsoni* sp.n. (Peru, Huanuco Dept, Shapajilla, 11-VII-1938, UMMZ). *T. inalata* is redescribed (neotype ♀ and ♂ pairing with it, IORI). Males of the 37 spp. are keyed, their characteristics and distributions are summarized in 2 tabs and appendage drawings are presented. Notes for females of some spp. are given.

INTRODUCTION

Because of the red color of most males, damselflies of the genus *Telebasis* are attractive and quite conspicuous. This highly speciose genus, represented from southern US to northern Argentina, reaches its greatest diversity of species in South America. In the following, we consider the 37 species listed in Table I and describe 8 of them as new.

SELYS (1865) introduced *Telebasis* without mentioning specimens or species. The first species included in *Telebasis* was *boucardi* Selys, 1868, which he (1876) synonymized under *salva* (Hagen, 1861). Both KIRBY (1890) and CALVERT (1902) acknowledged *salva* as the type species. SELYS (1876) erected *Erythrigrion* (then a subgenus) to include 7 neotropical species. His (1877) use of *Telebasis*

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was for 9 Pacific species no longer considered to be in *Telebasis*. CALVERT (1902) described 3 species, giving the first species key and the first figures of male appendages. He (1909) described and figured 5 new species from South America and RIS (1918) described one from Central America. KENNEDY (1919) briefly defined the genus, dividing it into 4 groups based on penes and appendages, and his (1936) descriptions of 3 new species included detailed drawings of 3 types of penes. KLOTS (1930) and ST. QUENTIN (1960) also defined the genus, the latter giving the first and only non-geographically restricted key.

Subsequent to 1936 there have been 7 single species descriptions: DE MARMELS (1989), FRASER (1946, 1948), MACHADO (1956), MAY (1992), ST. QUENTIN (1960), WESTFALL (1957); synonymic and distribution notes: GARRISON (1986, 1991a, 1991b); and concern recorded: DE MARMELS (1988, 1989), DUNKLE (1991) over generic assignment in what has become known as the *Telebasis* complex (*Aeolagrion*, *Helveciagrion*, *Telebasis*). DAVIES & TOBIN (1984), TSUDA (1986) and BRIDGES (1993) considered synonymy and generic assignment for some of the species included here.

THE GENUS *TELEBASIS*

A New World genus of small to moderate size species, with abdomens of most males entirely or partly red or orange-red. Head with angulate frons, without true post ocular spots. Pterostigma alike in fore and hind wings and in both sexes; wings petiolate to CuA which is midway between or slightly nearer antenodal 1 than 2; arculus at or minutely distad of antenodal 2; 3 postquadrangular cells. Tibial spines equal to or greater than intervening spaces; tarsal claw with small but distinct tooth. Abdomen I without a ventral process; X scarcely elevated and without a dorso-apical process; male cercus unbranched, not tuberculate, apically not ax-head, mitten or trapezoidal shaped; penis of 3 types (KENNEDY, 1936). Female without a vulvar spine; genital valve reaching to or only slightly beyond apex of X.

The above definition alone will not solve the many problems of the *Telebasis* complex. Confusion will arise with *Helveciagrion* and *Aeolagrion*. MACHADO (1980) erected *Helveciagrion* to include 3 blue and black species: (*chirihuanum* (Calvert), *simulacrum* (Calvert), *vulcanoae* Machado), giving basally approximate cerci as a generic characteristic. However, this approximation holds for: *carminita*, *collopietes*, *dominicana* species firmly established in *Telebasis* and for the recently described *boomsmae* and for *garrisoni* described herein. This cercal similarity may suggest that Machado's 3 taxa should be placed in *Telebasis*. We are not completely convinced. For the moment, and anticipating descriptions of new *Helveciagrion* species, we leave *chirihuanum*, *simulacrum* and *vulcanoae* in *Helveciagrion*, realizing that their placement in that genus is somewhat nebulous. This decision relates also to *Telebasis lacustris* JURZITZA & RACENIS,

Table I

Summary of 4 male and 1 female characteristic of 37 *Telebasis* species. — [m = minute]

Species	Length (mm)		Rear of head, mostly		Labrum		Abdomen				♀ Prothoracic horns	
	H.w.	Abd.	Black	Pale	Red	Blue or Black	Mostly red	Only ant. & post. red	Only VIII, IX, X red	No red	Yes	No
<i>abuna</i> sp.n.	14	22	x			x	x				x	
<i>aurea</i> May	21	37	x		x		x				x	
<i>boomsmae</i> Garrison	17	27		x	x			x				x
<i>brevis</i> sp.n.	16	26		x		x		x				x
<i>byersi</i> Westfall	15	21		x	x			x				x
<i>carmesina</i> Calvert	18	22		x		x		x			x	
<i>carminita</i> Calvert	12	17		x		x		x			x	
<i>carota</i> Kennedy	18	30	x		x			x			x	
<i>coccinata</i> Calvert	14	22		x	x			x			x	
<i>collopiastes</i> Calvert	17	26	x		x				x			x
<i>corallina</i> (Selys)	16	23		x		x		x			x	
<i>demararum</i> (Williamson)	17	27		x		x				x		x
<i>digiticollis</i> Calvert	15	24	x		x			x			x	
<i>dominicana</i> (Selys)	16	26	x		x			x			x	
<i>dunklei</i> sp.n.	15	24	x			x				x		x
<i>filiola</i> (Perty)	13	19	x			x		x			m	
<i>flammeola</i> Kennedy	15	22	x			x		x			?	?
<i>fluviatilis</i> St. Quentin	?	?		x	?	?		x				x
<i>garleppi</i> Ris	24	35	x			x		x			x	
<i>garrisoni</i> sp.n.	21	32	½	½	x			x				x
<i>griffinii</i> Martin	17	25	x		x			x				x
<i>inalata</i> (Calvert)	12	17	x			x		x			m	
<i>incolumis</i> Wmsn. & Wmsn.	14	22		x	x			x			x	
<i>isthmica</i> Calvert	16	27		x		x		x				x
<i>limoncocha</i> sp.n.	17	26	x		x			x			x	
<i>livida</i> Kennedy	15	23	x			x			x		x	
<i>paruensei</i> Machado	13	20		x		x		x				x
<i>racenisi</i> sp.n.	17	24	x			x			x			x
<i>rubricauda</i> sp.n.	16	26	½	½		x			x			x
<i>salva</i> (Hagen)	14	22		x	x			x			x	
<i>sanguinalis</i> Calvert	14	23	½	½		x		x			x	
<i>selaopyge</i> DeMarmels	16	23	x			x			x		m	
<i>theodori</i> (Navas)	18	25		x	x			x			x	
<i>versicolor</i> Fraser	18	29	x			x			x		?	?
<i>vulnerata</i> (Hagen)	17	28	x		x			x			x	
<i>watsoni</i> sp.n.	18	27	x		x			x			x	
<i>willinki</i> Fraser	12	18	x			x		x			m	

1984. Dr. R.W. Garrison (pers. corr.), after comparing a *lacustris* paratype with *simulacrum*, concluded that *lacustris* is a synonym of *Helveciagrion simulacrum*.

DUNKLE (1991) restricted *Aeolagrion* to species with cerci ax-head, mitten or trapezoidal shaped: *axine* Dunkle, *dorsale* (Burm.), *inca* (Selys). He placed *demararum* Wmsn. in *Telebasis* but left doubt about 4 species previously assigned to *Aeolagrion*: *chimantai* DeM., *fulvum* Ndhm., *neblinae* DeM., *flammeum* (Selys). DE MARMELS (1988) considered that the first 3 could just as well be placed in *Telebasis*. We have seen only *flammeum*, which does not seem to be a *Telebasis*, nor, judging from drawings of male appendages and genital valves, do the other 3. We leave these as originally assigned.

DISTRIBUTION

Telebasis is a widespread New World genus found from California across most of southern US, to Mexico, Central America, the West Indies, and in South America as far south as northern Argentina. Only 2 species occur north of Mexico, whereas 21 occur only in South America. In an east-west direction, *Telebasis* very nearly reaches the Atlantic and Pacific Oceans in both North and South America. The occurrence of the 37 species by country is given in Table II. Species are most numerous in Brazil and Venezuela, with 11 and 12 species respectively. *T. salva*, present in 10 countries, is the most widespread species, whereas each of 16 is known only from one country.

METHODS

We studied specimens in the British Museum Natural History (BMNH), Florida State Collection of Arthropods (FSCA), International Odonata Research Institute (IORI), Instituto Zoologia Agricola, Universidad Central de Venezuela (IZA), University Michigan Museum Zoology (UMMZ), US National Museum Natural History (USNM). Other abbreviations used are: Carnegie Museum, Pittsburg (CMP), Museum Comparative Zoology, Harvard (MCZ).

Our first intention was only to prepare a key and sketches of male appendages so that the extensive collection in FSCA could be checked. When many specimens were received from UMMZ, it became evident that undescribed species were involved and that a generic review was indicated. Primarily, males were studied because early work showed that most species differed in readily discernible characteristics such as male abdominal appendages, color of rear of head, labrum and abdomen. Because small size, fragility, poor or scarce specimens of some species made it difficult and unwise to expose penes of all representatives, we decided that to rely on penes for routine determinations would be impractical. Also, it seemed that KENNEDY's (1919) drawings of penes differentiated groups but not species, and we detected few clear specific penes differences in figures and notes given for recently described species. The primary basis for determinations became male appendages. These, along with color patterns, differentiated most males without dissection and permitted preparation of a key to males of 37 species. We could not prepare such a key to females because some remain undescribed and because of similarities in the usually drab color patterns. Our first intention was to omit females, but when many became available, some in the same collection as males, some pairing with them, it was realized that females could help to determine males and that knowledge would be advanced by giving brief descriptive notes for females. The female prothorax offers helpful structural characteristics which include presence or absence of paired prothoracic processes which we refer to as horns, extending anteriorly from the hind lobe, and the nature of that lobe. Occasionally the female mesostigmal lamina

helps in specific determination. In the key, characteristics of females are given in parentheses.

We include *fluviatilis* and *versicolor* even though specimens were not seen. Male appendages of both have been previously illustrated and appendages of the holotype male of the latter in BMNH were sketched for us. Differently, *coccinea* (Selys) and *erythrina* (Selys) are excluded because we saw no specimens, could not verify the existence of types, and know of no illustrations of appendages.

Complete collection data for and deposition of all specimens which we examined are available from the authors.

KEY TO MALES

(NOTES ON FEMALES ARE IN PARENTHESES)

- 1 Cercus elongate, twice or more the length of paraproct, if not twice as long, cercus apically notched (Figs 1,2,3) 2
- 1' Cercus not so long and not apically notched 6
- 2 Abdomen without either red or orange-red (Fig. 1) *demararum*
- 2' All or some abdominal segments red or orange-red 3
- 3 Cercus very narrow, apically notched and with a tooth at basal third (Fig. 2) *racenisi* sp.n.
- 3' Cercus not as above 4
- 4 Cerci incurved, pointed, pincer-like (ST. QUENTIN, 1960) *fluviatilis*
- 4' Cerci not at all pincer-like 5
- 5 All abdominal segments red-orange (FRASER, 1946) *versicolor*
- 5' Only abdominal segments VIII-X red (Fig. 3) *rubricauda* sp.n.
- 6 Wings flavescent 7
- 6' Wings hyaline 8
- 7 Rear of head mostly black; abdomen 37, h.w. 21 (Fig. 5) *aurea*
- 7' Rear of head mostly pale; abdomen 25, h.w. 18 (Fig. 4) *theodori*
- 8 Cercus with a pale medial process extending along its ventral surface (Fig. 6) *dunklei* sp.n.
- 8' Cercus without such a pale medial ventral process 9
- 9 In lateral view, cercus shows an elongate seam, appearing 2-parted (Figs 7,8,9) 10
- 9' Cercus without such a seam 12
- 10 Head dorsally mostly black, without a striking pattern of orange-red (Fig. 7) *carmesina*
- 10' Head dorsally with a striking pattern of orange-red 11
- 11 In lateral view cercus twice as long as wide; rear of head half black, half pale (Fig. 8) *sanguinalis*
- 11' In lateral view cercus not so elongate, not twice as long as wide; rear of head mostly pale (Fig. 9) *corallina*
- 12 Cercus with a large blunt medial projection (Figs 10,11) *garrisoni* sp.n.
- 12' Cercus without such a projection 13
- 13 Cercus bent ventrad at more than 90°, its apex like a very large tooth (Fig. 12) *carminita*
- 13' Cercus not so bent and not apically tooth-like 14
- 14 Cercus short and with 2 ventral teeth, one lateral, one medial (Fig. 13) *selaopyge*
- 14' Cercus not as above 15
- 15 Rear of head mostly black 16
- 15' Rear of head mostly pale 30
- 16 Distal half of paraproct bent sharply dorsad; cercus with a conspicuous tooth at mid length (Fig. 14) *abuna* sp.n.
- 16' Appendages without the above combination 17
- 17 Labrum blue or black 18
- 17' Labrum red 23

- 18 In lateral view, cercus rounded (Fig. 15); abdomen 35 mm *garleppi*
- 18' Cercus not rounded; abdomen 17-23 mm 19
- 19 Cercus with an apical cone of bristles (Fig. 16); only anterior and posterior abdominal segments red *flammeola*
- 19' Cercus without such bristles; all segments red, or only VIII-X red 20
- 20 Only abdominal segments VIII-X red; mesepisternum iridescent green (Fig. 17) *livida*
- 20' Abdominal red not restricted to VIII-X 21
- 21 Paraproct viewed dorsally or ventrally with a basal hairy process projecting medially (FRASER, 1948) 22
- 21' Paraproct without such a process but with an apical, knob-like projection which extends dorsally or posteriorly (Fig. 18) *inalata*
- 22 In lateral view, paraproct with an apical dorsal projection sometimes hidden by the cercus (Fig. 19). (Female mesostigmal lamina without a distinctly elevated postero-medial projection). Argentina only *willinki*
- 22' In lateral view, paraproct without an apical dorsal projection (Fig. 20). (Female mesostigmal lamina with a large elevated postero-medial projection) *filiola*
- 23 Cercus with a conspicuous dorsal hump near its base (Fig. 21) *carota*
- 23' Cercus without such a basal hump 24
- 24 In lateral view, cercus rounded; paraproct pointed (Fig. 22) *collopiastes*
- 24' In lateral view, cercus not rounded 25
- 25 Paraproct apically truncate (Fig. 23) *dominicana*
- 25' Paraproct apically pointed 26
- 26 Cercus either elongate and subequal to paraproct or distinctly bent ventrad (Figs 26-28) 27
- 26' Cercus neither elongate nor distinctly bent ventrad (Figs 24, 25) 29
- 27 Cercus and paraproct extend caudad to the same or almost the same level, apex of paraproct averages only 0.05 mm beyond that of the cercus; cercus not or only slightly bent ventrad (Fig. 26). (Female prothoracic horns absent) *griffinii*
- 27' Cercus extends caudad not as far as paraproct, the latter averaging 0.1 mm beyond the cercus; cercus strongly bent ventrad. (Female prothoracic horns present) 28
- 28 Posterior prothoracic lobe dorsally black; mesepimeron usually with a black stripe; 1st lateral suture without a black mark at mid length (Fig. 27). (Female hind prothoracic lobe evenly rounded) *digiticollis*
- 28' Posterior prothoracic lobe dorsally brown or tan; mesepimeron without a black stripe; 1st lateral suture often with a black mark at about mid length. (Female with hind prothoracic lobe trinarite, the lateral wings distinctly upturned) (Figs 28, 29) *limoncocha* sp.n.
- 29 Mesepimeron with a broad black stripe covering most of the sclerite (Fig. 24) *vulnerata*
- 29' Mesepimeron without such a conspicuous black stripe (Fig. 25) *watsoni* sp.n.
- 30 Posterior portion of mesepisternal black with a distinct lateral projection 31
- 30' Posterior mesepisternum without such a black projection 33
- 31 Cercus with 2 black apical medial teeth. (Female hind prothoracic lobe with horns) 32
- 31' Cercus without distinct teeth but with blunt apical medial projections (Fig. 30). (Female hind prothoracic lobe without horns) *byersi*
- 32 Apical medial cercal teeth very unequal (Fig. 31). Baja Peninsula, Mexico, only *incolumis*
- 32' Apical medial cercal teeth subequal (Fig. 32) *salva*
- 33 Paraproct apically bent dorsad at almost 90° (Fig. 33) *coccinata*
- 33' Paraproct not so bent 34
- 34 In dorsal view, cercus much wider than long (GARRISON, 1994) *boomsmae*
- 34' In dorsal view, cercus not wider than long 35
- 35 Hind lobe of male prothorax strongly elevated and medially concave (Fig. 35) *brevis* sp.n.
- 35' Hind lobe of male prothorax not as above 36
- 36 Paraproct apically very broadly truncate; cercus not uparched; abdomen 27, h.w. 16 mm (Fig. 36)

..... *isthmica*
 36' Paraproct not broadly truncate; cercus uparched; abdomen 20, h.w. 13 mm (Fig. 34) *paraensi*

DESCRIPTIONS OF SPECIES

TELEBASIS ABUNA SP. NOV.

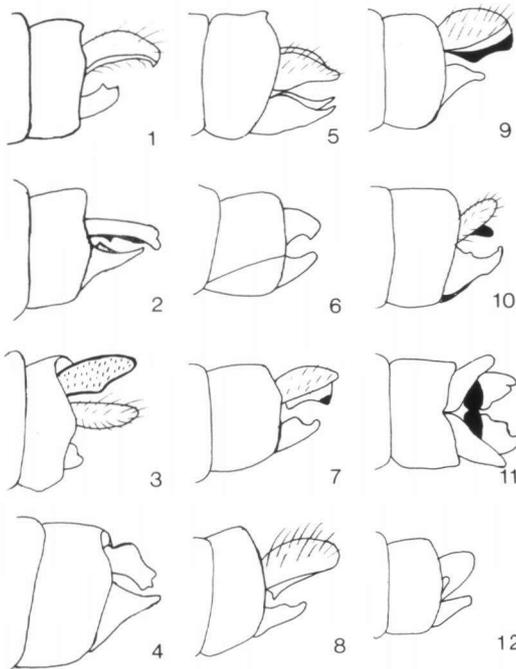
Figure 14

Material. – **Holotype** ♂: BRAZIL, Rondonia State (label on envelope Matto Grosso), Abuna, 15-III-1922, J.H. Williamson & J.H. Strohm leg. – **Allotype** ♀: same data as holotype. – **Paratypes**: same as holotype but 25/26-III-1922, 2 ♀. All UMMZ. WILLIAMSON & WILLIAMSON (1924) described the locality.

Etymology. – *T. abuna* for Abuna, Rondonia State, Brazil, where all specimens were collected.

MALE (holotype). – **Head.** – Dorsally almost entirely black, the usual pale ocellar-antennal streak much abbreviated; labrum black; rear of head black.

Thorax. – **Prothorax.** – Mostly red-brown; mid lobe marked with black antero-laterally; hind lobe with a medial touch of black.



Pterothorax. – Black along dorsal carina extends about half width of mesepisternum, remainder of pterothorax red-brown, except for the blue-gray metepimeron.

Legs. – Only 1 present; pale, no femoral black stripe.

Wings. – Pterostigma brown, covering one cell; postnodals 10 (f.w.), 9 (h.w.); R3 separates from R2 at 5th (f.w.), 4th (h.w.) postnodal.

Abdomen. – Dorsally red, X with 2 black spots on each side.

Appendages. – Cercus dark brown, shorter (0.27 mm) than X, dorsal margin curved slightly ventrad, a small blunt, ventral tooth at mid length; paraproct (0.37 mm) exceeds cercus, bends distinctly dorsad, and with a dorsal bulge at mid length.

Figs 1-12. Male appendages, lateral view except Fig. 11 which is dorsal. (1) *T. demararum*; – (2) *T. racenisi*; – (3) *T. rubricauda*; – (4) *T. theodori*; – (5) *T. aurea*; – (6) *T. dunklei*; – (7) *T. carmesina*; – (8) *T. sanguinalis*; – (9) *T. corallina*; – (10) *T. garrisoni*; – (11) *T. garrisoni*; – (12) *T. carminita*.

Measurements (in mm). – Abd. 22, h.w. 14.

FEMALE (allotype). – Head. – Posterior to antennae black, antennal-ocular pale streak abbreviated, genae pale, vertical frons light brown, anterior and posterior clypeus dark brown, labrum red; rear of head black.

Thorax. – Prothorax. – Anterior and posterior lobes red-brown, mid lobe darker; hind lobe with 2 stout, blunt-tipped horns reaching almost to the anterior lobe.

Pterothorax. – Mesepisternum about half black, rest of mesepisternum and dorsal 1/3 of mesepimeron red-brown remainder of pterothorax blue-gray.

Legs. – Pale, black at knees and at tibial-tarsal juncture.

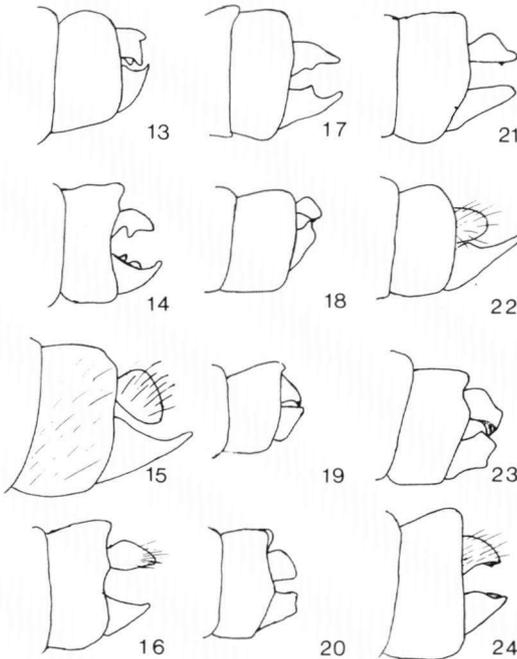
Wings. – Pterostigma light brown covering 1 cell; postnodals 11 (f.w.), 9 (h.w.); R3 separates from R2 at 5th (f.w.), 4th (h.w.) postnodal cross vein.

Abdomen. – Dorsally I-VIII black, IX, X red-brown blotched with black. Genital valve dark brown (1.2 mm) reaching tip of X.

Measurements (in mm). – Abd. 24, h.w. 16.

REMARKS. – Paraprocts of both *abuna* and *coccinata* bend dorsad but the two

cannot be confused: paraproct exceeds cercus (*abuna*), not so (*coccinata*); cercus with ventral tooth at mid length (*abuna*), absent (*coccinata*); rear of head black (*abuna*), pale (*coccinata*).



TELEBASIS AUREA MAY

Figure 5

Telebasis aurea MAY, 1992: 161.

We examined the holotype ♂ and allotype ♀ from Costa Rica in IOR1. This is the largest (Tab. I) of all *Telebasis* species.

T. aurea and *theodori*, the only species whose males have flavescent wings, differ in distribution, size and appendages: Costa Rica (*aurea*), Brazil (*theodori*); abdomen 37 mm (*aurea*), 25 (*theodori*); cercus directed ventrad (*theodori*), caudad (*aurea*). May figured the conspicuous ♀ prothoracic

Figs 13-24. Male appendages, lateral view. (13) *T. seluopyge*; – (14) *T. abuna*; – (15) *T. garleppi*; – (16) *T. flammeola*; – (17) *T. livida*; – (18) *T. inalata*; – (19) *T. willinki*; – (20) *T. filiola*; – (21) *T. carota*; – (22) *T. collopistes*; – (23) *T. dominicana*; – (24) *T. vulnerata*.

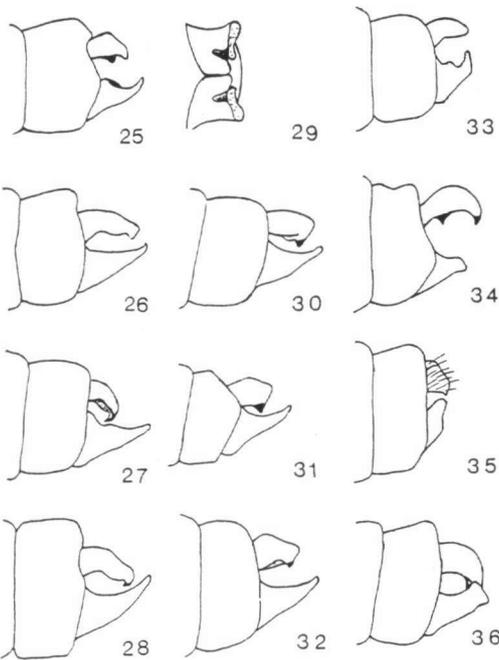
horns and separated females as well as males from other Mexican and Central American species.

TELEBASIS BOOMSMAE GARRISON

Telebasis boomsmae GARRISON, 1994: 277.

Garrison described males, females, larvae of *boomsmae*, a species recorded only from Belize and Mexico, and compared adults with those of *collopistes*. We examined a paratype male in FSCA from Mexico.

T. boomsmae, like *collopistes*, has cerci basally approximate, wider than long, and much shorter than the paraprocts. The two are readily separated by the rear of head: pale (*boomsmae*), black (*collopistes*). Females of both lack prothoracic horns and have rear of head colored as in males.



TELEBASIS BREVIS SP. NOV.

Figure 35

Material. – **Holotype** ♂: EC-UADOR, Pichincha Province, Tinlandia, Santo Domingo de los Colorados, 12 km E, 6-X-1988, S.W. Dunkle leg. – **Allotype** ♀: same as holo-type. – **Paratypes**: same data as holo-type, 14 ♂, 1 ♀; same locality, 8/9-X-1988, 17 ♂, S.W. Dunkle leg., all in IORI; Manabi Province, Cojimes, IV-1948, W.C. Macintyre leg., 3 ♂, 5 ♀, UMMZ. – **Additional material**: EC-UADOR, 331 ♂, 117 ♀.

Etymology. – *T. brevis*, short, for the short appressed male appendages.

MALE (holotype). – **H e a d.** – Dorsally brown, compound eyes each posteriorly bordered with black and with a narrow, black line extending toward lateral ocellus; small paired medial black spots between antennae; anterior frons, vertical clypeus, genae, labrum blue, horizontal clypeus blue-black;

Figs 25-36. Male appendages, lateral view except Fig. 29 which is female hind prothoracic lobe. (25) *T. watsoni*; – (26) *T. griffinii*; – (27) *T. digiticolis*; – (28) *T. limoncocha*; – (29) *T. limoncocha*; – (30) *T. byersi*; – (31) *T. incolumis*; – (32) *T. salva*; – (33) *T. coccinata*; – (34) *T. paraensei*; – (35) *T. brevis*; – (36) *T. isthmica*

rear of head almost entirely pale.

T h o r a x. – Prothorax. – Anterior lobe blue; mid lobe brown, laterally blue; hind lobe tripartite, mid portion brown, lateral wings pale blue, the entire mid-portion strongly elevated and medially concave, its posterior margin indented.

Pterothorax. – Dorsal carina brown, flanked on either side by a full length thin black line, followed by blue-gray to the humeral suture which lacks a black stripe; mesepimeron and mesinfraepisternum brown; rest of pterothorax blue-gray.

Legs. – Pale yellow, very slightly darkened at femoral-tibial joints, femora not streaked with black.

Wings. – Pterostigma brown, covering 1 cell; postnodals 11 (f.w.), 9 (h.w.); R3 separates from R2 at 5th (f.w.), 4th (h.w.) postnodal.

A b d o m e n. – I-IV red, V-VI dark brown, VII-X red; a black band at the apex of IV-VI.

Appendages. – Short, subequal, apically in contact; cercus (0.20 mm) shorter than X, brown, with a small, black, ventral tooth; paraproct (0.22 mm) much paler, bent slightly dorsad, apically rounded.

M e a s u r e m e n t s (in mm). – Abd. 26, h.w. 16.

FEMALE (allotype). – **H e a d.** – Posterior to antennae brown, anterior to antennae blue-gray; compound eyes narrowly bordered posteriorly with black; post clypeus dark brown with a pale spot on each side; labrum and genae pale blue; rear of head pale.

T h o r a x. – Prothorax. – Color essentially as in male. Without horns. Posterior lobe deeply indented at middle with lateral, rounded elevations flanked by pointed wings.

Pterothorax. – Color as in male.

Legs. – As in male.

Wings. – Pterostigma brown, covering 1 cell; postnodals 10 (f.w.), 9 (h.w.); R3 branches from R2 at 5th (f.w.) and 4th (h.w.) postnodal.

A b d o m e n. – I basally pale, apically dark; II basally dark, apically pale; III-VI dorsally black with a separate apical black ring, VII-X dark brown. Genital valve yellow, 1.0 mm, reaching tip of X.

M e a s u r e m e n t s (in mm). – Abd. 24, h.w. 16.

VARIATION. – Among 14 paratype males: abd. 24-27, h.w. 14-17; postnodals 8-11 (f.w.), 8-9 (h.w.); R3 branches from R2 at 4-5th (h.w.) postnodals. The middorsal thoracic carina is black in 3, the black interrupted in one of these; there is a blue-black stripe just dorsad of the humeral suture in 12, but in 5 of these the stripe is narrow, interrupted or ill-defined; there is a rather vague, blue-black metepisternal spot in 4, and abdomen VII is basally half dark brown-black in 1.

Among 6 paratype females: abd. 24-27, h.w. 17-18; postnodals 9-12 (f.w.), 8-10 (h.w.); R3 branches from R2 at 4th-5th (h.w.) postnodals.

REMARKS. – *T. brevis* is unlike other *Telebasis* in that the mid part of the male hind prothoracic lobe is strongly elevated, concave and medially indented. The short appendages may suggest *filiola*, *inalata*, *willinki*, *vulnerata* in lateral view,

but these have rear of head mostly black, not pale as in *brevis*.

T. brevis is recorded only West of the Andes where it is common at sea level or low elevations. The extensive series from Santo Domingo was from a pond with water lilies.

TELEBASIS BYERSI WESTFALL

Figure 30

Telebasis byersi WESTFALL, 1957: 19.

Telebasis byersi, *incolumis*, *salva*, with similar male appendages (Figs 30-32) differ from other species in having the black of the mesepisternum abruptly widened posteriorly. These species differ in distribution, medial aspects of the cercus, female prothorax, and larvae (WILLIAMSON & WILLIAMSON, 1930; WESTFALL, 1957; MAY, 1992).

We examined many *byersi* specimens including types in FSCA. It occurs only in the US, primarily in the southeast. There are blunt medial projections near the apex of the cercus (WESTFALL, 1957, fig. 7) not pointed teeth as in *incolumis* and *salva*, and *byersi* females lack prothoracic horns.

Westfall described the larva and females as well as males. DUNKLE (1990) gave photographs of adult males and females and biological notes. LOUNIBOS et al. (1990) recorded life cycle and relationship of this "Duckweed Firetail" to that plant.

TELEBASIS CARMESINA CALVERT

Figure 7

Telebasis carmesina CALVERT, 1909: 191.

We examined 10 ♂, 1 pair of this uncommon and localized species from Brazil and Paraguay. The types are in CMP.

Calvert grouped *carmesina*, *corallina* and *sanguinalis*, a grouping justified by the elongate seam of the cercus. However, *carmesina* differs from the other two in that its head is dorsally nearly all black without a striking orange-red pattern.

The female has not been described. The following were noted for one specimen: abdomen 23 mm, h.w. 16; head dorsally black posterior to antennae, pale anteriorly, with red occipital and ocellar-antennal streaks; labrum pale brown; rear of head pale; prothorax brown, horns short, appressed, reaching 1/4 length of mid lobe; pterothorax as in male; abdomen mostly pale red, darker posteriorly; genital valve (1.3 mm) reaching just beyond X, pale and with a dark spot.

TELEBASIS CARMINITA CALVERT

Figure 12

Telebasis carminita CALVERT, 1909: 194.

T. carminita, among the smallest *Telebasis* species (Tab. I), is widespread in South America. We examined 7 ♂, 3 ♀ from Venezuela, Bolivia, Brazil and PAULSON (1983) recorded the species from French Guiana and Surinam. Types are in CMP.

KENNEDY (1919) grouped *carminita*, *carmesina*, *corallina*, *sanguinalis*. We do not agree that *carminita* belongs with the other 3; its cerci differ in meeting baso-medially, bending tooth-like ventrally and lacking the longitudinal seam.

The following were noted for the previously undescribed ♀: abdomen 18 mm, h.w. 12; head dorsally black, pale anterior to antennae, with pale occipital line and paired ocellar-antennal streaks, labrum red, rear of head pale; prothorax dark brown, horns pressed against mid lobe reach half its length; mid dorsal carina red-brown, dorsal half of mesepisternum black, rest of it red-brown, remainder of pterothorax mostly gray; abdominal segments I-IV red, other segments red-brown, genital valve (1.1 mm) reaches tip of X.

TELEBASIS CAROTA KENNEDY

Figure 21

Telebasis carota KENNEDY, 1936: 807.

We examined 109 ♂, and 37 ♀, including 24 ♂ and 11 ♀ paratypes of this large species from Ecuador and Peru (Tab. I). Types are in UMMZ.

Because of the female prothoracic horns, Kennedy suggested, but then discounted, *digiticollis*, *sanguinalis* and *theodori* as nearest relatives. However, the appendages of these four are not at all alike, and the dorsal hump of the *carota* male cercus is distinctive. Relationship with *theodori* will be discussed for that species.

TELEBASIS COCCINATA CALVERT

Figure 33

Telebasis coccinata CALVERT, 1909: 193.

Agrion dispar HAGEN, 1861: 311 (nomen nudum, syn. given by BRIDGES, 1993: 68).

We examined 4 ♂, 2 pair of this uncommon and localized species from Brazil and Paraguay. Types are in CMP.

Calvert grouped *coccinata*, *carminita*, *coccinea*. We know nothing of the appendages of the last, but the first two have little in common (Figs 12, 33). Appendages of *coccinata* are similar to those of *abuna* but we have already differentiated these two.

The following were noted for one female of that previously undescribed sex:

abdomen 23 mm, h.w. 16; head dorsally black posterior to antennae, pale anteriorly, much abbreviated ocellar-antennal pale streaks; labrum red-brown; rear of head pale; prothorax uniformly brown, horns reach slightly beyond mid length of mid lobe; black of mesepisternum occupies half of that sclerite, rest of the mesepisternum and half of the mesepimeron red-brown, the rest of the pterothorax gray; abdomen brown, VII-IX darker, genital valve (1.0 mm) reaches tip of X.

TELEBASIS COLLOPISTES CALVERT

Figure 22

Telebasis collopistes CALVERT, 1902: 116, 383.

We examined 18 ♂, 4 ♀ from Mexico, Guatemala, Honduras, and GARRISON (1994) recorded it from Belize. The holotype male is in BMNH (KIMMINS, 1970; S. Brooks, BMNH, pers. comm.).

The rounded cerci and very long paraprocts are shared with *garleppi* and *boomsmae*. However, *garleppi* is much the larger (Tab. I) and the rear of head is black in *collopistes*, pale in *boomsmae*. Neither CALVERT (1902) nor MAY (1992) mentioned female prothoracic horns and we found none in *collopistes*, but the dorsal carina ends anteriorly in an obvious elevated tubercle as described by GARRISON (1994).

TELEBASIS CORALLINA (SELYS)

Figure 9

Erythrargrion corallinum SELYS, 1876: 254.

Telebasis corallina: KIRBY, 1890: 155.

This is a common and widespread species; 67 ♂, 8 ♀, 3 pairs from West Indies, Costa Rica, Venezuela, Brazil, were examined. Types are probably in Institut Royal des Sciences Naturelles de Belgique, Brussels.

The elongate cercal seam justifies CALVERT's (1909) grouping of *carmesina*, *corallina*, *sanguinalis* but unlike *carmesina*, the *corallina* head is dorsally strikingly patterned in orange-red and unlike *sanguinalis*, the *corallina* cercus is short, not twice as long as wide. We noted the "transverse occipital stripe terminating on each side in a larger reddish spot" (CALVERT, 1909). Selys did not record prothoracic horns which were present in all females which we studied. MAY (1992) recorded, and we noted, the unique lateral protuberance adjacent to each mesostigmal lamina in the female.

TELEBASIS DEMARARUM (WILLIAMSON)

Figure 1

Aeolagrion demararum WILLIAMSON, 1917: 244.

Telebasis demararum: DUNKLE, 1991: 243.

We studied 27 ♂, 6 ♀ from French Guiana, Surinam, Guyana (15 ♂, 1 ♀ topotypes), northern Venezuela, northern Brazil. Holo-, allo- and paratypes are in UMMZ

T. demararum lacks the red abdomen of most *Telebasis* but Williamson did mention a "rust red" mesepisternum which is present in our specimens. The elongate cercus is shared with *racenisi*, *fluviatilis*, *versicolor*, *rubricauda* but *demararum* differs in absence of red abdominal color.

CALVERT (1948) noted distinctive features of the mesostigmal laminae in both sexes and we add the following for the prothorax as well as the laminae. The hind lobe of the male prothorax is tripartite, the mid portion extends posteriorly, the wings are strongly elevated and apically rounded. The male mesostigmal lamina is ovoid, mostly blue, with a large, elevated, black knob on the middle of its posterior margin and a much smaller lateral black knob. The female posterior prothoracic lobe is essentially as in the male and lacks horns. The female mesostigmal lamina is pale, bordered posteriorly by an elevated black ridge which overarches an adjoining black area.

GEIJSKES (1941) reared and described the larva.

TELEBASIS DIGITICOLLIS CALVERT

Figure 27

Telebasis digiticollis CALVERT, 1902: 118, V:21 (♀); 384, X: 39, 40 (♂).

We examined 82 ♂, 28 ♀ from Mexico, Belize, Guatemala, Honduras, El Salvador and Costa Rica but did not verify records from Panama (DONNELLY, 1992) and Venezuela (DE MARMELS, 1990). The holotype female is in BMNH (KIMMINS, 1970; S. Brooks, pers. corr.); a female in FSCA, compared with the holotype by M.J. Westfall, was examined.

T. digiticollis is similar to *griffinii* and *limoncocha*. The first is the most northern and the only one of the three in Mexico. It is sympatric with the much less common *griffinii* in Guatemala, Honduras and Costa Rica, but is not reported from South America. *T. digiticollis* is the darkest of the 3; the mid and hind lobes of the prothorax are often dorsally completely black and the mesepimeron typically has a black stripe. The *digiticollis* cercus is the shortest of the 3 and the most obviously bent ventrad. MAY (1992) noted prothoracic horns in females. Our females, like *limoncocha* but unlike *griffinii*, have distinct horns.

TELEBASIS DOMINICANA (SELYS)

Figure 23

Agrion dominicanum SELYS, 1857: 466 (198).

Erythrargrion dominicanum: SELYS, 1876: 248.

Telebasis dominicana: KIRBY, 1890: 155.

We examined 167 ♂, 64 ♀, 7 pairs of this common West Indian species from: Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico, Virgin Islands. Types are probably in Institute Royal Sciences Naturelles, Brussels.

The basally approximate cerci and broadly truncated paraprocts, along with the complete black stripe on the second lateral suture are collectively distinctive. GARRISON (1986) illustrated the female prothorax and Selys recorded very small prothoracic tubercles. In the females we examined, the short prothoracic horns scarcely reach anteriorly to the mid lobe and the hind lobe is tripartite with elevated wings.

TELEBASIS DUNKLEI SP. NOV.

Figure 6

Material. – **Holotype** ♂: PERU, Loreto Dept., Iquitos, 80 km NE on Amazon River at Explorama Lodge, 30-VIII-1989, S.W. Dunkle leg. – **Allotype** ♀: in tandem with holotype. – **Paratypes**: same locality as holotype, S.W. Dunkle, leg., 15-VIII-1989, 3 ♂, 30-VIII-1989, 2 ♂, 1 ♀, 2 pairs, 31-VIII-1989, 15 ♂. All in IORI. – **Additional material**: same locality as holotype, S.W. Dunkle leg., 1990, 1992, 41 ♂, 4 ♀, 3 pairs.

E t y m o l o g y. – *T. dunklei* for our friend, Sidney W. Dunkle, in appreciation of allowing us to describe the species based on his beautifully preserved material and in honor of his many contributions to odonatology.

MALE (holotype). – **H e a d.** – Dorsally black, with the usual ocellar-antennal pale streak, vertical frons and clypeus blue, labrum blue; rear of head mostly black.

T h o r a x. – Prothorax. – Anterior lobe blue, mid and hind lobes medially black, laterally blue, the hind lobes with rounded lateral wings.

Pterothorax. – Dorsal half of mesepisternum black, ventral half blue; a black stripe along humeral suture widens anteriorly and continues on the mesinfraepisternum; rest of pterothorax blue except for a black spot on the first and second lateral sutures.

Legs. – Pale except for black femoral stripes.

Wings. – Pterostigma dark brown, covering one cell; post-nodals 10 (f.w.), 8 (h.w.); R3 branches from R2 at 5th postnodal (f.w.), 4th (h.w.).

A b d o m e n. – I blue with black mid dorsal streak; II blue, apically black; III anterior ¼ blue, posterior dark brown; IV-VII dark brown, darkening and expanding apically, this expanded dark joining an anterior blue ring on each segment; VIII & IX entirely blue; X dorsally black, latero-ventrally blue.

Appendages. – Black, shorter than X; cerci widely separated basally, each 0.25 mm, dorsally slightly curved ventrad, apically truncate with a small ventral tooth, in medial view with a pale ventral process almost as long as the cercus; paraproct 0.25 mm, curved slightly dorsad.

M e a s u r e m e n t s (in mm). – Abd. 24, h.w. 15.

FEMALE (allotype). – **H e a d.** – Colored as in male but with a crescent-shaped pale mark between antennae.

T h o r a x. – Prothorax. – Anterior lobe blue; mid lobe blue, slightly darker medially and posteriorly; hind lobe medially black, laterally blue, the wings rounded at ends and overlying blue triangular mesostigmal laminae. Prothoracic horns absent.

Pterothorax. – Colored as in male except that humeral stripe is mostly red-brown, black only at posterior end.

Legs. – Femoral black stripe less striking than in male, dark bands at femoral-tibial junctures.

Wings. – As in male.

A b d o m e n. – I blue with black mid dorsal spot, II dorsal black widening posteriorly, III-VII dorsally black, ringed with basal blue bands, VIII-X black with apical blue bands. Genital valve 1.0 mm, straw-colored, extending slightly beyond apex of X.

M e a s u r e m e n t s (in mm). – Abd. 24, h.w. 16.

VARIATION. – Among 10 paratype males: abd. 21-25, h.w. 14-16; postnodals 9-11 (f.w.), 7-9 (h.w.); R3 branches from R2 at 4-5th (f.w.), 4th (h.w.) postnodal. Among 3 paratype females: abd. 23, h.w. 14-16; postnodals 9-10 (f.w.), 8 (h.w.); R3 branches from R2 at 5th (f.w.), 4th (h.w.) postnodal. There was no variation in color pattern of the paratypes, all having been collected at the same locality and during the same month.

REMARKS – *T. dunklei* and *demararum* abdomens lack red, but their cerci are quite different: *dunklei* (Fig. 6) very short, *demararum* (Fig. 1) elongate. Among the 37 *Telebasis* species which we studied, only *dunklei* has a pale medial process extending along the ventral surface of the cercus.

TELEBASIS FILIOLA (PERTY)

Figure 20

Agrion filiola PERTY, 1834: 125 (not seen).

Erythrargrion filiola: SELYS, 1876: 246.

Telebasis filiola: KIRBY, 1890: 155.

This small species is widespread and abundant (Tab. I). We examined 257 ♂, 28 ♀, 1 pair from: Mexico, Guatemala, Honduras, Panama, Colombia, Venezuela, but did not verify records from Brazil (CALVERT, 1902) and Peru (PAULSON, 1983). Types may be in Zoologische Sammlungen des Bayerischen Staates, Munich.

T. filiola, *inalata* and *willinki* are all very small with similar male appendages (Figs 18-20) and color patterns. The three differ in distribution: *filiola* is widespread from Mexico to Venezuela, *inalata* from Ecuador, Peru, Bolivia, and *willinki* only from Argentina.

Unlike *inalata*, *filiola* and *willinki* have a basal medial hairy projection of the

paraproct as FRASER (1948) illustrated for *willinki*. Although the appendages of *filiola* and *willinki* are quite similar, the *willinki* paraproct has an apical dorsal projection, sometimes obscured by the cercus, absent in *filiola*. Female characteristics separating the species are more obvious: *filiola* stands apart by the large, elevated, postero-medial projection of the mesostigmal lamina (CALVERT, 1902; MAY, 1992).

TELEBASIS FLAMMEOLA KENNEDY

Figure 16

Telebasis flammeola KENNEDY, 1936: 804.

We examined 39 ♂ paratypes from Ecuador, the only recorded country. Types are in UMMZ.

Based on penes, Kennedy considered *flammeola* closest to *isthmica*, but rear of head is black in *flammeola*, pale in *isthmica* and the abdomen is not entirely red in *flammeola*, entirely so in *isthmica*. Moreover, the cone of pale bristles at the apex of the *flammeola* cercus is very distinctive. The female remains undescribed.

TELEBASIS FLUVIATILIS ST. QUENTIN

Telebasis fluviatilis ST. QUENTIN, 1960: 50.

This species, known only from the original Brazilian specimens, was not seen. Types were deposited in Natural History Museum, Wien.

St. Quentin figured the unique, elongate, pointed, incurved, pincer-like cerci and very short paraprocts. He noted of the female, "keine Griffel am Prothorax".

TELEBASIS GARLEPPI RIS

Figure 15

Telebasis garleppi RIS, 1918: 129.

T. garleppi, among the largest *Telebasis*, is recorded only from Costa Rica, the source of the 27 ♂, 1 pair studied. Types are probably in the Senckenberg Museum, Frankfurt.

Male appendages are superficially like those of *collopiastes*, but unlike that species, *garleppi* cerci are well separated basally. Also, the two differ in size, color of labrum, color of abdomen (Tab. I). MAY (1992) recorded subacute, divergent, female prothoracic horns which, in the female we examined, are upturned and reach mid length of the mid lobe.

TELEBASIS GARRISONI SP. NOV.

Figures 10-11

Material. – Holotype ♂: COLOMBIA, Magdalena Dept., El Banco, 25-I-1917. – Allotype ♀: same

as holotype. – Paratypes: same as holotype, 14 ♂, 6 ♀; same locality, 23-I-1917, 3 ♂; 24-I-1917, 1 ♂; – Santander Dept, Puerto Berrio, 8-II-1917, 1 ♂; – La Guajira Dept, Fundacion, 11-I-1917, 1 ♂, 1 ♀; – Dept ?, Las Delicias, 28-I-1917, 4 ♂, 1 ♀. – VENEZUELA, Falcon State, Palma Sola, 9-III-1920, 3 ♂; Tucacas, 20-III-1920, 5 ♂, 1 ♀; – Zulia State, El Guaybo, 20-IV-1920, 7 ♂, 1 ♀; Encontrados, 23-IV-1920, 2 ♂, 1 ♀. All J.H. & E.B. Williamson leg. Las Delicias specimens in R. Garrison Collection, others UMMZ. Williamson (1923) gave ecological data for many of these specimens.

E t y m o l o g y. – *T. garrisoni* for our friend, Rosser W. G a r r i s o n, in appreciation of his help with the *Telebasis* complex and in honor of his many contributions to odonatology.

MALE (holotype). – H e a d. – Anteriorly pale but post clypeus darker, red-brown, labrum red; posteriorly black from antennae to lateral ocelli, with the usual pale antennal-ocellar streak and a black spot medial of each antenna; narrow occipital pale streak; rear of head half black, half pale.

T h o r a x. – Prothorax. – Almost entirely brown, posterior lobe darker medially.

Pterothorax. – Black along mid dorsal carina and for about half of mesepisternum. Red-brown color includes half of mesepisternum, half of mesepimeron, almost all of metepisternum; a gray color covers about half of mesepimeron and all of metepimeron.

Legs. – Tan, femora streaked with black.

Wings. – Pterostigma brown, covering 1 cell; postnodals 13 (f.w.), 12 (h.w.). R3 separates from R2 at 6th postnodal (f.w.), 5th (h.w.).

A b d o m e n. – I-IV orange-red, III-IV apically ringed with black, V & VI brown, apically ringed with black, VII-X blotchy red-brown.

Appendages. – Cerci brown, apically blunt, much shorter (0.25 mm) than X and shorter than the upcurved, apically pointed, black-tipped paraprocts (0.50 mm). Each cercus bears a large blunt basal medial projection, seen best in dorsal view. Cerci meet medially.

M e a s u r e m e n t s (in mm). – Abd. 32, h.w. 20.

FEMALE (allotype). – H e a d. – As in male but postclypeus and labrum brown.

T h o r a x. – Prothorax. – Brown, all lobes darker medially; without prothoracic horns.

Pterothorax. – As in male.

Legs. – As in male.

Wings. – Pterostigma brown, covering 1 cell; postnodals 13 (f.w.), 11 (h.w.); R3 separates at 6th postnodal (f.w.), midway between 5 and 6 (h.w.).

A b d o m e n. – I yellow; II-VIII brown, ringed apically with black; IX basally and laterally darker; X medially darker. Genital valve pale, 1.4 mm, barely reaching tip of X.

M e a s u r e m e n t s (in mm). – Abd. 32, h.w. 21.

VARIATION. – Paratypes show very little difference from holo- and allotype, and some color variation noted may be due to post mortem change. No clear contrast was noted between Colombia and Venezuela specimens. Males: abd. 29-32, h.w. 19-21; postnodals 12-14 (f.w.), 10-11 (h.w.); R3 branches from R2 at 6-7 (f.w.), 5

(h.w.). Abdominal segments VI-X often darker than holotype, VI, VII rarely distinctly black.

REMARKS – *T. garrisoni* is like *carminita*, *collopiestes*, *boomsmae*, *dominicana* in that the cerci meet or very nearly meet baso-medially. However, *garrisoni* differs from these in that its cercus bears a baso-medial somewhat thumb-like process.

TELEBASIS GRIFFINII (MARTIN)

Figure 26

Erythrargrion griffinii MARTIN, 1896: 2 (not seen).

Telebasis griffinii: CALVERT, 1902: 117, 384, V: 31, 32.

Sixteen males from Guatemala, Honduras, Costa Rica and Trinidad were examined but Mexico and Panama records (Calvert, PAULSON, 1982) were not verified. Specimens from South America were not seen and there are no published records from there. Types are probably in Istituto e Museo di Zoologia, Univ. Torino, Italy.

T. griffinii, similar to *digiticollis* and *limoncocha*, is the most localized and the scarcest. We record it only from a small area in Central America and are surprised at its presence in Trinidad where the record of only 1 ♂ should be substantiated. *T. griffinii* differs from the other 2 species most notably in the relatively straight, apically truncate cercus, typically extending almost as far caudad as the paraproct. Both Calvert and MAY (1992) noted the absence of prothoracic horns in females. Unfortunately we saw no females.

TELEBASIS INALATA CALVERT

Figure 18

Aeolagrion inalatum CALVERT, 1961: 8.

Telebasis inalata: DUNKLE, 1991: 243.

Telebasis inalata: GARRISON, 1991a: 14 (? syn. *versicolor* FRASER).

Material. – Neotype ♀: PERU, Loreto Dept, 80 km NE Iquitos on Amazon R. at Explorama Lodge, 31-VIII-1989, S.W. Dunkle leg. – A ♂ pairing with the neotype ♀. Both in IORI. – Additional material: PERU: 63 ♂, 6 ♀, 7 pairs; – ECUADOR: 9 ♂, 3 ♀, 3 pairs; – BOLIVIA: 27 ♂, 6 ♀.

Calvert described *inalata* from 1 ♀ from Iquitos, Peru, and placed the holotype in the Academy of Natural Sciences, Philadelphia (ANSP). Dunkle stated that *inalata* is probably a *Telebasis* because its description corresponds with females taken in tandem with typical red *Telebasis* males from Iquitos. He also noted that the holotype could not be located at ANSP. Later, Dr S.W. Dunkle sent us a long series including 8 pairs from near Iquitos, noting that in 1 the female corresponds almost exactly to the description of the *inalata* holotype. After studying 99 ♂, 15 ♀, 11 pairs, we conclude that the females match the description of the holotype

of *inalata* and that males are also that species, many by association with females in tandem. Because the holotype female is lost, and the male is undescribed, we give the following new or modified descriptions.

FEMALE (neotype). – Essentially as in the Calvert description. Exceptions are: without interrupted pale ring at anterior end of abdominal segment VIII; black mark on sternum of VIII is basal rather than apical; genital valve (1.0 mm) dark brown rather than pale brown; postnodals 8 (f.w.) and 7 (h.w.), not 9 and 7 and R3 branches at 4th postnodal in both wings, not 5th and 4th as in Calvert's figure. He did not mention the following morphological characteristics. Prothorax with a minute tubercle on each side at juncture of mid and hind lobes which seems to be a greatly reduced horn. Mesostigmal lamina has a pale, elongate, pointed lateral process.

M e a s u r e m e n t s (in mm). – Abd. 18, h.w. 12.

MALE (pairing with neotype ♀). – **H e a d.** – Dorsally almost entirely dull black, the pale stripe from each lateral ocellus to antenna much abbreviated; anterior frons and anterior clypeus pale, posterior clypeus and labrum black; rear of head black.

T h o r a x. – Prothorax. – Dorsally black, pale on either side of mid lobe and on posterior margins of mid and hind lobes.

Pterothorax. – Dorsal carina pale, rest of mesepisternum black; mesepimeron 2/3 black, widening anteriorly and continuing on the mesinfraepisternum; metepisternum dorsally with an interrupted black streak; 2nd lateral suture with a black spot; metepimeron pale with a black spot.

Legs. – Tan, each femur streaked with black, tibial-tarsal junctures black, tarsi intersegmentally black.

Wings. – Pterostigma brown covering 1 cell: postnodals 8 (f.w.), 7 (h.w.); R3 separates from R2 at 4th & 5th (f.w.), at 4th (h.w.) postnodal.

A b d o m e n. – Uniformly red except apically black on X.

Appendages. – Cercus (0.22), black, slightly curved ventrad with a small apical tooth; paraproct (0.13), pale with a dorsal apically blunt projection which contacts the cercus.

M e a s u r e m e n t s (in mm). – Abd. 17, h.w. 12.

VARIATION. – Among females: abd. 16-18, h.w. 12-14; postnodals 8-9 (f.w.), 7-8 (h.w.); R3 branches from R2 nearest 4,5 (f.w.), 4 (h.w.); pale ring at base of VIII absent in 4 of 11 specimens; parallel transverse dark bands on X could not be detected in 1 of 11; antehumeral pale stripe is a full length stripe in 5 of 11. Among males: abd. 17-19, h.w. 12-13; postnodals 8-9 (f.w.), 7-8 (h.w.); R3 branches from R2 at 4,5 (f.w.), 4 (h.w.); black metepimeral spot on 8 of 10 males.

REMARKS. – The most consistent difference between Calvert's description and females studied herein is that our females have the dark sternal color patch on VIII basal not apical. Among 14 pairs examined (9 topotypes), all females match the Calvert description of *inalata*; there can hardly be doubt that the associated and previously undescribed males are also *inalata*. Males of *inalata*, similar to

filiola and *willinki*, may be distinguished by the absence on the paraproct of the basal, hairy, medial projection.

The above was written only for specimens east of the Andes from Ecuador, Peru, Bolivia. After considering the matter closed, we found 17 ♂, 7 ♀ (USNM) from Manabi Province, Ecuador, west of the Andes. When these were compared with those from the east, differences in color of male abdomens were evident: east of the Andes all entirely red, west never entirely red, but usually (9 of 17) entirely black, sometimes (4 of 17) black with some red, sometimes (4 of 17) variously brown and black. On both sides of the mountains, female color patterns and structural features of both sexes (male appendages, female genital valves, mesostigmal laminae) were similar. Because abdominal colors among males west of the Andes were various, even among those taken at the same place and time, we do not designate the western form a subspecies.

TELEBASIS INCOLUMIS WILLIAMSON & WILLIAMSON

Figure 31

Telebasis incolumis WILLIAMSON & WILLIAMSON, 1930: 1.

T. incolumis is known only from the Baja Peninsula, Mexico, the source of the 1 ♂ studied. The Williamsons gave detailed ecology of their Baja collecting sites. Holotype and allotype are in UMMZ, 1 paratype ♂ is in BMNH.

The Williamsons and MAY (1992) contrasted *incolumis* and *salva*, species which possibly could be found to overlap geographically: apical medial teeth of cerci (WILLIAMSON & WILLIAMSON, figs 18, 21) large and unequal (*incolumis*), small and equal (*salva*); female prothoracic horns straight and overhanging mid lobe (*salva*), divergent and not overhanging mid lobe (*incolumis*).

TELEBASIS ISTHMICA CALVERT

Figure 36

Telebasis isthmica CALVERT, 1902: 118.

We examined 21 ♂, 9 ♀ from Mexico, Costa Rica, Panama, Venezuela, Colombia. Calvert stated that types are in MCZ.

Based on penes, KENNEDY (1936) considered *isthmica* closest to *flammeola*. However, the appendages, especially the paraprocts, differ greatly, those of *isthmica* apically truncate, those of *flammeola* pointed, and, of course, the cercus of *isthmica* lacks the pale apical bristles. Like MAY (1992), we did not find female prothoracic horns.

TELEBASIS LIMONCOCHA SP. NOV.

Figures 28, 29

Material. – **Holotype** ♂: ECUADOR, Napo Province, Limoncocha, Lake Taracoa near Primavera, 4-XI-1980, M.J. Westfall and D.G. Robinson leg., FSCA. – **Allotype** ♀: in copula with holotype, FSCA. – **Paratypes**: COLOMBIA, Antioquia Dept, Puerto Berrio, 31-I-1917, J.H. & E.B. Williamson leg., 1 ♂, 1 ♀, UMMZ, 8-II-1917, 2 ♂, 2 ♀, UMMZ; – Bolivar Dept, 23-XII-1916, J.H. & E.B. W. leg., 2 ♂, 2 ♀ UMMZ, 26-XII-1916, 4 ♂, 4 ♀, UMMZ. – VENEZUELA, Tachira State, LaFria, 14-IV-1920, J.H. & E.B. W. leg., 2 ♂, UMMZ; – Miranda State, El Guapo, 29-VII-1961, T. Donnelly leg., 3 ♂, FSCA. – ECUADOR, Napo Prov., Limoncocha, 4-XI-1980, M.J. Westfall & D.G. Robinson leg., 4 pair, FSCA; 23-VIII-1980, S.W. Dunkle leg., 1 pair, IORI; La Selva, 12-X-1988, S.W.D. leg., 1 ♂, 1 ♀, IORI. – PERU, Loreto Dept, Iquitos, 31-VIII-1989, S.W.D. leg., 1 ♂, IORI, 5-VII-1991, 1 ♀, IORI; IV-VIII-1940, G. Klug leg., 4 ♂, UMMZ, IX-1940, 1 ♂, FSCA. – **Additional material**: PANAMA, 6 ♂, 1 ♀; – COLOMBIA, 81 ♂, 5 ♀; – VENEZUELA, 6 ♂; – ECUADOR, 55 ♂, 1 ♀; – PERU, 3 ♂.

E t y m o l o g y. – *T. limoncocha* for Limoncocha, on Rio Napo, Napo Province, Ecuador, the location of the holotype, allotype and several paratypes.

MALE (holotype). – **H e a d.** – Black posterior to frontal shelf, pale ocellar-antennal streaks abbreviated; anterior frons, post clypeus dark brown; labrum red; rear of head mostly black.

T h o r a x. – Prothorax. – Anterior lobe brown; mid lobe medially black, laterally brown; hind lobe brown.

Pterothorax. – Mid dorsal carina and half of mesepisternum black; rest of pterothorax shades ventrally from brown to tan; a black mark on upper ends of humeral, 1st and 2nd lateral sutures, and a tear-drop shape black mark straddles 1st lateral suture at mid length; mesepimeron lacks black stripe.

Legs. – Tan, femora streaked with black, slightly darker at femoral-tibial and tarsal junctures.

Wings. – Pterostigma reddish, covering one cell; post-nodals 10 (f.w.), 9 (h.w.); R3 branches from R2 at 5th postnodal in f.w., at 4th in h.w.

A b d o m e n. – Almost uniformly bright red.

Appendages. – Cercus (0.37 mm) black, bends ventrad at about 1/3 its length, apically with a small black tooth; paraproct (0.50 mm) tan in basal half, apically much darker, curved only slightly dorsad, apically acute.

M e a s u r e m e n t s (in mm). – Abd. 26, h.w. 17.

FEMALE (allotype). – **H e a d.** – Posterior to anterior ocellus black, ocellar-antennal pale streak absent; anterior to medial ocellus, including labrum, brown; rear of head mostly black.

T h o r a x. – Prothorax. – Colored as in male; posterior lobe distinctive (Fig. 29), tripartite, lateral “wings” conspicuously upturned; horns tan, apically curved dorsad, extending anteriorly about 1/3 the length of the mid lobe.

Pterothorax. – As in male except that the black spot on the 1st lateral suture is smaller.

Legs. – As in the male.

Wings. – Pterostigma light brown, postnodals 11 in f.w., 9 in h.w.; R3 branches from R2 at 5th in f.w., at 5th in h.w. postnodal.

A b d o m e n. – Dull brown-black, I, II paler; genital valve brown, 1.25 mm,

reaching apex of X.

Measurements (in mm). — Abd. 27, h.w. 17.

VARIATION. — Among 24 paratype males: abd. 23-29, h.w. 14-18, postnodals 8-11 (f.w.), 7-10 (h.w.); R3 branches from R2 nearest 4-5th (f.w.), 4th (h.w.) postnodal. Cercus 0.35-0.45, paraproct 0.47-0.57. The hind lobe of the prothorax dorsally is without black in 21 of 24 and the mesepimeron is without a black stripe in 22 of 24. A black mark at about mid length of the 1st lateral suture is consistently present in specimens from Ecuador and Peru, less consistently present in those from Venezuela and Colombia. Among 16 paratype females: abd. 25-28, h.w. 17-19, postnodals 9-12 (f.w.), 8-10 (h.w.); R3 branches from R2 nearest 5-6 (f.w.), 4-5th (h.w.) postnodal.

REMARKS. — *T. limoncocha*, similar to *digiticollis* and *griffinii*, is essentially South American. The overall pale thorax, like that of *griffinii*, readily separates these two from the much darker *digiticollis*. But there may be difficulty in separating the 2 pale species. The cercus of *limoncocha* is slightly shorter, more bent ventrad, apically less clearly truncate than that of *griffinii*. Many specimens of *limoncocha* from Ecuador and Peru can be recognized by the black mark across the first lateral suture. *T. limoncocha* females have obvious prothoracic horns which are absent in *griffinii*, and the lateral wings of the female hind prothoracic lobe are distinctly elevated in *limoncocha*, not in *digiticollis*.

TELEBASIS LIVIDA KENNEDY

Figure 17

Telebasis livida KENNEDY, 1936: 811.

This species was previously known only from the holotype male in UMMZ from northeastern Ecuador. The male which we examined was collected ca 2300 km southeastward in central Bolivia, and in the R. Garrison collection are 3 ♂, 1 ♀ (1 pair) from southern Peru.

Although somewhat similar to *flammeola* in shape of appendages, *livida* lacks the apical pale cercal bristles and, unlike other *Telebasis*, has prothorax and anterior abdominal segments iridescent green-black and posterior abdominal segments brilliant red. Based on penes, but with doubt, Kennedy placed *livida* near *coccinata* and *salva*; neither appendages (Figs 17, 32, 33) nor color patterns (Tab. I) of these 3 have much in common. The female remains undescribed but Dr R.W. Garrison (pers. comm.) stated that the female has prothoracic horns.

TELEBASIS PARAENSEI MACHADO

Figure 34

Telebasis paraensei MACHADO, 1956: 227.

The types in the Machado collection and the 2 ♂ metatypes examined are from Minas Gerais State,

Brazil.

Machado associated *paraensei* with *coccinata* and *carminita*. However, the cercus of *paraensei* is much longer than that of *carminita* and the *paraensei* paraproct is not bent strongly dorsad as in *coccinata*. Machado described the female without mentioning prothoracic horns and we saw no females.

TELEBASIS RACENISI SP. NOV.

Figure 2

Material. – Holotype ♂: VENEZUELA, Amazonas State, “Buenos Aires” – Ventuari, 19-III-1957, J. Racenis leg., IZA No. 6438. – Allotype ♀: VENEZUELA, Bolivar State, Uruyen-Auyantepui, 27-IV-1956, Fernandez leg., IZA No. 6520. – Paratypes: VENEZUELA, Amazonas State, Puerto Ayacucho, 20-XI-1957, J. Racenis leg., 1 ♀, 2/5-XI-1982, Chacon & Yopez, leg., 1 ♂; – Bolivar State, Uruyen-Auyantepui, 12/14-IV-1956, Fernandez leg., 2 ♂, 2 ♀, 15/16-IV-1956, J. Racenis leg., 3 ♂; Canaima, 21-II-1958, J. Racenis leg., 1 ♂. All in IZA.

Etymology. – *T. racenisi*, for the late Dr Janis R a c e n i s who collected many specimens in the type series and in honor of his many contributions to neotropical odonatology.

MALE (holotype). – H e a d. – Posterior to ocelli black but orange along occipital border, with the usual antennal-ocellar orange stripe; frons and clypeus dark orange-brown, labrum dark blue; rear of head mostly black.

Thorax. – Prothorax. – Anterior and medial lobes medially black, laterally pale; posterior lobe dark brown.

Pterothorax. – Mid dorsal carina black, mesepisternum black, mesepimeron red-brown, metepisternum and metepimeron mostly blue-gray.

Legs. – Straw colored, tarsi darker, an ill defined dark streak on each femur, darker at tibial juncture.

Wings. – Pterostigma light brown covering 1 cell; postnodals 10 (f.w.), 8 (h.w.); R3 separates from R2 at 6th (f.w.), 5th (h.w.) postnodal cross veins.

Abdomen. – Segments I-III red-brown, IV-VI dark brown, VII-X red-brown.

Appendages. – Cercus dark brown, narrowly long (0.52 mm), widening very slightly toward the notched apex, with a medial tooth at the basal third. Paraproct shorter (0.37 mm) and paler than cercus.

Measurements (in mm). – Abd. 24, h.w. 17.

FEMALE (allotype). – H e a d. – Color essentially as in male except that the occipital orange is broader and the labrum red-brown.

Thorax. – Prothorax. – Dorsally entirely red-brown; without prothoracic horns; posterior lobe tripartite, lateral wings strongly elevated, mid portion indented.

Pterothorax. – Mesepisternum almost entirely dark brown, mesepimeron red-brown, metepisternum and metepimeron blue-gray.

Legs. – Tan, each femur posteriorly streaked with black, tarsi dark brown.

Wings. – Pterostigma dark brown, surmounting one cell; postnodals 10 (f.w.), 10 (h.w.); R3 separates from R2 at 5th (f.w.), 5th (h.w.) postnodal cross vein.

A b d o m e n. – Dorsally entirely dark brown to black. Genital valve 1.2 mm, extending slightly beyond tip of X.

M e a s u r e m e n t s (in mm). – Abd. 25, h.w. 19.

VARIATION. – Among 7 paratype males: abd. 23-25, h.w. 16-17, postnodals 10-11 (f.w.), 9-10 (h.w.); R3 branches from R2 nearest 5-6th (f.w.), 5th (h.w.) postnodal. Dorsal carina not black in 2, one lacks dorsal prothoracic black. Among 3 paratype females: abdomen too damaged to measure, h.w. 17-18, antenodals 10-11; R3 branches nearest 6th (f.w.), 5th (h.w.) postnodal; labrum blue-black in all.

REMARKS. – Among the *Telebasis* species having elongate cerci and red abdomens, *racenisi* is the most distinctive. It could only be confused with *rubricauda*. The more narrowly elongate and apically notched cercus readily sets *racenisi* apart from that species.

TELEBASIS RUBRICAUDA SP. NOV.

Figure 3

Material. – **Holotype** ♂: BRAZIL, Rondonia State (Matto Grosso on original envelope), Abuna, 14-III-1922, J.H. Williamson & J.H. Strohm leg., UMMZ. – **Allotype** ♀: in "copula" with holotype, UMMZ. WILLIAMSON & WILLIAMSON (1924) described this locality. – **Paratypes**: same as holotype, 5 ♂, UMMZ, same as holotype, 1 ♂, 1 ♀, FSCA, same as holotype except 24-III-1922, 4 ♂, UMMZ. – BOLIVIA, Santa Cruz Dept., Buena Vista, 21-III-1960, R. Cumming leg., 1 ♂, FSCA. – PERU, Loreto Dept, Iquitos, VIII-1940, G. Klug leg., 1 pair, UMMZ. – VENEZUELA, Apure State, Mantecal, 20-VIII-1983, J. De Marmels leg., 1 ♂, 4 ♀, IZA; – Carabobo State, Valencia, 23-VIII-1956, F. Test leg., 1 ♂, UMMZ.

E t y m o l o g y. – *T. rubricauda* from *ruber*, red, *cauda*, tail, for the red of the posterior abdominal segments.

MALE (holotype). – **H e a d.** – Posterior to antennae mostly black, brown between lateral ocelli and antennae; anterior to antennae, including labrum, blue; rear of head half pale, half black.

T h o r a x. – **Prothorax.** – Anterior lobe blue; mid lobe laterally blue, medially and posteriorly black; posterior lobe black.

Pterothorax. – Middorsal carina black; rest of pterothorax blue with three black stripes: (1) along dorsal carina and covering about half of mesepisternum, (2) on either side of the humeral suture extending anteriorly on the mesinfraepisternum, (3) a shorter one along the second lateral suture.

Legs. – Mostly straw colored, knees darker, without femoral dark stripes.

Wings. – Pterostigma brown, covering 1 cell; postnodals 10 (f.w.), 8 (h.w.); R3 separates from R2 at 5th (f.w.), 4th (h.w.) postnodal cross veins.

A b d o m e n. – I laterally and posteriorly blue with a small anterior black spot; II blue with a posterior black spot; III-V laterally blue with a mid dorsal black stripe, widest at posterior margins and not quite reaching anterior margins; VI-VII entirely dark; VIII-X red, X posteriorly narrowly rimmed with black.

Appendages. – Cercus laterally black, subequal (0.42 mm) to X; in lateral view slightly tapered to rounded apex; in medial view slightly hollowed out, pale, edged with black and speckled with black dots; a small ventral projection at mid length. Paraproct pale, much shorter (0.18 mm) than cercus.

Measurements (in mm). – Abd. 25, h.w. 15.

FEMALE (allotype). – Head. – As in male.

Thorax. – Prothorax. – Anterior lobe blue; mid lobe blue with paired medial anterior-posterior dark brown stripes. Hind lobe black, without the usual prothoracic horns, but with paired elevations just anterior to the posterior margin of the hind lobe which makes it look double.

Pterothorax. – Patterned as in male but stripes along humeral and 2nd lateral sutures are dark brown instead of black and a short black band almost connects anteriorly the dark of dorsal carina and humeral suture.

Legs. – As in male.

Wings. – Pterostigma brown, covering 1 cell; postnodals 11 (f.w.), 9 (h.w.); R3 branches from R2 nearest 5th (f.w.), 4th (h.w.) postnodal.

Abdomen. – I-VI black; VII basally black, apically red; VIII-X red, IX with a black spot on either side. Genital valve 1.1 mm, reaching slightly beyond apex of X.

Measurements (in mm). – Abd. 27, h.w. 17.

VARIATION. – Among 12 paratype males: abd. 23-26, h.w. 16-18, postnodals 9-11 (f.w.), 8-9 (h.w.); R3 branches from R2 nearest 4-6th (f.w.), 4-5th (h.w.) postnodals. The dark pterothoracic stripes among 8 males from Brazil are as in holotype; but in 2 from Venezuela the humeral is red-brown, the first lateral stripe absent; in the 1 from Peru the humeral stripe is wider, the first lateral stripe fainter; in the 1 from Bolivia the humeral stripe is brown, the first lateral absent. Among 6 paratype females: abd. 24-27, h.w. 16-18, postnodals 9-12 (f.w.), 8-10 (h.w.); R3 branches from R2 nearest 5th (f.w.); 4-5th (h.w.) postnodal.

REMARKS. – *T. rubricauda* is like *racenisi* in the elongate cercus, but the *rubricauda* cercus is dorso-ventrally wider and lacks a ventral tooth. The red posterior abdominal segments contrasting with the basal ones is a feature shared with *livida*, a species lacking the elongate cercus. The posterior prothoracic lobe of the *rubricauda* female, which appears double, separates this species from all others.

T. rubricauda seems to be widespread (Bolivia, Brazil, Peru, Venezuela) yet uncommon. Because of the flashy red posterior abdominal segments, *rubricauda* must be conspicuous in the field. We are surprised at the scarcity of specimens and the apparent absence of the species in Ecuador where collection efforts have been extensive. Perhaps the species is exceptionally wary or occupies some distinctive habitat.

Figure 32

Agrion salvum HAGEN, 1861: 85.

Erythrargrion salvum: SELYS, 1876: 252.

Telebasis boucardi SELYS, 1868: 5 (syn. SELYS, 1876: 252).

Telebasis salva: KIRBY, 1890: 155.

T. salva is more widespread than all other *Telebasis* species. We examined many specimens from: US, Belize, Mexico, Guatemala, Honduras, Colombia, Venezuela and PAULSON (1982) recorded it from El Salvador, Costa Rica, Panama. There is a syntype ♂ in MCZ.

Differences among *salva*, *byersi* and *incolumis* have already been pointed out. WESTFALL (1957) compared males, females and larvae with those of *byersi*. ROBINSON & FRYE (1986) studied *salva* behavior.

TELEBASIS SANGUINALIS CALVERT

Figure 8

Telebasis sanguinalis CALVERT, 1909: 192.

T. sanguinalis is widespread and common. We examined 80 ♂, 10 ♀, 3 pairs from Trinidad, Surinam, Venezuela, Bolivia, Brazil. Types are in CMP.

The cercal seam groups *carmesina*, *corallina*, and *sanguinalis*. However, unlike *carmesina* and *corallina*, the *sanguinalis* cercus is twice as long as wide and the rear of the head is half black and half pale. Calvert noted that the female prothorax has 2 slender processes directed forward and applied against the mid lobe for half its length. Our 12 females showed only small horns, scarcely reaching 1/4 the length of the middle lobe. The posterior lobe of the female prothorax has a strongly elevated wing on each side. GEIJSKES (1943) reared and described the larva comparing it with *salva* and *vulnerata*.

TELEBASIS SELAOPYGE DE MARMELS

Figure 13

Telebasis selaopyge DE MARMELS, 1989: 32.

Holotype and allotype are in IZA. We examined a paratype ♂ and ♀ from Amazonas State, Venezuela, in IORI.

Although color pattern has been considered similar to *livida*, the dark colors of *selaopyge* are not as brilliant and the red posterior abdominal segments less vivid. De Marmels stated that the appendages resemble those of *vulnerata*, but that species lacks the 2 conspicuous ventral cercal teeth of *selaopyge*. He recorded 2 oblique lengthened tubercles in the center of the female posterior prothoracic lobe. In our specimen, these horns are minute and do not extend anteriorly to the

mid lobe. The mesostigmal lamina is strongly elevated medially.

TELEBASIS THEODORI (NAVAS)

Figure 4

Argia theodori NAVAS, 1934: 182.

Telebasis theodori: KENNEDY, 1936: 811.

Telebasis aureipennis JURZITZA, 1980: 185 (syn., GARRISON, 1991b: 459).

The holotype female from Rio Grande do Sul State, Brazil, in FSCA and 7 ♂, 3 ♀, also from Brazil, were examined. Jurzitza's specimens of *aureipennis* were from Misiones Province, Argentina, near the juncture of Paraguay, Argentina and Brazil. These records are among the southernmost for the genus.

T. theodori and *aurea* are the only species whose males have flavescent wings. The two differ greatly in: distribution, Costa Rica (*aurea*), Brazil and Argentina (*theodori*); color pattern, pterothorax and rear of head darker (*aurea*); and in appendage detail (Figs 4, 5; MAY, 1992). Kennedy grouped *theodori* and *carota* and Jurzitza considered *aureipennis* (syn. of *theodori*) closest to *carota* but the dorsal hump of the cercus distinguishes *carota*. After studying the holotype, Garrison redescribed the female noting prothoracic horns which we also observed. He described the extensive orange color on the dorsal aspect of the head, a color pattern which also applies to males. The only other *Telebasis* with heads so strikingly orange are *corallina* and *sanguinalis*, species which could not be confused with *theodori*.

TELEBASIS VERSICOLOR FRASER

Telebasis versicolor FRASER, 1946: 42.

We did not see specimens of this species. The holotype male collected in Umbria, Colombia, and deposited in BMNH is the only specimen and locality. S. Brooks (BMNH) kindly sent notes and drawings of the holotype. These show the paraproct considerably longer (1/3 length of cercus) than in the Fraser drawing, and the cercus with a half length basal ridge and a small tooth. The female remains undescribed.

GARRISON (1991a) listed *Aeolagrion inalata* Calvert as a questionable synonym of *versicolor*. We consider *inalata* a valid *Telebasis*, unlike *versicolor*.

TELEBASIS VULNERATA (HAGEN)

Figure 24

Agrion vulneratum HAGEN, 1861: 86.

Erythrargion vulneratum: SELYS, 1876: 250.

Telebasis vulnerata: KIRBY, 1890: 155.

We examined 43 ♂, 18 ♀, 5 pairs of this West Indian species from the Dominican Republic, Haiti,

Puerto Rico, and KLOTS (1932) recorded Cuba, PAULSON (1982), Jamaica. Types may be in MCZ.

The appendages of *vulnerata* males are somewhat like those of *watsoni*, but pterothoracic color of *vulnerata* is much more extensively black. Selys, KLOTS (1932) and GARRISON (1986) recorded prothoracic processes (horns) in females. Garrison figured these, showing a great difference between specimens from Puerto Rico and Hispaniola. Most of our specimens agree with Garrison's figures, but one from the Dominican Republic (Hispaniola) resembles his drawing of specimens from Puerto Rico.

TELEBASIS WATSONI SP. NOV.

Figure 25

Material. – **Holotype** ♂: PERU, Huanuco Dept., Shapajilla, 11-VII-1938, F. Woytkowski leg. – **Allotype** ♀: PERU, San Martin Dept, Rioja, 17-IX-1936, F.W. leg. – **Paratypes**: same as holotype, 1 ♂, 6 ♀; Huanuco Dept., Shapajilla, 12/14-VII-1938, 3 ♂, F.W. leg.; Huanuco Dept, Afilador, 1-VI-1937, F.W. leg., 1 ♂; – Junin Dept, Sani Beni, 4-VIII-1935, F.W. leg., 1 ♂. All UMMZ.

Etymology. – *T. watsoni* for our deceased friend, J.A.L. Watson (Tony) in honor of his many contributions to odonatology.

MALE (holotype). – **Head.** – Posterior to antennae black, anteriorly red-brown. Additional to the usual ocellar-antennae pale stripes are paired diagonal pale streaks from ocelli to frontal shelf; labrum red; rear of head mostly black.

Thorax. – Prothorax. – Mostly dull red-brown, mid lobe paler laterally.

Pterothorax. – Mid dorsal carina and half width of mesepisternum black, rest of mesepisternum gray; mesepimeron red-brown, metepisternum and metepimeron gray.

Legs. – Tan; mid femur with a narrow black streak; other legs missing.

Wings. – Pterostigma red-brown, surmounting 1 cell; postnodals 13 (f.w.), 11 (h.w.); R3 separating from R2 at 6th postnodal (f.w.), 5th (h.w.).

Abdomen. – I-VI red, VII-X red-brown, VII posteriorly darker.

Appendages. – Cercus dark brown, angular, shorter (0.30 mm) than X and slightly shorter than paraproct (0.37 mm), its mesal face with 2 black teeth at about mid length, the more ventral one barely visible in lateral view. Paraproct curved dorsad.

Measurements (in mm). – Abd. 27, h.w. 19.

FEMALE (allotype). – **Head.** – Similar to holotype but with a narrow, post-occipital streak and labrum yellow-brown.

Thorax. – Prothorax. – Color as in male. Posterior lobe with two stout, closely appressed and distally expanded horns which extend to mid length of the mid lobe.

Pterothorax. – Dorsal half of mesepisternum black, remainder gray-brown, mesepimeron red-brown, rest of pterothorax gray-brown.

Legs. – Yellow, femora unstriped, darker at knees.

Wings. – Pterostigma pale brown, surmounting 1 cell. Post-nodals 12 (f.w.), 10

(h.w.); R3 separates from R2 at 6th postnodal (f.w.), 5th (h.w.).

A b d o m e n. – I-VI light brown, VII entirely dark brown, VIII and IX basally black, distally brown, X brown. Genital valve pale brown, 1.4 mm, reaching slightly beyond X.

M e a s u r e m e n t s (in mm). – Abd. 29, h.w. 21.

VARIATION. – Among 5 paratype males: abd. 26-28, h.w. 17-19; postnodals 12-13 (f.w.), 10-11 (h.w.); R3 branches from R2 nearest 6-7th (f.w.), 5th (h.w.) postnodal. In all paratypes the dorsal pale stripes anterior of the ocelli are obscure; 2 paratypes have abdomen VI, VII laterally striped with black; 1 has X dorsally black. Among 5 paratype females: abd. 25-27, h.w. 18-19; postnodals 12-14 (f.w.), 11-12 (h.w.); R3 branches from R2 nearest 6-7th (f.w.), 5-6th (h.w.) postnodal. Female prothoracic horns not so tightly pressed against dorsum of the mid lobe as in the allotype.

REMARKS. – *T. watsoni* keys to near *vulnerata* but its paraproct is more elongate and more distinctly curved dorsad and the *watsoni* mesepimeron is not entirely black as in *vulnerata*. The *watsoni* appendages could suggest *livida*, a species with only VIII-X red rather than the entire abdomen red as in *watsoni*. The mesal cercal teeth are somewhat like those of *byersi*, *incolumis*, *salva* but these teeth are more proximal in *watsoni*, and *watsoni* lacks the lateral extension of the mesepisternal black of the others.

TELEBASIS WILLINKI FRASER

Figure 19

Telebasis willinki FRASER, 1948: 54.

This species is recorded only from Argentina, among the southernmost records for the genus. We examined 34 ♂, 24 ♀ from northeastern Argentina. Holotype and allotype were deposited in the Miguel Lillo Institute, Tucuman, Argentina; 3 ♂ paratypes are in BMNH.

Fraser stated that *willinki* differs from *filiola* by the shape of the posterior lobe of the prothorax, by the fewer postnodals and by the different shape of the prostigma. We could not substantiate such differences but these species can be separated by distribution, by characteristics given in our key and in our discussion of *filiola*. Fraser's description of the female does not mention prothoracic horns, which were minute in the specimens examined. BULLA (1970) described the larva and MUZON et al. (1990) studied population dynamics at the southernmost limits of the range of the species.

ACKNOWLEDGEMENTS

S. DUNKLE and R. GARRISON provided specimens, suggestions, and reviews of an early manuscript; their assistance made this project possible. Specimens, and/or information on types and/or nomenclature were provided by: S. BROOKS (BMNH), J. DE MARMELS (IZA), O. FLINT (USNM), B.

MAUFFRAY (IORI), M. O'BRIEN (UMMZ), J. RAWLINS (CMP), M. WESTFALL (FSCA). B. KIAUTA gave very helpful editorial comments. To all of these, our sincere appreciation for their kind help.

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