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PHILOGENIA COMPRESSA SPEC. NOV., A NEW DAMSELFLY FROM PERU (ZYGOPTERA: MEGAPODAGRIONIDAE)

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P. compressa sp. n. (holotype ♂; International Odonata Research Institute (IORI) collection, Gainesville, Florida, USA) is described from 1 ♂, 3 ♀ collected near Llachapa, NE of Iquitos, Loreto Department, Peru. The male paraprocts are apically rounded in lateral view, and compressed vertically, a unique shape in the genus. Females of *compressa* and *iquita* Dunkle are similar, but differ by sculpturing of prothorax and shape of ovipositor.

INTRODUCTION

BICK & BICK (1988) reviewed the males of the entirely Neotropical genus *Philogenia.* They treated 27 species, but excluded 2 known only from females, and *leonora* Westfall & Cumming which was thought to be a synonym of *championi* Calvert. MAY (1989) restored *leonora* to specific status. COOK (1989) added *redunca,* DONNELLY (1989) added *strigilis,* DUNKLE (1990) added *iquita,* and BROOKS (1989) added *peacocki* to the genus. With *compressa* described below, *Philogenia* now includes 35 species.

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Figures 1-5

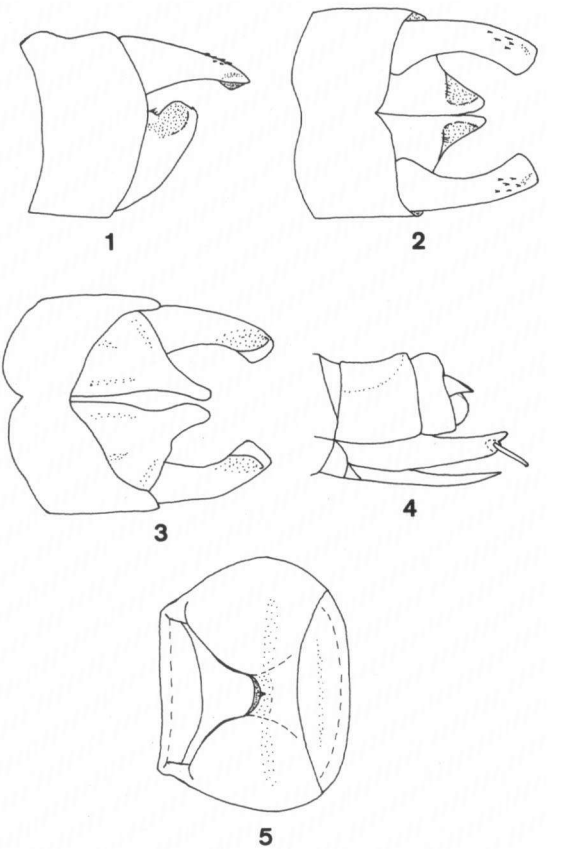
Material. — **Holotype** ♂: Peru, Loreto Department, Explornapo Camp at junction of Napo and Sucusari Rivers at Llachapa (3.16S, 72.54W), 14 July 1990, S.W. Dunkle. Deposited in International Odonata Research Institute (IORI) collection, Gainesville, Florida, USA. — First ♀ **allotype:** same data, deposited IORI. — Other **paratypes:** 1 ♀ same data; 1 ♀ same data except Explorama Lodge, 80 km NE Iquitos at junction of Amazon and Yanamono Rivers (3.00S, 72.80W), 28 Aug. 1989, both paratypes in S. Dunkle Collection. All preserved with acetone and stored dry in transparent envelopes.

Etymology. — Named for the vertically compressed male paraprocts.

Diagnosis. — Males distinctive by uniquely compressed and apical'y rounded paraprocts. Females have high dorsolateral bulges on middle lobe of prothorax, no corners on hind lobe of prothorax, and a long ovipositor with a straight ventral edge. Larva unknown.

MALE **holotype.** — Color pattern like that of most species of genus. In life, face below level of clypeus pale green and compound eyes black above, gray below. Frons black, vertex mottled brown. Antennae dark brown, basal 2/3 of pedical tan. Rear of head brown. Labial palps black, prementum black medially, tan laterally.

Prothorax brown dorsally, black laterally, rear edge evenly convex with slightly raised rim, but without lateral corners. Mesepisterna brown with black carinae. Each side of pterothorax tan with narrow black stripe on humeral suture and wide black separate stripes on mesepimeron, metepisternum, and metepimeron, the latter 3 stripes connected ventrally around bases of legs, remainder of underside of thorax tan. Legs tan with black armature, dark flexor surfaces, and dark extensor surfaces on forelegs. Venation as in other *Philogenia* spp. Wings hyaline with faintly brown tips, dark brown veins, and dark brown pterostigmata.



Figs 1-5. *Philogenia compressa* sp. n., (1-3) abdominal segment 10 in lateral, dorsal, and ventral views respectively of holotype male; — (4-5) ovipositor in lateral view, and prothorax in dorsal view of allotype female.

Abdomen black with tan lateral stripe on segments 1-3, tan basal ring-like

spots 4-7, and pruinose white dorsal surface on 9. Hamules and penis as in other *Philogenia* spp. Cerci in side view slightly arched with only a small triangular part of medial flange visible (Fig. 1), this flange more apparent in ventral view (Fig. 3); in dorsal view forcipate and truncate, but widely separate at tips (Fig. 2). Paraprocts in lateral view 2/3 as long as cerci, their posterodorsal extensions appearing compressed or pinched together vertically, and each with a minute tooth at tip (Fig. 1). Basodorsal 1/3 of paraproct with a transverse right-angled shelf (Figs 1, 2).

Measurements (mm): Total length including cerci 51, abdomen 40, hindwing 34.

FEMALE **allotype.** — Similar to male, but differs by: face below level of clypeus and compound eyes brown in life, black mesepimeral stripe absent dorsad of metraspiracle, metepimeral back stripe poorly developed, abdomen with interrupted pale lateral stripe on segments 1-7, abdomen without pruinosity but segment 9 white dorsally. Ovipositor extends beyond tips of cerci by almost length of cerci, its ventral edge straight (Fig. 4). Hind lobe of prothorax evenly convex without lateral corners, middle lobe with relatively high dorsolateral bulges, anterior edge of central apophyseal pit lower than posterior side which rises abruptly to nearly level of tops of bulges (Fig. 5). (Probably during tandem the male paraprocts fit between the dorsolateral bulges and press against the slope posterior to the apophyseal pit).

Measurements (mm): Total length 43, abdomen 34, hindwing 31.

Female **paratypes.** — Similar to allotype but hindwing of Camp female 32.5 mm, that female teneral with antennal scape and pterostigma tan.

COMPARISON WITH OTHER SPECIES

The unique male paraprocts of *compressa* make it difficult to relate this species to others of the genus, but it is perhaps most similar to *iquita.* The dorsal tooth on the paraproct of an *iquita*-like ancestor may have evolved into the rounded projection of *compressa,* or the reverse may have occurred. A direct comparison of the holotype males of these 2 species showed the following differences: antennal pedical banded in *compressa,* all dark in *iquita;* abdominal segment 9 shorter in *compressa,* 0.25X longer than segment 10, but 0.40X longer than 10 in *iquita;* very different abdominal appendages (see DUNKLE, 1990, figs 1-3).

Females of *compressa* and *iquita* differ by: antennal pedicel banded in *compressa,* all dark in *iquita;* posterior prothoracic lobe without a lateral corner in *compressa;* and middle prothoracic lobe abruptly higher on posterior side of apophyseal pit in *compressa,* gradually higher in *iquita* (see DUNKLE, 1990, fig. 4). The ovipositor valves of *compressa* are straighter along the ventral edge than in *iquita,* in which they are definitely convex ventrally.

Males of *compressa* key to *berenice* Higgins in BICK & BICK (1988). The

following emendation adds *compressa* to that key, MAY (1989) added *leonora* at couplet 3, and DUNKLE (1990) added *iquita at couplet 21.*

22 In ventral view, inferior appendages (paraprocts) strongly divergent ..... ***zeteki***
22' Inferiors convergent or not strongly divergent 22A
22A In lateral view, inferiors broadly rounded ..... ***compressa***
22A' In lateral view, inferiors pointed 23
23 In lateral view, inferiors curved dorsad at apex ..... ***berenice***
23' In lateral view, inferiors straight ..... ***rafaella***

BIOLOGY

Generally only one species of *Philogenia* occurs in a stream system, but in lowland rainforest at both the Explornapo Camp and Explorama Lodge, 3 species occurred: *berenice, compressa,* and *iquita.* All were found in the same habitats, and showed similar general behaviors, but might be partly isolated phenologically. Reproductive behavior has not been described for any *Philogenia,* nor have I seen individuals of any species in tandem, wheel position, or oviposition. Judging by where I collected both sexes, females must feed in forest undergrowth on the tops of ridges, then move down slope to oviposit in seepages at heads of streams. Males usually waited for females at the uphill edges of seepages, or even over soil up slope from the water when they had a fairly clear field of view. The general behavior of *iquita,* and the list of its associated Odonata, given in the biology section of DUNKLE (1990) also apply to *compressa.*

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