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THE FEMALE AND THE LARVA OF *AESHNA ANDRESI* RACENIS, 1958 (ANISOPTERA: AESHNIDAE)

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The adult female and the ultimate instar larva of this Venezuelan sp. are described and illustrated for the first time. The larva is compared with the similar *A. rufipes* Ris.

INTRODUCTION

Aeshna andresi Racenis is one of the rarer Venezuelan Aeshnidae. The beautiful skyblue species was described on the basis of a single male from the Central Coastal Cordillera (RACENIS, 1958). Two further males were recorded by DE MARMELS (1981a), from the same area, as well as the first female (DE MARMELS, 1981b). Only recently was the species detected also in the Central Venezuelan Andes (DE MARMELS, 1992). Here, several larvae and two adult females could be captured. Some of the larvae were reared to emergence.

A. andresi appears to be an inhabitant of the upper cloud forest and subparamo between 1800 and 2600 m. Adult females may occasionally be seen at lower elevations, even ovipositing (DE MARMELS, 1981b), but larvae were never found below 1800 m. The larvae live in small stony creeks with moderate current. Those from the Coastal Cordillera were taken even in a small cemented tank for water supply, in the subparamo. The tank and its small affluent were partly shaded by low trees and shrubs. In the Andean creeks also, the larvae thrive only at partly open spots, as e.g. the few meters of current at the very edge of the forest, at the road side or in small clearings. The dark interior of the forest, as well as fully exposed water currents, seem to be avoided by the larvae.

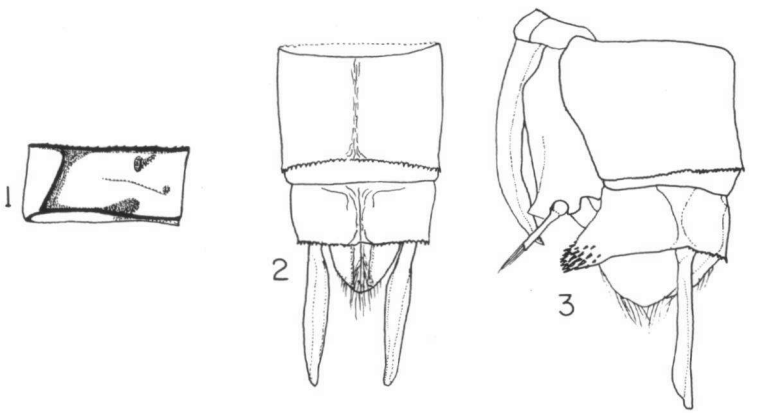
DESCRIPTION OF THE FEMALE

Figures 1-3

Material (3 ♀). – 1 ♀, Miranda, El Marques, Quebrada Pasaquire, 1000 m, 16-X-1982; – 2 ♀, Trujillo, road Boconó – Guaramacal, southern slope, 1800 m, 20-X-1991, all J. De Marmels leg.

Labium and labrum ferruginous; face blue green with a greyish to brown tint: frons blue above, without any "T" spot, but with a diffuse rufous basal line. Eyes in life blue above, grey to reddish below. – Pterothorax opaque turquoise blue, with no pattern, except for a black mark at inferior angle of each epimeron; sutures, rufous, ventral parts of thorax whitish pruinescent. Femora rufous, tip of femora, tibiae and tarsi black. Wings tinged yellow, pterostigma and membranula dark brown. Venation black, similar to that of the male: 3-5 supratriangular cross-veins, 19-23 antenodals (Ax) and 12-14 postnodals (Px) in the fore wings, 13-15 Ax and 14-16 Px in the hind wings. Anal loop enclosing 7-12 cells, in two or three rows. Abdomen robust, without constriction; segments 1-7 green blue dorsally, greyish rufous pruinescent ventrally: segments 8-10 brown black dorsally, ferruginous laterally; median carina and intersegmental membranes black, the rudimentary markings dark brown (as an example, segment 6 is illustrated in Figure 1); accessory longitudinal carinae descernible on segments 6-8. Cerci about as long as segment 9, brown black, narrowly lanceolate; supraanal plate strongly carinated (Figs 2-3).

Measurements (mm). – Total length (without cerci) 69-73.0; abdomen (excl. cerci) 51.5-54.0; cerci 3-3.8; hind wing 54.5-56.5; pterostigma (costal edge, fore wing) 3.3-4.2.



Figs 1-3. *Aeshna andresi* Racenis, female: (1) abdominal segment 6, left lateral view (No. 14399, Coastal Cordillera); – (2) tip of abdomen, dorsal view (No. 16145, Andes); – (3) same, left lateral view (No. 16146, Andes).

DESCRIPTION OF THE LARVA

Figures 4-11

Material. – (7 ♂, 7 ♀, of which 4 ♂, 6 ♀ ultimate instar larvae, preserved in alcohol; 3 ♂, 1 ♀ dry exuviae of reared specimens). – 2 ♂, 1 ♀. Distrito Federal, Avila, Lagunazo, 2200 m, 14-XI-1981; – 4 ♂, 6 ♀. Trujillo, road Boconó-Guaramacal, southern slope, 1800-2000 m, 27-VIII/3-IX and 17/21-X-1991, all J. De Marmels leg.

Extremely similar to the larva of *A. rufipes* Ris, described by DE MARMELS (1982). Antenna as in Figure 4. Simple comparison suggests that the labium of most *andresi* (Fig. 5) is stouter than that of *rufipes* (Fig. 12). However, concrete measurements show little difference (in mm): maximum length of prementum in *andresi* 7.9-8.8 (average 8.25), *rufipes* 7.9-8.6 (average 8.34). Labial palp in both species armed with a strong prominent terminal hook, which may be acute or truncate in *andresi* (Fig. 6 for *andresi*). A small denticle, which is lower than the palisade setae of the median lobe, is present on each side of the median cleft, the palisade setae surpassing these denticles somewhat in direction towards the cleft. Prothoracic supracoxal process as illustrated (Fig. 7). A pale mesepisternal band is discernible between mesostigma and wing sheaths in living larvae and dry exuviae (but not in alcohol preserved specimens!) of *andresi* (Fig. 8); this stripe is absent in *rufipes* (Fig. 13). Colour pattern of abdomen same in *andresi* and in *rufipes*. In most specimens, segments 6 and 7 remarkably paler dorsally than segments 5 and 8, at least in the middle (Fig. 9 for *andresi*). Both species have lateral spines on segments 6-9. The caudal pyramid is longer in both sexes of *andresi*: lateral edge of paraproct (in mm) 5.1-5.6 (average 5.4; shortest in specimens from Coastal Cordillera); *rufipes*: 4.5-5.0 (average 4.85). In *andresi*, the male projection is slightly shorter than broad at its base, while in *rufipes* these proportions are rather variable, but the projection is rarely "considerably longer than broad", as stated in my description of the larva of *rufipes* (DE MARMELS, 1982). The cerci in male *andresi* (Fig. 10) suggest, in dorsal view, to be clearly more slender than half the paraproct at the level of tip of male projection, while in male *rufipes* (Fig. 14) the cerci are inflated and appear to be thicker than half the paraproct, viewed from above. The ovipositor reaches to two fifths the length of segment 10, in both species (Fig. 11, for *andresi*).

Additional measurements (mm) for *A. andresi*. – Total length (♂) 41-48.5, (♀) 45.5-51.0; hind femur (♂) 7.6-8.3, (♀) 7.9-8.9; hind tibia (♂) 8.2-8.9, (♀) 8.4-9.3.

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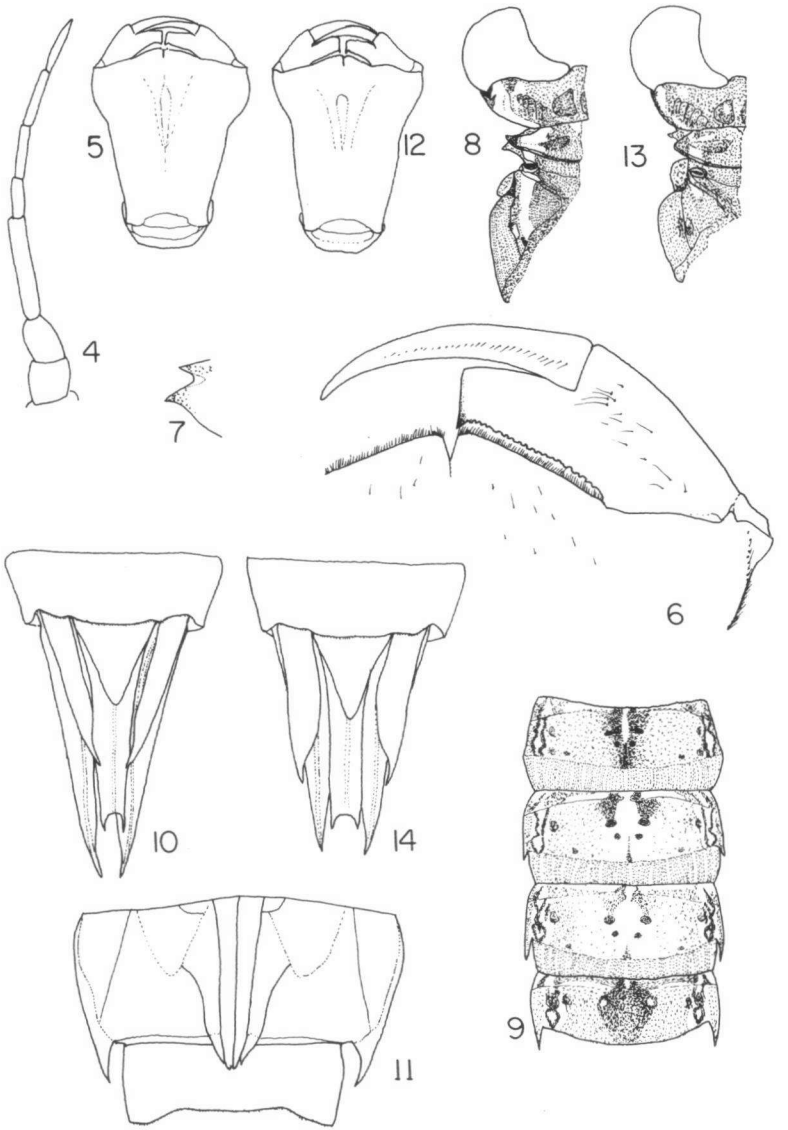

Figs 4-11. *Aeshna andresi* Racenis, ultimate instar larva: (4) right antenna of male exuviae (Andes); – (5) labium, ventral view (same specimen); – (6) right anterior portion of labium, dorsal view (female larva, Andes); – (7) left prothoracic supracoxal process, dorsal view (same male as above); – (8) left half of head and anterior part of thorax, dorsal view (same specimen); – (9) abdominal segments 5-8, dorsal view (same specimen); – (10) Caudal pyramid, dorsal view (same specimen); – (11) female gonapophyses, ventral view (exuviae, Andes). Figs 12-14: *A. rufipes* Ris, ultimate instar larva from Coastal Cordillera: (12) labium of male exuviae, ventral view; – (13) left half of head and anterior part of thorax, dorsal view (same specimen); – (14) Caudal pyramid, dorsal view (other male exuviae).

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