

THE LARVAE OF PATAGONIAN SPECIES OF THE GENUS *AESHNA* FABRICIUS (ANISOPTERA: AESHNÍDAE)

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The last larval instar of *Aeshna absoluta* Calvert 1952 and *A. confusa* Rambur 1842, as well as that of the light form of *Aeshna variegata* Fabricius, are described for the first time and compared with the other Patagonian larvae of this genus. They can be identified based on prementum width/length ratio, number of teeth on each side of the prementum median cleft, shape of prothoracic processes and relative length of the terminalia.

INTRODUCTION

From Patagonia, the southern portion of South America, five *Aeshna* species have been so far recorded: *A. absoluta* Calvert, *A. bonariensis* Rambur, *A. diffinis* Rambur, *A. confusa* Rambur and *A. variegata* Fabricius (VON ELLENRIEDER, 2001). The larvae of only three of the five are known. Calvert (1956) described the larva of *A. diffinis* based on exuviae from Chile. The third larval instar of *A. bonariensis* was described by ABENANTE (1978), and RODRIGUES CAPITULO (1980) provided a brief description for all the larval instars of this species. The last larval instar of *A. variegata* was described by MUZÓN & VON ELLENRIEDER (1997) from larvae collected in Patagonian forest environments. *A. absoluta* and *A. confusa* larvae are herein described for the first time, as well as the larvae of the light form of *A. variegata*. For the larvae previously described a brief redescription is provided, including some characters not considered by former workers.

MATERIAL AND METHODS

Specimens were reared in laboratory; the resulting exuviae and the dead larvae were preserved in 70 % ethanol. They are deposited in the Collection of Departamento Científico Entomología, Museo de La Plata, Argentina

(MLP). Material includes extralimital specimens; those of *A. confusa* and *A. bonariensis* are entirely described based on material from Buenos Aires province. Drawings were made with the aid of a net reticule. Measurements are given in mm.

KEY TO LAST LARVAL INSTAR OF PATAGONIAN *AESHNA* SPECIES

- 1 Two small blunt teeth on each side of prementum median cleft (Fig. 5) *A. confusa*
- One small blunt tooth on each side of prementum median cleft (Figs 3-4) 2
- 2 Straight angle between prothoracic apophyses, apices blunt (Fig. 12) *A. bonariensis*
- Acute angle between prothoracic apophyses, apices acute (Figs 11, 13-15) 3
- 3 Head maximum width 0.68-0.76 mm; ratio of inner margin length of inner gonapophyses/medio-ventral segment IX length 0.71-0.89 (Tab. I) 4
- Head maximum width 0.79-0.83 mm; ratio of inner margin length of inner gonapophyses/medio-ventral segment IX length equal to 1 (Tab. I) 5
- 4 Ratio of width/length prementum 0.91-0.97, prementum median lobe width 2.1-2.2 mm (Tab. I) *A. absoluta*
- Ratio of width/length prementum 0.88-0.91; prementum median lobe width 1.9 mm (Tab. I) *A. diffinis*
- 5 Ratio of epiproct/paraprocts length 0.58-0.65, male dorsal projection of epiproct as long as 0.53-0.56 epiproct length (Tab. I), apex of male dorsal projection of epiproct blunt (Fig. 20) *A. variegata* light form
- Ratio of epiproct/paraprocts length 0.68-0.82, male dorsal projection of epiproct as long as 0.32-0.34 epiproct length (Tab. I), apex of male dorsal projection of epiproct acute (Fig. 19) *A. variegata* dark form

AESHNA ABSOLUTA CALVERT, 1952

Figures 1, 3, 6, 11, 16, 21

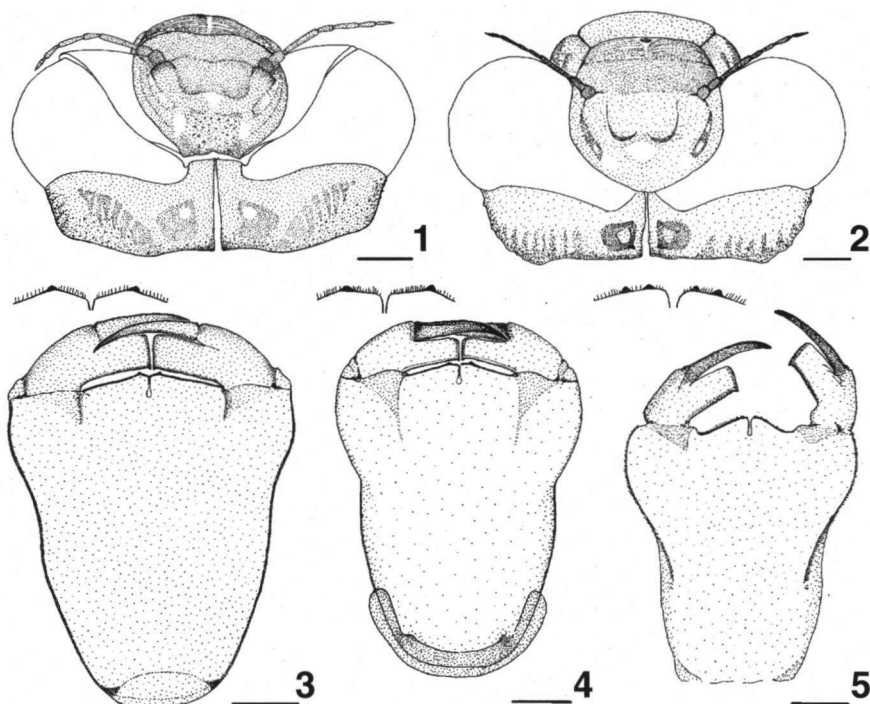
Material. — ARGENTINA: Río Negro, Valcheta, Vertiente Ea. El Rincón, 620 m, 40°59'24"S 66°40'36"W, Muzón, von Ellenrieder & Marino leg., 28/30-I-1999, 1 exuviae ♀ (emerg. in lab. I-A-13, MLP); Ramos Mexia, vertiente, 500 m, 40°29'50"S 67°15'48"W, Muzón & Marino leg., 30/31-I-1999, 1 exuviae ♀ (emerg. in lab. I-A-12, MLP); Buenos Aires, Bahía Blanca, Spinelli leg., XI-1981, 1 exuviae ♂ (emerg. in lab. I-A-25, MLP); Buenos Aires, Sierra de la Ventana, Villa Ventana, Arroyo Belisario, von Ellenrieder leg., 16-IX-1996, 5 exuviae: 2 ♂, 3 ♀ (emerg. in lab. I-A-21-I-A-6, MLP).

Head. — 0.5-0.61 times as long as maximum width. Anterior ocular margin 0.63-0.84 times as long as posterior margin. Vertex central area dark, laterally with small pale spots. Occiput with a dark spot and 7-9 dark stripes on each side of the medial line (Fig. 1). Antennae 7-segmented, the third antennomere the longest. Prementum (Fig. 3) almost as wide as long (0.91-0.97); border of medial lobe bearing a fringe of setae and a small blunt tooth, as long as the setae, on each side of median cleft. Labial palp with a small infraapical tooth, inner margin serrated (sensu CORBET, 1953), without defined denticles; movable tooth 1.2-1.5 times as long as palp inner margin. Mandibular formula (sensu WATSON, 1956, Fig. 6):

L 1 2 3 4 0 a b k

R 1 2 3 4 y a a' b k

Thorax. — Colour pattern as shown in Figure 21. Prothoracic apophyses apices acute, posterior one longer and broader at base than anterior one, cleft between them

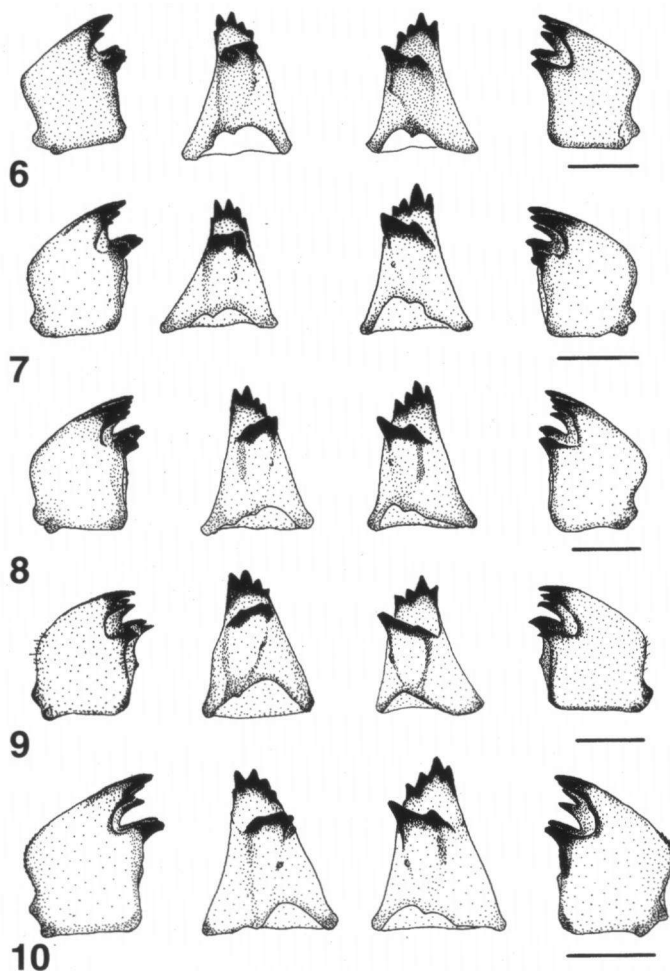


Figs 1-2. Patagonian *Aeshna* species, dorsal views of head (Figs 1-2) and of prementum (Figs 3-6): (1, 3) *A. absoluta*; — (2, 5) *A. confusa*; — (4) *A. diffinis*. — [Scale 1 mm]

an acute angle (Fig. 11); wing pads reaching caudad abdominal segment IV; femora and tibiae with four dorsal diffuse dark spots.

Abdomen. — Widest on segments VI-VII. The dorsal colour pattern of segments II-VIII and X comprises two pairs of reddish brown medial spots, dash or point-shaped, situated on two diffuse dark stripes thus leaving a pale medial area between them. A pair of laterodorsal small dark spots between medial ones and external margins of segment, one of them antero-externally, the other postero-internally. Segment IX with a pair of anteromedial small dark spots. Segments II-IX with a submarginal eight-shaped pale spot bordered by a dark stripe (Fig. 21). Lateral spines present on segments VI-IX, the VIII the longest. Female gonapophyses 0.71-0.87 times as long as segment IX ventral length. Ratio of cerci and epiproct/paraprocts length 0.52-0.64 and 0.62-0.79 respectively; epiproct with middorsal ridge and two apical short spines; male epiproct projection almost as wide as long (0.86-1), tip acute; cerci, paraprocts, epiproct and male dorsal projection of epiproct pale with dark tips (Fig. 16).

REMARKS. — The larva of *Aeshna absoluta* is difficult to differentiate from that of *A. diffinis*. I have found only the prementum width/length ratio and medial lobe



Figs 6-10. Mandibles in Patagonian *Aeshna* species. Left column: right mandible, posterior and inner views; – right column: left mandible, inner and posterior views: (6) *A. absoluta*; – (7) *A. bonariensis*; – (8) *A. diffinis*; – (9) *A. confusa*; – (10) *A. variegata*. – [Scale 1 mm]

width to differ, however, this is based on only a few specimens and examination of more specimens may show this character to be unreliable.

AESHNA BONARIENSIS RAMBUR, 1842

Figures 7, 12

Material. – ARGENTINA: Buenos Aires, Bahía Blanca, Spinelli leg., XI-1981, 1 exuviae ♀ (emerg. in lab. I-A-7, MLP); Los Talas, Perez Goodwyn leg., 8-X-1996, 1 exuviae ♀ (emerg. in lab. I-A-1, MLP); same

except von Ellenrieder & Perez Goodwyn leg., 3-XII-1997, 3 exuviae ♀ (emerg. in lab. I-A-30, I-A-34, I-A-35, MLP); Punta Lara, von Ellenrieder leg., 2-XII-1996, 1 exuviae ♂ (emerg. in lab. I-A-8, MLP); same except 23-VI-1997, 1 exuviae ♂ (emerg. in lab. I-A-36, MLP); same except 9-VIII-1997, 1 exuviae ♀ (emerg. in lab. I-A-24, MLP); same except 6-VIII-1997, 1 exuviae ♀ (emerg. in lab. I-A-26, MLP); same except 24-VIII-1997, 1 exuviae ♀ (emerg. in lab. I-A-21, MLP); same except 8-IX-1997, 1 exuviae ♂ (emerg. in lab. I-A-29, MLP); same except 11-X-1997, 1 exuviae ♀ (emerg. in lab. I-A-28, MLP); same except 14-XII-1997, 1 exuviae ♀ (emerg. in lab. I-A-32, MLP); same except 29-I-1998, 1 exuviae ♀ (emerg. in lab. I-A-10, MLP).

Head. — 0.44-0.58 times as long as maximum width. Anterior ocular margin 0.59-0.77 times as long as posterior margin. Colour pattern and antennae as for *A. absoluta* but occiput with a dark spot and 6-8 dark stripes on each side of medial line (as in Figs 1-2). Prementum 0.79-0.86 times as wide as long; border of medial lobe bearing a fringe of setae and a small blunt tooth, as long as the setae, on each side of median cleft. Labial palp with a small infraapical tooth, inner margin serrated (sensu CORBET, 1953), with 19-24 denticles; movable hook 1.31-1.77 times as long as palp inner margin. Mandibular formula (Fig. 7):

L 1 2 3 4 0 a b k

R 1 2 3 4 y a a' b k

Thorax. — Colour pattern as for *A. absoluta* (Fig. 21). Prothoracic apophyses apexes blunt, posterior one longer and broader at base than anterior one, cleft between them a straight angle (Fig. 12); wing pads reaching caudad abdominal segment IV; femora with four and tibiae with two dorsal dark spots at their base (95% of examined specimens) or femora and tibiae with four dorsal diffuse dark spots; all spots are best defined on legs I.

Abdomen. — Widest on segments VI-VII. Dorsal colour pattern as for *A. absoluta* (Fig. 21). Lateral spines present on segments VI-IX, the VIII and IX the longest. Female gonapophyses 0.73-0.9 times as long as segment IX ventral length. Ratio of cerci and epiproct/ paraprocts length 0.45-0.6 and 0.62-0.77 respectively; epiproct with a middorsal ridge and two apical short spines; male epiproct projection almost as wide as long (0.95-1.09), tip blunt; cerci, paraprocts, epiproct and male dorsal projection of epiproct pale with dark tips.

REMARKS. — The larva of *A. bonariensis* differs from all the other Patagonian larvae by its blunt prothoracic apophyses and orthogonal cleft between them.

AESHNA DIFFINIS RAMBUR, 1842

Figures 4, 8, 13, 17

Material. — ARGENTINA: Neuquén, Pulmarí, Podestá leg., I-1997, 1 exuviae ♂ (emerg. in lab. I-A-11, MLP); Río Negro, El Bolsón, Marino leg., 28-XI-1999, 1 exuviae ♀ (emerg. in lab. I-A-43, MLP).

Head. — 0.57-0.6 times as long as maximum width. Anterior ocular margin 0.64-0.8 times as long as posterior margin. Colour pattern and antennae as for *A. absoluta* (as in Fig. 1). Prementum (Fig. 4) almost as wide as long (0.88-0.91); border of medial lobe bearing a fringe of setae and a small blunt tooth, as long as the setae,

on each side of median cleft. Labial palp with a small infraapical tooth, inner margin serrated (*sensu* CORBET, 1953), without defined denticles; movable tooth 1.5-1.6 times as long as palp inner margin. Mandibular formula (Fig. 6):

L 1 2 3 4 0 a b k

R 1 2 3 4 y a a' b k

T h o r a x. — Colour pattern as shown in Figure 21. Prothoracic apophyses apices acute, posterior one longer and broader at base than anterior one, cleft between them an acute angle (Fig. 13); wing pads reaching caudad abdominal segment IV; femora and tibiae with two, three or four dorsal diffuse dark spots, or without spots.

A b d o m e n. — Widest on segments VI-VII. Dorsal colour pattern as for *A. absoluta* (Fig. 21). Lateral spines present on segments VI-IX, the VIII and IX the longest. Female gonapophyses 0.86 times as long as segment IX ventral length. Ratio of cerci and epiproct/ paraprocts length 0.52-0.54 and 0.62-0.7 respectively; epiproct with a middorsal ridge and two apical short spines; male epiproct projection almost as wide as long (0.89), tip acute; cerci, paraprocts, epiproct and male dorsal projection of epiproct pale with dark tips.

REMARKS. — Although CALVERT (1956) did not rear the larvae on which he based his description, they were likely *A. diffinis*, because this is the only *Neureclipsa* species recorded from that area (Valparaiso, Angol and Malleco, see VON ELLENRIEDER, 2000) and because the measurements he mentioned agree with those of the specimens reared in the present work.

AESHNA CONFUSA RAMBUR, 1842

Figures 2, 5, 9, 14, 18, 22

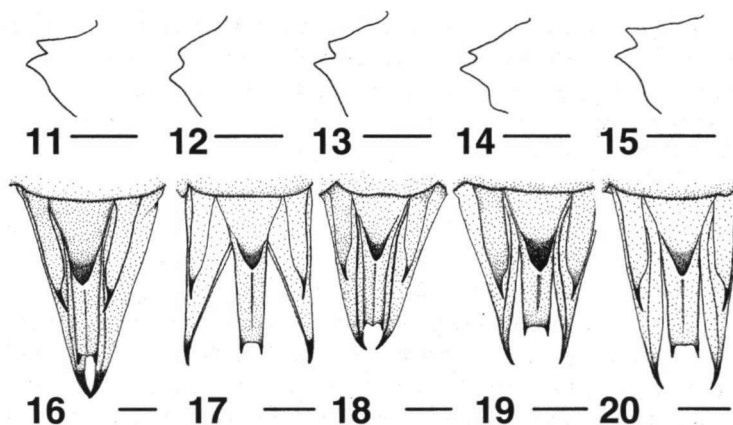
M a t e r i a l. — ARGENTINA, Buenos Aires, Punta Lara, von Ellenrieder & Perez Goodwyn leg., 9-VI-1997, 1 exuviae ♀ (emerg. in lab. I-A-27, MLP); same except 9-VIII-1997, 1 exuviae ♀ (emerg. in lab. I-A-33, MLP); same except 21-IX-1997, 1 larva ♂ (MLP); same except 17-X-1997, 1 larva ♂ (MLP); Los Talas, Perez Goodwyn leg., 17-X-1997, 1 larva, 2 exuviae ♀ (emerg. in lab. I-A-22, I-A-23, MLP); same except. von Ellenrieder & Perez Goodwyn leg., 3-XII-1997, 1 exuviae ♂ (emerg. in lab. I-A-31, MLP).

H e a d. — 0.58-0.69 times as long as maximum width. Anterior ocular margin 0.66-0.76 times as long as posterior margin. Dorsal colour pattern as for *A. absoluta* (Fig. 2). Prementum (Fig. 5) almost as wide as long (0.75-0.78); border of medial lobe bearing a fringe of setae and two small blunt teeth, as long as the setae, on each side of median cleft. Labial palp with a small infraapical tooth, inner margin serrated (*sensu* CORBET, 1953), with 17-23 small denticles; movable tooth 1.48-2.05 times as long as palp inner margin. Mandibular formula (Fig. 6):

L 1 2 3 4 0 a b k

R 1 2 3 4 y a a' b k

T h o r a x. — Colour pattern as shown in Figure 22. Prothoracic apophyses (Fig. 14) as in *A. diffinis*; wing pads reaching caudad abdominal segments IV-V; femur I with three, tibia I with two dark annular bands at basal 0.30; similar but more diffuse



Figs 11-20. Patagonian *Aeshna* species, dorsal views of left prothoracic apophyses (Figs 11-15) and of male terminalia (Figs 16-20): (11, 16) *A. absoluta*; — (12) *A. bonariensis*; — (13, 17) *A. diffinis*; — (14, 18) *A. confusa*; — (15, 19-20) *A. variegata*, 19: dark form, 20: light form. — [Scale 1 mm]

pattern present on legs II and III.

A b d o m e n . — Widest on segments VI-VII. Dorsal colour pattern as for *A. absoluta* but without dark spots on segment IX (Fig. 22). Lateral spines present on segments VI-IX, the VIII and IX the longest. Female gonapophyses 0.95-1 times as long as segment IX ventral length. Ratio of cerci and epiproct/ paraprocts length 0.52-0.7 and 0.73-0.9 respectively; epiproct with a middorsal ridge and two apical short spines; male epiproct projection almost as wide as long (0.93-1), tip blunt; cerci, paraprocts, epiproct and male dorsal projection of epiproct pale with dark tips.

REMARKS. — *Aeshna confusa* is easily identified by the two blunt teeth on each side of the prementum median lobe cleft and the greater convexity of the anterior margin of median lobe (Fig. 5).

AESHNA VARIEGATA FABRICIUS, 1775

Figures 10, 15, 19-20

Material. — *Dark form*: ARGENTINA: Santa Cruz, Lago del Desierto, mallín 3 km extremo Sur, 49°0.5'S 72°54'W, Spinelli & Basso leg., XI-1996, 1 exuviae ♂ (emerg. in lab. I-A-9, MLP); P.N. Los Alerces, Intendencia, Muzón leg., 3-I-1986, 1 exuviae ♂ (emerg. in lab. I-A-20, MLP); CHILE: de Los Lagos region, Palena, Lago Lonconao, camino a Futaleufú, charca, 430 m, Muzón leg., 17-I-1995, 1 exuviae ♀ (emerg. in lab. I-A-40, MLP); Aisén, P.N. Queulat, charca con mallín, Muzón leg., 25-I-1995, 3 exuviae ♂ (emerg. in lab. I-A-41/I-A-43, MLP); Araucanía, Malleco, Cordillera de Nahuelbuta, camino Piedra del Aguila-Cayucupil, vertiente y charco, 643 m, 37°48'15"S 72°52'2"W, von Ellenrieder leg., 3-II-1999, 1 exuviae ♀ (emerg. in lab. I-A-38, MLP). — *Light form*: ARGENTINA: Río Negro, Ramos Mexia, vertiente, 500 m, 40°29'50"S 67°15'48"W, Muzón & Marino leg., 30/31-I-1999, 1 exuviae ♀ (emerg. in lab. I-A-17, MLP), 1 exuviae ♂ (emerg. in lab. I-A-39, MLP); Ayo. El Caín, camino a Ruca Choroy, 1060 m, 41°43'38"S 68°10'42"W, Muzón & Marino leg., 3-II-1999, 1 exuviae ♀ (emerg. in lab. I-A-15, MLP); Rincón de Comi-Có, vertientes y arroyo, 1000 m, 41°8'35"S 67°27'35"W, Muzón & Marino leg., 31/I-1/II-1999, 1 exuviae ♂ (I-A-16, MLP).

Head. — 0.62-0.67 times as long as maximum width. Anterior ocular margin 0.66-0.8 times as long as posterior margin. Dorsal colour pattern and antennae as for *A. absoluta* (as in Fig. 1). Prementum almost as wide as long (0.85-0.89); border of medial lobe bearing a fringe of setae and a small blunt tooth, as long as the setae, on each side of median cleft. Labial palp with a small infraapical tooth, inner margin serrated (sensu CORBET, 1953), without defined denticles; movable tooth 1.33-1.5 times as long as palp inner margin. Mandibular formula (Fig. 6):

L 1 2 3 4 0 a b k

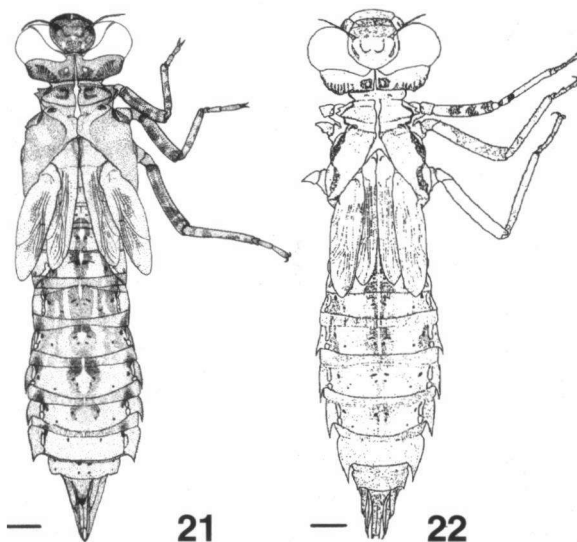
R 1 2 3 4 y a a' b k

Thorax. — Colour pattern as in *A. absoluta* (Fig. 21). Prothoracic apophyses as for *A. absoluta* (Fig. 10); wing pads reaching caudad abdominal segment IV; femora and tibiae with four dorsal diffuse dark spots.

Abdomen. — Widest on segments VI-VII. Colour pattern as for *A. absoluta* (Fig. 21). Lateral spines present on segments VI-IX, the VIII the longest. Female gonapophyses as long as segment IX ventral length. Ratio of cerci and epiproct/paraprocts length 0.56-0.62 and 0.58-0.68 respectively; epiproct with a middorsal ridge and two apical short spines; male epiproct projection almost as wide as long (0.86-1), tip blunt; cerci, paraprocts, epiproct and male dorsal projection of epiproct pale with dark tips (Fig. 20).

REMARKS. — SANTOS (1966) described the last larval instar of a species from Brejo da Lapa, Rio de Janeiro (Brazil), determined as *A. peralta*. MUZON & VON ELLENRIEDER (1997) pointed out differences between the description of this larva and that of *A. variegata*. Examination of adults from the same locality, determined as *A. peralta* by Santos, revealed the presence of a third *Hesperaeschna* species, to which the larva described by him belongs.

Adults hatching from larvae collected in Patagonian steppe and forest environments showed corresponding colour patterns and wing venation of either the light or dark form respectively (VON ELLENRIEDER, 2001). Some differences between the larvae are also found: *A.*



Figs 21-22. Dorsal general view: (21) *Aeshna absoluta*; — (22) *A. confusa*.
— [Scale 2 mm]

variegata larvae collected in the steppe are generally smaller than those from the forest although measurements partially overlap (Tab. I). They differ in epiproct/paraproct length and the ratio of male dorsal projection of epiproct/epiproct length, as well as in the shape of male epiproct projection apex, blunt in the light form and acute in the dark form (Figs 19-20).

The larva of *A. variegata* shares with that of *A. confusa* the greater head and prementum width and gonapophyses/segment IX length ratio values, but differs from it by the presence of a single tooth on each side of prementum median cleft.

FEATURES OF LAST LARVAL INSTAR PATAGONIAN *AESHNA* SPECIES

In brackets: number of specimens; — in square brackets: range; — ^R: after RODRIGUES CAPÍTULO, 1980; — ^C: after CALVERT, 1956.

Feature	<i>absoluta</i>	<i>bonariensis</i>	<i>diffinis</i>	<i>confusa</i>	<i>variegata</i> light form	<i>variegata</i> dark form
Head length	4.2 (8) [3.8-4.5]	3.9 (14) [3.3-4.4]	4.3 (2) [4.25-4.35] [4.91-5.24] ^C	5.32 (8) [4.2-5.5]	5.2 (4) [5-5.5]	5.03 (5) [4.7-5.6]
Head max. width	7.47(8) [7.3-7.6]	7.35 (14) [6.9-7.7] [6.6-7.2] ^R	7.3 (2) [7.2-7.4] [6.87-7.36] ^C	7.52 (8) [6.6-8.1]	8.2 (4) [8-8.3]	8.1 (5) [7.9-8.3]
♀ ant./post. ocular margin	0.82 (5) [0.8-0.84]	0.67 (12) [0.59-0.77]	0.64 (1)	0.69 (5) [0.66-0.74]	0.73 (2) [0.66-0.8]	0.71 (1)
♂ ant./post. ocular margin	0.63 (3) [0.63-0.64]	0.75 (2)	0.8 (1)	0.73 (3) [0.71-0.76]	0.69 (2) [0.68-0.7]	0.71(4) [0.67-0.75]
Premetum length	4.68 (8) [4.45-5]	4.85 (14) [4.5-5.2]	4.82 (2) [4.75-4.9]	5.32 (8) [5.25-5.7]	5.4 (4) [5.1-5.6]	5.3 (5)
Premetum max. width	4.55 (8) [4.25-4.7]	4.05 (14) [3.7-4.3]	4.35 (2) [4.2-4.5] [4.4-0.9] ^C	4.21 (8) [4-4.3]	4.72 (4) [4.5-5]	5.07 (5) [4.7-5.2]
Labial palp tooth length	1.52 (8) [1.4-1.65]	1.49 (14) [1.4-1.6] [1.1-1.3] ^R	1.62 (2) [1.5-1.75] [1.23-1.64] ^C	1.7 (8) [1.6-1.75]	1.71 (4) [1.6-1.8]	2 (5) [1.8-2.2]
Width inner margin lab. pl.	1.13 (8) [1.1-1.2]	0.96 (14) [0.85-1.1]	1.05 (2) [1-1.1]	1 (8) [0.85-1.15]	1.17 (4) [1.1-1.2]	1.18 (5) [1.1-1.3]
Premetum med. lobe width	2.17 (8) [2.1-2.2]	1.84 (14) [1.6-2]	1.9 (2)	1.98 (8) [1.85-2.15]	2.02 (4) [1.9-2.1]	2.21 (5) [2-2.4]
Teeth prem.	1	1	1	2	1	1

Feature	<i>absoluta</i>	<i>bonariensis</i>	<i>diffinis</i>	<i>confusa</i>	<i>variegata</i> light form	<i>variegata</i> dark form
Angle prot. ap.	acute	straight	acute	acute	acute	acute
Apex prot. ap.	acute	blunt	acute	acute	acute	acute
Inner wingpad length	7.02 (8) [6.3-7.5]	6.87 (14) [6.6-7.1]	6.82 (2) [6.8-6.85]	6.78 (8) [6.5-7.15]	7.47 (4) [7.3-7.8]	7.36 (5) [6.7-7.7]
Outer wingpad length	6.33 (8) [5.5-6.9]	6.16 (14) [5.9-6.4]	6.12 (2) [6-6.25]	5.7 (8) [4.9-6.25]	6.7 (4) [6.5-7]	6.76 (5) [6-7.3]
Femur I length	3.41 (8) [3-3.7]	3.31 (14) [3-3.6] 3.2 ^R	3.52 (2) [3.5-3.55]	3.56 (8) [3.45-3.7]	3.62 (4) [3.6-3.8]	3.98 (5) [3.7-4.3]
Femur II length	4.6 (8) [4.2-5]	4.48 (14) [4.2-4.6] 4 ^R	4.5 (2)	4.55 (8) [4.25-4.8]	4.8 (4) [4.5-5]	5.37 (5) [4.9-5.6]
Femur III length	5.6 (8) [4.75-6.2]	5.58 (14) [5.1-5.9] 5.2 ^R	5.5 (2) [5.4-5.6]	5.51 (8) [5.4-5.7]	5.78 (4) [5.6-6.05]	6.98 (5) [6.1-7.6]
Tibia I length	4.15 (8) [3.7-4.5]	4.06 (14) [3.7-4.3] 3.8 ^R	4.1 (2) [3.8-4.4]	4.26 (8) [4.1-4.5]	4.46 (4) [4.4-4.5]	4.78 (5) [4-5.2]
Tibia II length	4.38 (8) [4-4.6]	4.3 (14) [3.9-4.6] 4.1 ^R	4.15 (1) [4-4.3]	4.61 (8) [4.35-4.7]	4.71 (4) [4.45-4.8]	5.1 (5) [4.6-5.4]
Tibia III length	5.3 (8) [5.1-5.8]	5.17 (14) [4.7-5.5] 4.8 ^R	5.25 (2) [5.2-5.3]	5.07 (8) [5.35-5.7]	5.82 (4) [5.6-6]	6.42 (5) [5.4-7.2]
Seg. VI length	2.46 (8) [2.2-2.6]	2.83 (14) [2.5-3.2]	2.6 (2) [2.4-2.8]	2.59 (8) [2.2-3.2]	2.63 (4) [2.5-2.7]	3.06 (5) [2.8-3.3]
Seg. VII length	2.43 (8) [2.3-2.5]	2.62 (14) [2.3-3]	2.7 (2) [2.4-3]	2.5 (8) [2.1-3]	2.56 (4) [2.5-2.6]	3.1 (5) [2.7-3.4]
Seg. VIII length	2.12 (8) [1.9-2.3]	2.22 (14) [1.8-2.5]	2.22 (2) [2.15-2.3]	2.2 (8) [1.9-2.5]	2.36 (4) [2.2-2.5]	2.72 (5) [2.6-3.1]
Seg. IX length	1.7 (8) [1.6-1.8]	1.7 (14) [1.1-2]	1.7 (2)	1.74 (8) [1.65-1.9]	1.77 (4) [1.6-1.9]	2.22 (5) [2-2.4]
Seg. X length	1.05 (8) [0.75-1.2]	1.07 (14) [0.8-1.2]	1.12 (2) [1-1.25]	1.18 (8) [0.85-1.4]	1.2 (4) [1.1-1.3]	1.28 (5) [1.2-1.4]

Feature	<i>absoluta</i>	<i>bonariensis</i>	<i>diffinis</i>	<i>confusa</i>	<i>variegata</i> light form	<i>variegata</i> dark form
Seg. VI lateral spines length	0.3 (8)	0.42 (14) [0.3-0.5] 0.54 ^{R*}	0.22 (2) [0.2-0.25] [0.06-0.33] ^C	0.56 (8) [0.5-0.65]	0.23 (4) [0.2-0.3]	0.34 (5) [0.3-0.4]
Seg. VII lateral spines length	0.58 (8) [0.5-0.65]	0.78 (14) [0.6-0.9] 0.81 ^{R*}	0.52 (2) [0.45-0.6] [0.33-0.61] ^C	0.91 (8) [0.65-1.1]	0.46 (4) [0.35-0.5]	0.54 (5) [0.5-0.6]
Seg. VIII lateral spines length	0.78 (8) [0.6-0.9]	0.98 (14) [0.7-1.3] 0.86 ^{R*}	0.6 (2) [0.5-0.7] [0.37-0.74] ^C	1.16 (8) [0.9-1.3]	0.7 (4) [0.5-0.85]	0.86 (5) [0.8-1]
Seg. IX lateral spines length	0.68 (8) [0.5-0.85]	0.91 (14) [0.7-1.15] 1.14 ^{R*}	0.62 (2) [0.55-0.7] [0.5-0.82] ^C	1.15 (8) [0.9-1.5]	0.66 (4) [0.5-0.75]	0.68 (5) [0.6-0.8]
Cerci length	2.2 (8) [2-2.5]	2.06 (14) [1.8-2.3] 2 ^R	2.1 (2) [1.64-1.96] ^C	2.1 (8) [1.9-2.25]	2.36 (4) [2.3-2.55]	2.18 (5) [2-2.4]
Paraprocts length	3.9 (8) [3.4-4.4]	3.8 (14) [3.6-4.1] 3.6 ^R	3.92 (2) [3.85-4] [2.29-3.44] ^C	3.68 (8) [3.2-3.9]	4.05 (4) [4-4.1]	3.78 (5) [3.4-4.1]
Epiproct length	2.71 (8) [2.6-3]	2.7 (14) [2.3-2.8] 2.9 ^R	2.3 (2) [2.1-2.5] [2.54-2.95] ^C	2.86 (8) [2.7-3.1]	2.6 (4) [2.4-2.8]	2.78 (5) [2.7-2.9]
♂ epiproct dorsal projection length	1.4 (3) [1.2-1.5]	1.12 (14) [1.05-1.2] 0.58 ^R	1.4 (1) 1.39 ^C	1.31 (3) [1.2-1.4]	1.4 (2) [1.3-1.5]	0.92 (4) [0.9-1.1]
♂ epi. projection basal width	1.28 (3) [1.2-1.35]	1.1 (2)	1.2 (1)	1.26 (3) [1.15-1.35]	1.3 (2)	1.46 (4) [1.3-1.6]
♂ projection/ epiproct length	0.51 (8) [0.46-0.53]	0.44 (2) [0.43-0.45] 0.2 ^R	0.52 (1)	0.45 (3) [0.43-0.48]	0.54 (2) [0.53-0.56]	0.33 (4) [0.32-0.34]
Length inner gonapophyses	1.62 (5) [1.5-1.75]	1.82 (12) [1.7-2]	1.9 (1) [1.47-1.64] ^C	2.1 (5) [2-2.3]	2.05 (2) [2-2.1]	2 (2)
Gonapophyses / seg. IX length	0.8 (5) [0.71-0.87]	0.83 (12) [0.73-0.9] 0.8 ^R	0.86 (1) [0.87-0.89] ^C	0.97 (5) [0.95-1]	1 (2)	1 (2)
Body length	31.04 (8) [27.9-34.6]	29(14) [26.1-32.1] [25.8-31.8] ^R	32.2 (2) [30.3-34.1] [28.5-31] ^C	32.51 (8) [29.1-37.4]	34.63 (4) [32.8-37]	35.65 (5) [35-35.9]

CONCLUSIONS

Diagnostic characters for European *Aeshna* species used by BUTLER (1998), such as head and prementum shape and colour pattern of ocular and postocular areas, are similar for all Patagonian *Aeshna* species examined. Colour patterns are similar for all species and the intensity of dark areas and the extension of the dark spots vary for each species. Ratios of prementum, abdominal lateral spines and terminalia are diagnostic. The prothoracic supracoxal apophyses are diagnostic only as to their shape (acute or blunt) and the cleft between them (acute or orthogonal). The mandibular formula is the same for all the species studied, but the shape and relative length of the incisive teeth and molar crest differ for each species (Figs 6-10).

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