

## AN UPDATED CHECKLIST OF THE ODONATA FROM ARGENTINA

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An updated checklist of the Odonata spp. known to occur in Argentina is presented along with distributional information by province. 27 spp. are removed from previous listings, and 32 new records are added, bringing the total number of spp. to 271. Of the new records, 14 correspond to new spp. currently under description. The distribution of the 17 species presently known to be endemic to Argentina is mapped.

### INTRODUCTION

Our previous list from Argentina (MUZÓN & VON ELLENRIEDER, 1998) included 261 species, both described and undescribed. Although only seven new species occurring in Argentina have been described since then, several names mentioned earlier correspond to old records based on misidentified specimens. Numerous new records have been found during the last few years, and many genera of our fauna have been recently revised making it necessary to update the list in order to reflect the current name changes and synonymies.

All species mentioned in the current listing are either represented in a collection and were examined by us, or their occurrence in Argentina has been reliably demonstrated.

## SPECIES TO BE DELETED FROM THE ARGENTINE CHECKLIST

The previous records of the following 27 species were either based on misidentifications or mislabeled material, or have been shown to represent synonyms of other species:

*Hetaerina caja dominula* Hagen in Selys, 1853

FRASER (1948) recorded this species from Argentina based on a male from Misiones province.

According to the latest revision of this genus (GARRISON, 1990) the distribution area of *H. caja* does not reach S South America, and given the great similarity of *H. caja* with *H. rosea* this record is attributed to *H. rosea*.

*Allopodagrion macropus* (Selys, 1862)

Argentine records correspond to a new species (*Teinopodagrion meridionale* De Marmels, 2001).

*Peristicta misionera* Jurzitza, 1981

Synonymized with *P. aeneoviridis* by PESSACQ (2007)

*Acanthagrion ascendens* Calvert, 1909

Previous Argentine records correspond to a new species (*A. aepiolum* Tennessen, 2004).

*Acanthagrion leonardi* Jurzitza, 1980

Considered a synonym of *A. cuyabae* (LENCIONI, 2006)

*Argia clausenii* Selys, 1865

It was mentioned without locality for Argentina by LENCIONI (2006), but the record could not be verified and is considered here incorrect.

*Argia euphorbia* Fraser, 1946

It was mentioned without locality for Argentina by LENCIONI (2006), but the record could not be verified and is considered here incorrect.

*Argia pulla* Hagen in Selys, 1865

This species was mentioned without locality for Argentina by FRASER (1948); that record was most likely based on a mislabeled specimen, since its known distribution ranges from Mexico to Ecuador and N Brazil (R. W. Garrison, pers. comm.)

*Oxyagrion evanescens* Calvert, 1909

It was mentioned without locality for Argentina by LENCIONI (2006), but the record could not be verified and is considered here incorrect.

*Oxyagrion microstigma* Selys, 1876

It was mentioned without locality for Argentina by LENCIONI (2006), but the record could not be verified and is considered here incorrect.

*Phyllopetalia stictica* Hagen in Selys, 1858

Record from Argentina corresponds to a misidentified specimen of *P. pudu* according to VON ELLENRIEDER (2005)

*Anax longipes* Hagen, 1861

Record based on misidentified *Anax concolor* according to VON ELLENRIEDER (2001)

*Castoraeschna castor* (Brauer, 1865)

Record based on misidentified *C. januaria* according to VON ELLENRIEDER (2001)

*Limnetron debile* (Karsch, 1891)

Record from Argentina based on *L. antarcticum* (examined material from Misiones province)

*Rhionaeschna elsia* (Calvert, 1952)

Record based on misidentification according to VON ELLENRIEDER (2003)

*Rhionaeschna intricata* (Martin, 1908)

Record based on misidentification according to MUZÓN & VON ELLENRIEDER (2001)

*Triacanthagyna trifida* (Rambur, 1842)

Records based on misidentified *T. nympa* according to VON ELLENRIEDER & GARRISON (2003)

*Phyllocycla diphylla* Selys, 1854

Record of *Cyclophylla argentina diphylla* from Argentina by FRASER (1947) corresponds to *Phyllocycla argentina* according to BELLE (1988)

*Progomphus recticarinatus* Calvert, 1909

Record based on misidentified *P. complicatus* according to VON ELLENRIEDER & GARRISON (2008)

*Zonophora calippus spectabilis* Campion, 1920

Record introduced in error by NEEDHAM (1944) according to BELLE (1983)

*Gomphomacromia etcheverryi* Fraser, 1957

Synonymized with *G. paradoxa* by VON ELLENRIEDER & GARRISON (2005)

*Dythemis sterilis* Hagen, 1861

Old record probably in error (FRASER, 1947), since this species is distributed in N South America (Venezuela, Colombia, Ecuador, Peru)

*Dythemis velox* Hagen, 1861

Record from FRASER (1947) in error; specimen identified as such by him at FML corresponds to a female of *D. multipunctata*

*Erythemis haematogastra* (Burmeister, 1839)

It was mentioned without locality for Buenos Aires by RODRIGUES CAPÍTULO (1992), but the record could not be verified and is considered here incorrect.

*Macrodiplax balteata* (Hagen, 1861)

Record probably based on a mislabeled specimen, since this species has never been found south to Venezuela (GARRISON et al., 2006)

*Micrathyrina didyma* (Selys, 1857)

Records based on misidentified *M. venezuelae* (VON ELLENRIEDER & GARRISON, 2008) and *M. hypodidyma*

*Perithemis waltheri* Ris, 1910

Synonymized with *P. icteropectera* by VON ELLENRIEDER & MUZÓN (1999)

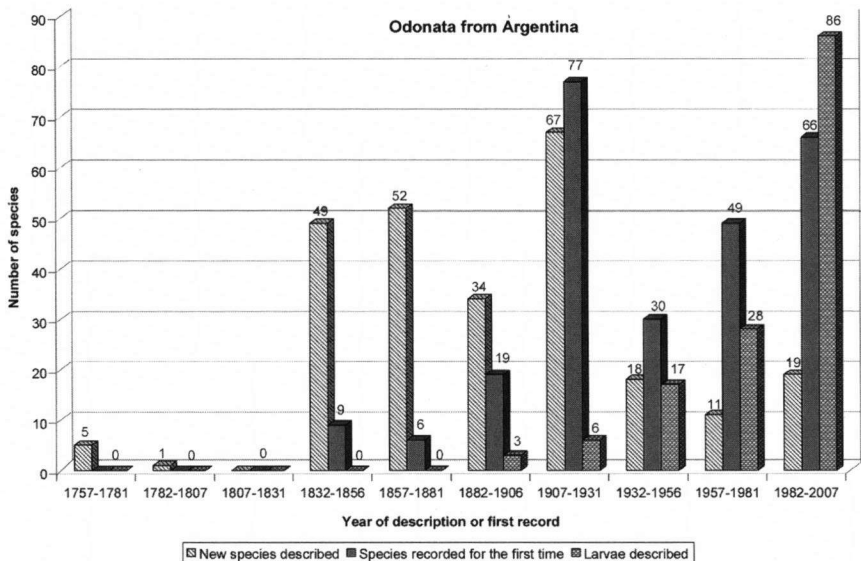


Fig. 1. Histogram showing number of Odonata species known to occur in Argentina in periods of 25 years: per year of description, first record from Argentina, and larval description.

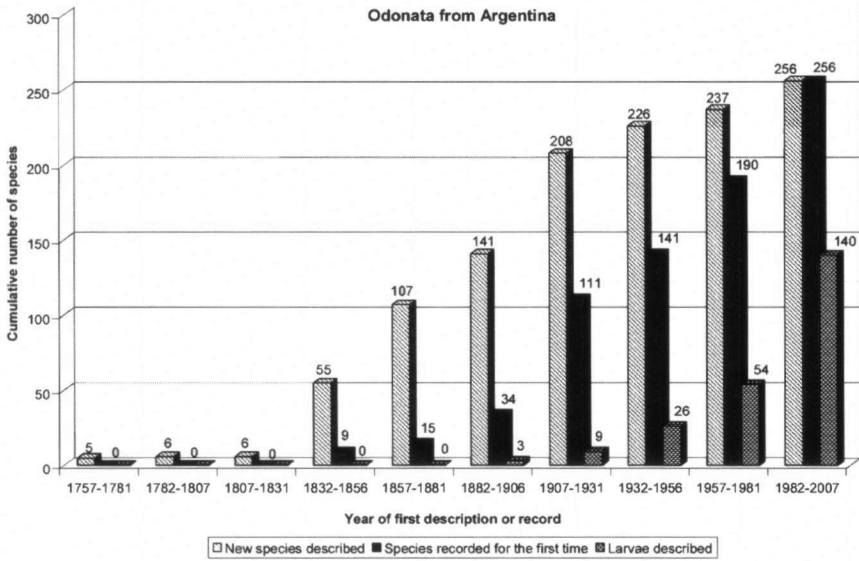


Fig. 2. Histogram showing cumulative number of Odonata species known to occur in Argentina in periods of 25 years: per year of description, first record from Argentina, and larval description.

### UPDATED CHECKLIST

Our current list includes 256 species described up to December 2006. Although the rate of description of new species occurring in Argentina has been low during the last century, with over half of its odonates already described at the beginning of the 1900's (Figs 1-2), there are still new species being discovered, of which we currently know of 14, bringing the total of known species to 271.

A major development over the last few decades has been an increase in the knowledge of the larval stage, which is crucial for the development of regional programs for conservation and management of wetlands. Approximately two thirds of the known larvae have been described during the last 25 years, and about half of them during the last 8 years (Fig. 2). At present, the last larval instar of approximately 53% of the Argentine species is known (Fig. 2).

#### CHECKLIST OF THE ODONATA OF ARGENTINA

Undescribed species are listed at the end of each family, marked by  $\emptyset$ ; - (L): Larva described; - ( $\nabla$ ): New record for a province; - (O): New record for Argentina; - (E): Endemic to Argentina.

Province names (see also Fig. 3): BA: Buenos Aires; - Ca: Catamarca; - Cb: Córdoba; - CH: Chaco; - Co: Corrientes; - Cu: Chubut; - ER: Entre Ríos; - Fo: Formosa; - Ju: Jujuy; - LP: La Pampa; - LR: La Rioja; - Me: Mendoza; - Mi: Misiones; - Ne: Neuquén; - RN: Río Ne-

gro; – Sa: Salta; – SJ: San Juan; – SL: San Luis; – SC: Santa Cruz; – SF: Santa Fe; – SE: Santiago del Estero; – TF: Tierra del Fuego; – Tu: Tucumán.

ZYGOPTERA [8 fam, 28 gen, 100 spp.] 41 L  
 DICTERIADIDAE [1 gen, 1 sp] 1 L  
*Heliocharis amazona* Selys, 1853 Mi, SF<sup>∇</sup> (L)

CALOPTERYGIDAE [2 gen, 10 spp.] 2 L  
*Hetaerina longipes* Hagen in Selys, 1853 Mi  
*Hetaerina mendezii* Jurzitza, 1982 Mi (L)  
*Hetaerina proxima* Selys, 1853 Mi  
*Hetaerina rosea* Selys, 1853 Sa, Ju, Tu, Mi, Co,  
 Cb, SE, ER, BA (L)  
*Hetaerina sanguinea* Selys, 1853 Sa  
*Mnesarete grisea* (Ris, 1918) Sa, Ju, Tu, Ca, LR  
 (L)  
*Mnesarete guttifera* (Selys, 1873) Mi  
*Mnesarete lencionii* Garrison, 2006 Mi ○  
*Mnesarete pruinosa* (Hagen in Selys, 1853) Mi  
*Mnesarete pudica pudica* (Hagen in Selys, 1853)  
 Mi

LESTIDAE [2 gen, 10 spp.] 7 L  
*Archilestes exoletus* (Hagen in Selys, 1862) Mi  
*Lestes auritus* Hagen in Selys, 1862 Mi  
*Lestes bipupillatus* Calvert, 1909 Mi, Ch (L)  
*Lestes dichrostigma* Calvert, 1909 Sa, Ju, Mi,  
 Co<sup>∇</sup> (L)  
*Lestes forficula* Rambur, 1842 Sa, Ju, Mi, SF  
 (L)  
*Lestes paulistus* Calvert, 1909 Mi, Co<sup>∇</sup>  
*Lestes pictus* Hagen in Selys, 1862 Sa, Ju, Mi,  
 Co<sup>∇</sup> (L)  
*Lestes spatula* Fraser, 1946 Sa, Ca<sup>∇</sup>, Mi, Co, Ch,  
 SE, ER, BA (L)  
*Lestes tricolor* Erichson, 1848 Mi (L)  
*Lestes undulatus* Say, 1839 Me, RN, ER, BA (L)

MEGAPODAGRIONIDAE [3 gen, 6 spp.] 2 L  
*Allopodagrion brachyurum* De Marmels, 2001  
 Mi ○  
*Allopodagrion contortum* (Hagen in Selys, 1862)  
 Mi  
*Allopodagrion erinys* Ris, 1913 Mi [E]  
*Heteragrion aurantiacum* Selys, 1862 Mi (L)  
*Heteragrion triangulare* Hagen in Selys, 1862 Mi  
*Teinopodagrion meridionale* De Marmels, 2001  
 Sa, Ju, Tu, Ca<sup>∇</sup> (L)

PSEUDOSTIGMATIDAE [1 gen, 3 spp.] 3 L  
*Mecistogaster amalia* (Burmeister, 1839) Mi

*Mecistogaster lucretia lucretia* (Drury, 1773) Mi  
*Mecistogaster ornata ornata* Rambur, 1842 Sa<sup>∇</sup>,  
 Ju (L)

POLYTHORIDAE [1 gen, 1 sp]  
*Chalcopteryx rutilans* (Rambur, 1842) Mi ○

PROTONEURIDAE [3 gen, 11 spp.] 2 L  
*Neoneura bilinearis* Selys, 1860 Sa ○  
*Neoneura ethela* Williamson, 1917 Mi, Co<sup>∇</sup>,  
 ER<sup>∇</sup>  
*Neoneura fulvicollis* Selys, 1886 Mi  
*Neoneura sylvatica* Hagen in Selys, 1886 Mi  
*Neoneura waltheri* Selys, 1886 Mi  
*Peristicta aeneoviridis* Calvert, 1909 Mi, Co<sup>∇</sup>,  
 ER (L)  
*Peristicta forceps* Calvert, 1909 Mi, Co, ER, BA  
 (L)  
*Peristicta lizeria* Navás, 1920 BA  
 ◇ Protoneuridae sp. Co  
 ◇ *Epipleoneura* sp. 1 Mi  
 ◇ *Epipleoneura* sp. 2 ER

COENAGRIONIDAE [15 gen, 58 spp.] 24 L  
*Acanthagrion ablutum* Calvert, 1909 Sa, Ju, Tu,  
 Ca, LR, SL, Mi, Cb (L)  
*Acanthagrion aepiolium* Tennessen, 2004 Sa<sup>∇</sup>,  
 Mi, Co<sup>∇</sup>, ER (L)  
*Acanthagrion cuyabae* Calvert, 1909 Mi, Fo<sup>∇</sup>,  
 Co<sup>∇</sup>, ER  
*Acanthagrion gracile* (Rambur, 1842) Mi, Co, ER  
*Acanthagrion hildegarda* Gloer, 1967 Mi, Cb,  
 SF, ER, BA (L)  
*Acanthagrion lancea* Selys, 1876 Sa, Ju, Tu, Ch,  
 Mi, Co, ER, SF, BA  
*Acanthagrion minutum* Leonard, 1977 Co ○  
*Acanthagrion peruvianum* Leonard, 1977 Sa<sup>∇</sup>,  
 Ju<sup>∇</sup>, Tu, SE, Cb<sup>∇</sup>  
*Acanthagrion temporale* Selys, 1876 Mi  
*Aeolagrion inca* (Selys, 1876) Fo ○  
*Andinagrion garrisoni* von Ellenrieder & Muzón,  
 2006 Sa, Ju, Tu (L) [E]  
*Andinagrion peterseni* (Ris, 1908) Sa, Tu, Ca, Me,  
 BA, Ne, RN, Cu<sup>∇</sup> (L) [E]  
*Andinagrion saliceti* (Ris, 1904) BA  
*Antiagrion grinbergi* Jurzitza, 1974 Ne  
*Argia albistigma* Hagen in Selys, 1865 Mi, ER<sup>∇</sup>  
*Argia croceipennis* Selys, 1865 Mi

- Argia hasemani* Calvert, 1909 Mi  
*Argia joergenseni* Ris, 1913 Sa, Ju, Tu, Ca, SJ, SL, Cb (L)  
*Argia jujuya* Ris, 1913 Sa, Ju, Tu, Ca<sup>∇</sup> [E]  
*Argia lilacina* Selys, 1865 Mi  
*Argia mollis* Hagen in Selys, 1865 Mi  
*Argia reclusa* Selys, 1865 Mi  
*Argia serva* Hagen in Selys, 1865 Mi  
*Argia translata* Hagen in Selys, 1865 Sa<sup>∇</sup>, Ju (L)  
*Argia yungensis* Garrison & von Ellenrieder, 2007 Sa, Ju  
*Cyanallagma bonariense* (Ris, 1913) Cb<sup>∇</sup>, ER, BA (L)  
*Cyanallagma interruptum* (Selys, 1876) Me, Ne, RN, Cu, SC (L)  
*Cyanallagma nigrinuchale* (Selys, 1876) Mi  
*Enallagma novaehispaniae* Calvert, 1907 Sa, Ju, SE (L)  
*Helveciagrion obsoletum* (Selys, 1876) Fo, Mi, Co ◊  
*Helveciagrion simulacrum* (Calvert, 1909) Co ◊  
*Homeoura ambigua* (Ris, 1904) Sa<sup>∇</sup>, Tu, Fo, Ch, Mi, Co, SF, ER, BA (L)  
*Homeoura chelifera* (Selys, 1876) Sa, Ju<sup>∇</sup>, Tu, Fo, Ch, Mi, Co, ER, SF, BA (L)  
*Homeoura lindneri* (Ris, 1928) Co<sup>∇</sup>, Ch, ER<sup>∇</sup>, SF, BA  
*Ischnura capreolus* (Hagen, 1861) Sa, Ju, Tu<sup>∇</sup>, Mi, Co, ER, SF, BA (L)  
*Ischnura fluviatilis* Selys, 1876 Sa, Ju, Tu, Ca, Fo, Ch, Mi, Co, ER, SE, Cb, SF, BA, LR, SJ, Me, Ne, RN (L)  
*Ischnura ultima* Ris, 1908 Sa, Ju, Tu, Me, Cb (L) [E]  
*Oxyagrion basale* Selys, 1876 Mi (L)  
*Oxyagrion brevistigma* Selys, 1876 Mi  
*Oxyagrion bruchi* Navás, 1924 Sa<sup>∇</sup>, Ju<sup>∇</sup>, Tu<sup>∇</sup>, Cb (L)  
*Oxyagrion chapadense* Costa, 1978 Mi, Co, Cb, BA (L)  
*Oxyagrion hempeli* Calvert, 1909 Mi, Cb, BA (L)  
*Oxyagrion rubidum* (Rambur, 1842) Sa, Ju, Co<sup>∇</sup>, ER, SE, Cb, SF, BA, Me, Ne, RN, Cu (L)  
*Oxyagrion terminale* Selys, 1876 Mi, Co, ER, SF, BA (L)  
*Protallagma titicacae* (Calvert, 1909) Sa<sup>∇</sup>, Ju (L)  
*Telebasis carmesina* Calvert, 1909 Sa, Mi  
*Telebasis carminita* Calvert, 1909 SF  
*Telebasis inalata* (Calvert, 1961) Ju ◊  
*Telebasis limoncocha* Bick & Bick, 1995 Sa<sup>∇</sup>, Ju<sup>∇</sup>, Mi, Co<sup>∇</sup>, ER<sup>∇</sup>  
*Telebasis theodori* (Navás, 1934) Mi  
*Telebasis willinki* Fraser, 1948 Sa<sup>∇</sup>, Ju<sup>∇</sup>, Tu, Co<sup>∇</sup>, Fo, Ch, SF, BA (L)  
*Tigriagrion aurantigrum* Calvert, 1909 Sa, Mi  
 ◊ *Acanthagrion* sp. Co  
 ◊ *Ischnura* sp. Me  
 ◊ *Leptagrion* sp. Mi  
 ◊ *Telebasis* sp. Co  
 ◊ *Coenagrionidae* sp. Co  
 ANISOPTERA [7 fam, 50 gen, 172 spp] 100 L  
 PETALURIDAE [1 gen, 1 sp] 1 L  
*Phenes raptor* Rambur, 1842 Ne (L)  
 AUSTROPETALIIDAE [1 gen, 1 sp]  
*Phyllopetalia pudu* Dunkle, 1985 Ne, RN<sup>∇</sup>  
 AESHNIDAE [10 gen, 28 spp] 20 L  
*Anax amazili* (Burmeister, 1839) Sa, Tu<sup>∇</sup>, Mi, Co, Ch<sup>∇</sup>, SE<sup>∇</sup>, SF, ER, BA, LP<sup>∇</sup> (L)  
*Anax concolor* Brauer, 1865 Mi (L)  
*Andaeschna rufipes* (Ris, 1918) Ju (L)  
*Castoraeschna decurvata* Dunkle & Cook, 1984 Cb, ER (L) [E]  
*Castoraeschna januaria* (Hagen, 1867) Mi  
*Coryphaeschna adnexa* (Hagen, 1861) Sa, Ju<sup>∇</sup>, Tu<sup>∇</sup>, Mi, Co, Ch, SF<sup>∇</sup>, ER<sup>∇</sup> (L)  
*Coryphaeschna perrensi* (McLachlan, 1887) Ju, Mi, Co, Cb<sup>∇</sup>, SF, BA<sup>∇</sup> (L)  
*Gynacantha adela* Martin, 1909 Sa<sup>∇</sup>, Ju, Mi  
*Gynacantha bifida* Rambur, 1842 Ju, Tu<sup>∇</sup>, Mi, Co, SF, BA<sup>∇</sup> (L)  
*Gynacantha convergens* Förster, 1908 Ju  
*Gynacantha gracilis* (Burmeister, 1839) Mi (L)  
*Limnetron antarcticum* Förster, 1907 Mi  
*Remartinia luteipennis luteipennis* (Burmeister, 1839) Sa, Ju, Mi (L)  
*Rhionaeschna absoluta* (Calvert, 1952): Sa, Ju<sup>∇</sup>, Tu<sup>∇</sup>, Ca<sup>∇</sup>, LR<sup>∇</sup>, Me, SJ<sup>∇</sup>, SE<sup>∇</sup>, Cb<sup>∇</sup>, SF<sup>∇</sup>, ER<sup>∇</sup>, BA<sup>∇</sup>, LP<sup>∇</sup>, Ne, RN, Cu, SC (L)  
*Rhionaeschna bonariensis* (Rambur, 1842) Sa, Ju, Tu, Ca, LR, SJ, Ch, Fo<sup>∇</sup>, Mi, Co, ER, SF, SE, Cb, BA, Me, RN (L)  
*Rhionaeschna confusa* (Rambur, 1842) Tu<sup>∇</sup>, Mi, ER, SF, Cb, Me, BA (L)  
*Rhionaeschna diffinis* (Rambur, 1842) Ne, RN, Cu (L)

- Rhionaeschna fissifrons* (Muzón & von Ellenrieder, 2001) Sa, Ca  
*Rhionaeschna haarupi* (Ris, 1908) Sa, Tu, Ca<sup>∇</sup>, Me [E]  
*Rhionaeschna pallipes* (Fraser, 1947) Sa, Tu, Ca, LR<sup>∇</sup>, Cb, SF<sup>∇</sup>, Me<sup>∇</sup>, BA (L) [E]  
*Rhionaeschna planaltica* (Calvert, 1952) Sa, Ju, Tu, Ca, Mi, Cb, BA<sup>∇</sup> (L)  
*Rhionaeschna psilus* (Calvert, 1947) Sa (L)  
*Rhionaeschna variegata* Fabricius, 1775 Sa<sup>∇</sup>, Ju<sup>∇</sup>, Tu, Ca<sup>∇</sup>, Me, Ne, Rn, Cu, SC, TF<sup>∇</sup> (L)  
*Rhionaeschna vigintipunctata* (Ris, 1918) Sa, Ju, Tu, Ca, LR<sup>∇</sup>  
*Staurophebia bosqi* Navás, 1927 BA (L) [E]  
*Staurophebia reticulata reticulata* (Burmeister, 1839) Mi, Co<sup>∇</sup> (L)  
*Triacanthagyna nympha* (Navás, 1933) Mi, Co, BA (L)  
 ♠ *Limnetron* sp. Sa, Ju
- GOMPHIDAE [11 gen, 29 spp.] 15 L  
*Aphylla dentata* Selys, 1859 SF, ER, BA (L)  
*Aphylla distinguenda* (Campion, 1920) Mi, BA  
*Aphylla producta* Selys, 1854 Sa, Mi, Co<sup>∇</sup>, SE (L)  
*Aphylla theodorina* (Navás, 1933) Mi, Co<sup>∇</sup> (L)  
*Archaeogomphus densus* Belle, 1982 Mi  
*Cyanogomphus waltheri* Selys, 1873 Mi  
*Epigomphus paludosus* Hagen in Selys, 1854 Mi, SE (L)  
*Gomphoides praevia* St. Quentin, 1967 Mi  
*Neogomphus edenticulatus* Carle & Cook, 1984 Ne, Cu (L)  
*Neogomphus molestus* (Hagen in Selys, 1854) Ne, Cu (L)  
*Phyllocyca argentina* (Hagen in Selys, 1878) Sa, Ju<sup>∇</sup>, Mi, Co, Cb, SF, BA (L)  
*Phyllocyca basidenta* Dunkle, 1987 Sa, Ju<sup>∇</sup>  
*Phyllocyca propinqua* Belle, 1972 Mi (L)  
*Phyllocyca vesta* Belle, 1972 BA [E]  
*Phyllocyca viridipleuris* (Calvert, 1909) Sa, Mi, ER (L)  
*Phyllogomphoides andromeda* (Selys, 1869) Mi (L)  
*Phyllogomphoides joaquina* Rodrigues Capitulo, 1992 BA (L) [E]  
*Progomphus aberrans* Belle, 1973 Mi, Co<sup>∇</sup>, Cb, ER<sup>∇</sup>  
*Progomphus auropictus* Ris, 1911 Mi [E]  
*Progomphus australis* Belle, 1973 ER [E]  
*Progomphus basistictus* Ris, 1911 Mi  
*Progomphus complicatus* Selys, 1854 Sa, Ju<sup>∇</sup>, Tu<sup>∇</sup>, Mi (L)  
*Progomphus joergenseni* Ris, 1908 Sa, Tu, Ca, SJ<sup>∇</sup>, Cb, Me, Ne, RN [E]  
*Progomphus kimminsi* Belle, 1973 Sa, Ju, Tu  
*Progomphus lepidus* Ris, 1911 Mi (L)  
*Progomphus phyllochromus* Ris, 1918 Sa, Ju, Tu (L)  
*Tibiagomphus noval* (Rodrigues Capitulo, 1985) ER (L) [E]  
*Tibiagomphus uncatus* (Fraser, 1947) Mi, ER  
*Zonophora diversa* Belle, 1983 Mi
- NEOPETALIIDAE [1 gen, 1 sp.] 1 L  
*Neopetalia punctata* (Hagen in Selys, 1854) Ne (L)
- CORDULIIDAE [3 gen, 5 spp.] 2 L  
*Gomphomacromia fallax* McLachlan, 1881 Sa  
 ○  
*Gomphomacromia nodisticta* Ris, 1928 Sa, Ca [E]  
*Gomphomacromia paradoxa* Brauer, 1864 Ne, RN<sup>∇</sup>, Cu (L)  
*Neocordulia setifera* (Hagen in Selys, 1871) Mi (L)  
*Rialla villosa* (Rambur, 1842) Ne, RN, Cu (L)
- LIBELLULIDAE [23 gen, 107 spp.] 65 L  
*Brachymesia furcata* (Hagen, 1861) Sa, Tu<sup>∇</sup>, Mi, Co, ER, SE (L)  
*Brachymesia herbida* (Gundlach, 1889) Mi, Co<sup>∇</sup> (L)  
*Brechmorhoga nubecula* (Rambur, 1842) Sa, Ju, Mi (L)  
*Brechmorhoga praedatrix* Calvert, 1909 Mi (L)  
*Brechmorhoga vivax* Calvert, 1906 Sa, Ju, Tu, Mi (L)  
*Cannaphila vibex* (Hagen, 1861) Sa, Ju, Tu, Ca (L)  
*Dasythemis mincki clara* Ris, 1908 Sa, SL<sup>∇</sup>, Cb, ER, RN (L)  
*Dasythemis mincki mincki* (Karsch, 1890) Mi (L)  
*Dasythemis venosa* (Burmeister, 1839) Mi (L)  
*Diastatops intensa* Montgomery, 1940 Mi, Co<sup>∇</sup>, Cb, ER<sup>∇</sup>  
*Diastatops obscura* (Fabricius, 1775) Mi, Co<sup>∇</sup>, Cb (L)

- Diastatops pullata* (Burmeister, 1839) Co, Ch, SF, BA<sup>∇</sup> (L)
- Dythemis multipunctata multipunctata* Kirby, 1894 Sa<sup>∇</sup>, Ju, Tu<sup>∇</sup>, SL, Mi, BA (L)
- Edonis helena* Needham, 1905 Co
- Elasmothemis cannacrioides* (Calvert, 1906) Sa, Ju, Tu<sup>∇</sup>, Mi (L)
- Elasmothemis constricta* (Calvert, 1898) Mi (L)
- Erythemis attala* (Selys, 1857) Sa, Ju, Fo, Mi, Co, Ch, SF, ER, BA (L)
- Erythemis credula* (Hagen, 1861) Co (L)
- Erythemis mithroides* (Brauer, 1900) Mi<sup>∇</sup>, Co, Fo<sup>∇</sup>, Cb, SF (L)
- Erythemis peruviana* (Rambur, 1842) Mi, Co, Fo<sup>∇</sup>, Ch, ER (L)
- Erythemis plebeja* (Burmeister, 1839) Sa, Tu<sup>∇</sup>, Fo<sup>∇</sup>, Ch, Mi, Co, ER, SE, SF, BA (L)
- Erythemis vesiculosa* (Fabricius, 1775) Sa, Ju, Tu, Mi, Co, Fo<sup>∇</sup>, Cb, SE, SF, BA (L)
- Erythrodiplax anomala* (Brauer, 1865) Mi, BA (L)
- Erythrodiplax atroterminata* Ris, 1911 Sa, Mi, Co, Ca, SJ, SL, Cb, BA, RN
- Erythrodiplax basalis* (Kirby, 1897) Mi, SE<sup>∇</sup> (L)
- Erythrodiplax castanea* (Burmeister, 1839) Mi
- Erythrodiplax chromoptera* Borrór, 1942 Mi, Co<sup>∇</sup>
- Erythrodiplax connata* (Burmeister, 1839) Ne, RN, Cu
- Erythrodiplax corallina* (Brauer, 1865) Sa, Ju<sup>∇</sup>, Tu, Ca<sup>∇</sup>, LR<sup>∇</sup>, SJ<sup>∇</sup>, Me<sup>∇</sup>, Co<sup>∇</sup>, SE, Cb, LP, BA, Ne, RN, Cu
- Erythrodiplax fumula* (Erichson, 1848) Mi
- Erythrodiplax fusca* (Rambur, 1842) Mi, Co, Ch<sup>∇</sup>, ER, SF, BA (L)
- Erythrodiplax juliana* Ris, 1911 Mi, ER (L)
- Erythrodiplax latimaculata* Ris, 1911 Mi (L)
- Erythrodiplax lativittata* Borrór, 1942 Mi
- Erythrodiplax lygaea* Ris, 1911 Mi (L)
- Erythrodiplax media* Borrór, 1942 Sa<sup>∇</sup>, Ju, Tu<sup>∇</sup>, Mi, Co<sup>∇</sup>, ER<sup>∇</sup>, RN<sup>∇</sup>
- Erythrodiplax melanorubra* Borrór, 1942 Sa<sup>∇</sup>, Ju<sup>∇</sup>, Tu<sup>∇</sup>, Mi, Co<sup>∇</sup>, ER, SE<sup>∇</sup>, BA (L)
- Erythrodiplax nigricans* (Rambur, 1842) Mi, Co, ER, Ch, SE, Ca, LR, Me, SF, BA, Ne, RN (L)
- Erythrodiplax ochracea* (Burmeister, 1839) Mi, Co, Fo, Ch, SF, BA, Ne (L)
- Erythrodiplax paraguayensis* (Förster, 1905) Mi, Co, ER, Fo<sup>∇</sup>, Ch, Cb, BA (L)
- Erythrodiplax umbrata* (Linnaeus, 1758) Sa, Ju, Tu, Fo, Ch, Mi, Co, ER, SF, Ca, LR, BA (L)
- Idiataphe longipes* (Hagen, 1861) Co ○
- Libellula herculea* Karsch, 1889 Sa<sup>∇</sup>, Ju, Mi (L)
- Macrothemis declivata* Calvert, 1909 Mi
- Macrothemis hemichlora* (Burmeister, 1839) Mi
- Macrothemis heteronycha* (Calvert, 1909) Co
- Macrothemis hahneli* Ris, 1913 Sa, Ju, Tu ○ (L)
- Macrothemis imitans imitans* Karsch, 1890 Sa, Ju, Tu<sup>∇</sup>, Ca<sup>∇</sup>, Mi, Co<sup>∇</sup>, SE<sup>∇</sup>, ER, Cb
- Macrothemis inacuta* Calvert, 1898 Sa, Fo ○ (L)
- Macrothemis marmorata* Hagen, 1868 Mi
- Macrothemis musiva* Calvert, 1898 Mi, Sa<sup>∇</sup> (L)
- Macrothemis polynœura* Ris, 1913 Mi
- Macrothemis tenuis* Hagen, 1868 Mi
- Macrothemis tessellata* (Burmeister, 1839) Mi, BA (L)
- Miathyria marcella* (Selys, 1857) Sa, Tu<sup>∇</sup>, LR<sup>∇</sup>, Fo, Ch, Mi, Co, ER, SE, SF, BA (L)
- Micrathyria artemis* Ris, 1911 Mi (L)
- Micrathyria athenais* Calvert, 1909 Mi, ER
- Micrathyria atra* (Martin, 1897) Mi, Sa<sup>∇</sup> (L)
- Micrathyria catenata* Calvert, 1909 Sa<sup>∇</sup>, Ju, Mi, Co
- Micrathyria debilis* (Hagen, 1861) ER, SF
- Micrathyria dido* Ris, 1911 Mi
- Micrathyria eximia* Kirby, 1897 Co<sup>∇</sup>
- Micrathyria hesperis* Ris, 1911 Sa, Tu, Ch<sup>∇</sup>, Mi, Co, ER, SE (L)
- Micrathyria hypodidyma* Calvert, 1906 Sa<sup>∇</sup>, Ju, Tu<sup>∇</sup>, Fo<sup>∇</sup>, Ch, Mi, Co, ER, BA (L)
- Micrathyria longifasciata* Calvert, 1909 Sa, Ju, Tu, Fo<sup>∇</sup>, Ch, Co, ER, SF, SE, ME, BA (L)
- Micrathyria ocellata dentiens* Calvert, 1909 Sa, Ju (L)
- Micrathyria pseudeximia* Westfall, 1992 Co ○
- Micrathyria ringueleti* Rodrigues Capitulo, 1988 BA (L)
- Micrathyria spuria* (Selys, 1900) Co<sup>∇</sup>, ER (L)
- Micrathyria tibialis* Kirby, 1897 Fo<sup>∇</sup>, Co<sup>∇</sup> (L)
- Micrathyria unguolata* Förster, 1907 Sa, Ju<sup>∇</sup>, Mi, ER, Cb<sup>∇</sup>, SL<sup>∇</sup>, BA (L)
- Micrathyria venezuelae* De Marmels, 1989 Sa, Ju ○
- Nephepeltia aequisetis* Calvert, 1909 Fo, Co ○
- Nephepeltia flavifrons* (Karsch, 1889) Co
- Nephepeltia phryne phryne* (Perty, 1834) Mi (L)
- Oligoclada haywardi* Fraser, 1947 Mi [E]
- Oligoclada laetiitia* Ris, 1911 Fo<sup>∇</sup>, Mi, ER<sup>∇</sup> (L)



- Orthemis aequilibris* Calvert, 1909 Sa <sup>○</sup>(L)  
*Orthemis ambinigra* Calvert, 1909 Mi, Co<sup>∇</sup>, BA  
*Orthemis ambirufa* Calvert, 1909 Mi, Co, ER  
*Orthemis cultriformis* Calvert, 1899 Mi  
*Orthemis discolor* (Burmeister, 1839) Sa, Ju<sup>∇</sup>, Tu, Ca<sup>∇</sup>, Cha, Mi, Co, SF, SL, Me, BA  
*Orthemis nodiplaga* Karsch, 1891 Sa, Tu, Ca<sup>∇</sup>, Fo<sup>∇</sup>, Ch, Mi, Co, ER, SE<sup>∇</sup>, SF, SL, Me, BA (L)  
*Pantala flavescens* (Fabricius, 1798) Sa, Ju, Tu, Ca<sup>∇</sup>, Fo<sup>∇</sup>, Mi, Co, ER, SF, SL, Me, BA (L)  
*Pantala hymenaea* (Say, 1839) Tu, Ca, LR<sup>∇</sup>, Mi<sup>∇</sup>, Me (L)  
*Perithemis icteroptera* (Selys, 1857) Sa<sup>∇</sup>, Mi<sup>∇</sup>, ER, BA (L)  
*Perithemis lais* (Perty, 1834) Mi, Co<sup>∇</sup>  
*Perithemis mooma* Kirby, 1889 Sa, Ju, Tu, Mi, Co, ER, Cb, SE, SF, BA (L)  
*Perithemis thais* Kirby, 1889 Mi (L)  
*Planiplax erythropyga* (Karsch, 1891) ER, BA  
*Sympetrum gilvum* (Selys, 1884) Sa, Ju, Tu, Ca<sup>∇</sup>, SL<sup>∇</sup>, Cb (L)  
*Sympetrum villosum* Ris, 1911 Ne, RN, Cu (L)  
*Tauriphila argo* (Hagen, 1869) Mi, Co (L)  
*Tauriphila risi* Martin, 1896 Tu<sup>∇</sup>, Ch<sup>∇</sup>, Co, ER, SF, SE, Cb, BA (L)  
*Tauriphila xiphea* Ris, 1913 Co  
*Tholymis citrina* Hagen, 1867 Sa, Ju<sup>∇</sup>, Tu<sup>∇</sup> (L)  
*Tramea abdominalis* (Rambur, 1842) Sa, Ju, Mi (L)  
*Tramea binotata* (Rambur, 1842) Sa, Mi, Co (L)  
*Tramea calverti* Muttkowski, 1910 Sa<sup>∇</sup>, Ju, Ca, Mi, Co (L)  
*Tramea cophysa* Hagen, 1867 Sa, Tu<sup>∇</sup>, Ca, Fo<sup>∇</sup>, Mi, Co, ER, SE, BA (L)  
*Tramea rustica* De Marmels & Rácenis, 1982 Mi  
*Uracis imbuta* (Burmeister, 1839) Mi<sup>∇</sup>, BA  
*Zenithoptera lanei* Santos, 1941 Mi  
 ◇ *Erythrodiplax* sp.1 Co, ER  
 ◇ *Erythrodiplax* sp. 2 Sa, Ju, Tu, Ca, LR  
 ◇ *Micrathyria* sp. 1 Co  
 ◇ *Micrathyria* sp. 2 Sa

## DISTRIBUTIONAL DATA

Field work during the last few years has been carried out mainly in the NE (Corrientes and Entre Rios provinces) and NW (Salta and Jujuy provinces), with the discovery of numerous new records. The best known areas correspond to Buenos Aires province, Patagonia (southern half of the country N to Mendoza and La Pampa), NE Argentina, including Misiones, Corrientes and Entre Rios provinces, and NW Argentina, encompassing Jujuy, Salta and Tucumán provinces. There are still several areas that have been very poorly sampled, including the provinces of Formosa, Chaco, La Pampa and San Juan, and some others that were sampled only partially, such as Catamarca, La Rioja, San Luis, Córdoba, Santiago del Estero and Santa Fe provinces (Fig. 3).

Although Argentina is a large country (2,780,400 km<sup>2</sup>) the number of resident odonate species is relatively low compared to other neotropical countries (equal to that of Costa Rica, much smaller in size; RAMIREZ et al., 2000), because much of its territory is included in a region that is either temperate and cold or relatively dry. Its richest areas are found in the northern subtropical provinces (Fig. 3), which house over two thirds of the total number of species, most of them widely distributed in the Neotropical region and reaching their southern limit of distribution in Argentina. Although the odonates found in the southern half of the country comprise just a few species (35 recorded for Patagonia; MUZÓN et al., 2005), they are of particular interest because they include many endemic to S



Fig. 3. Map of Argentina, showing provinces with code used in checklist and number of odonate species known to occur per province indicated in parenthesis.

Chile and SW Argentina (families Austropetaliidae, Neopetaliidae, Petaluridae, genera *Antiagrion*, *Neogomphus* and *Rialla*), and several of them show affinities to taxa from Australia and New Zealand.

There are 17 species so far known to occur only in Argentina, and for which five areas of endemism can be identified (Fig. 4): (1) Misiones province (*Allopodagrion erinys* Ris, 1913, *Progomphus auropictus* Ris, 1911, *Oligoclada haywardi* Fraser, 1947); (2) NW provinces of Jujuy, Salta, Tucuman and Catamarca (*Andinagrion garrisoni* von Ellenrieder & Muzón, 2006, *Argia jujuya* Ris, 1913, *Gomphomacromia nodisticta* Ris, 1928); (3) E slope of the Andes and hill and plateaus systems of the N half of the country south to Buenos Aires and Rio Negro provinces (*Andinagrion peterseni* (Ris, 1908), *Ischnura ultima* Ris, 1908, *Rhionaeschna haarupi* (Ris, 1908), *Rhionaeschna pallipes* (Fraser, 1947), *Progomphus joergenseni* Ris, 1908); (4) Córdoba and Entre Rios provinces (*Castoraeschna decurvata* Dunkle & Cook, 1984), and (5) Delta of the Paraná river in Entre Rios and Buenos Aires provinces (*Phyllocycla vesta* Belle, 1972, *Phyllogomphoides joaquina* Rodrigues Capítulo, 1992, *Progomphus australis* Belle, 1973, *Tibiagomphus noval* (Rodrigues Capítulo, 1985), *Staurophlebia bosqi* Navás, 1927). These five areas agree partially with the biogeographical divisions proposed for Argentina (CABRERA & WILLINK, 1980; MORRONE, 1999). Area 1 would be enclosed in the Paranaense province, area 4 in the Espinal province, and area 5 in the Pampean province, but areas 2 and 3 extend over more than one biogeographical province (Fig. 4). Of the endemic species, *Allopodagrion erinys* and *Oligoclada haywardi* are known only from their original descriptions, and *Staurophlebia bosqi*, *Phyllocycla vesta*, *Progomphus auropictus*, *Progomphus australis* and *Tibiagomphus noval* are known only from restricted areas (MUZÓN & VON ELLENRIEDER, 1999).

This updated checklist is still preliminary, as prospecting for odonates in both unknown and in relatively well known areas will most likely reveal new records and new species for Argentina, and several new species are already currently being described. In spite of the considerable advances observed during recent years, the larval stage of almost half of the species remains unknown, and much more research is needed in order to describe them and thus allow for construction of reliable keys.

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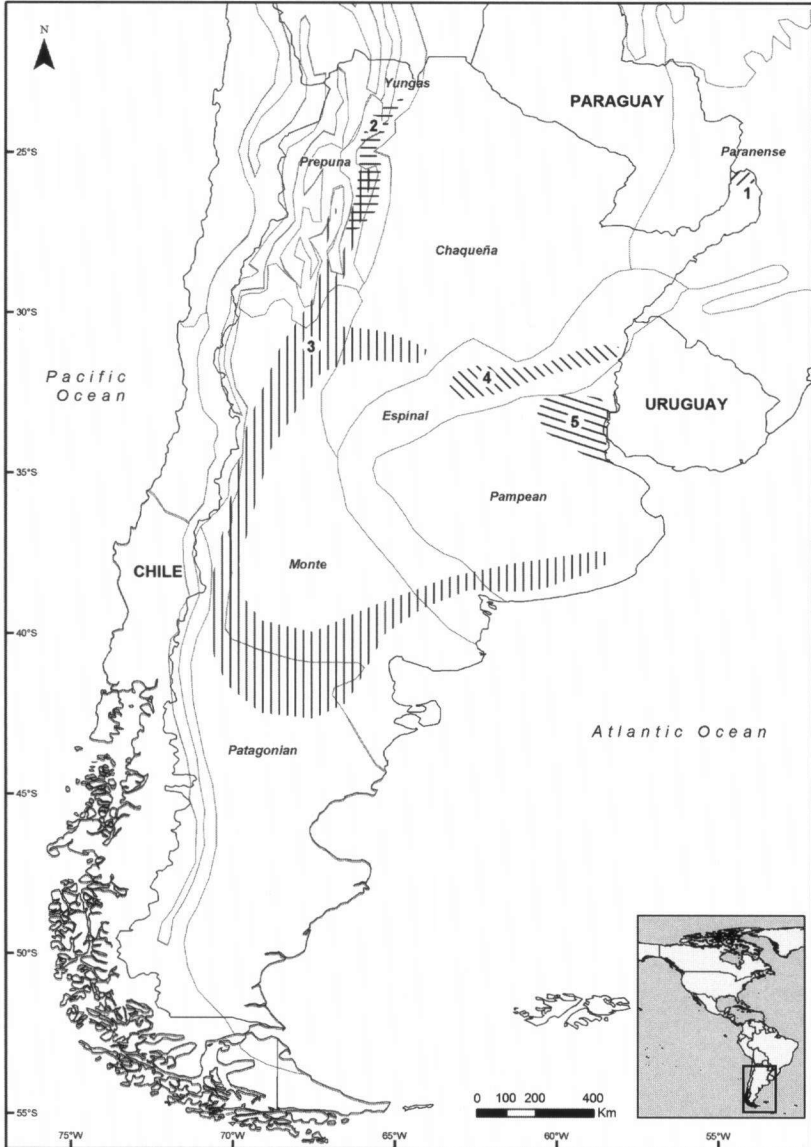


Fig. 4. Map of Argentina, showing five areas (hatched) with endemic species: 1. for *Allopodagrion erinus*, *Progomphus auropicus*, *Oligoclada haywardi*, 2. for *Andinagrion garrisoni*, *Argia jujuya*, *Gomphomacromia nodisticta*, 3. for *Andinagrion peterseni*, *Ischnura ultima*, *Rhionaeschna haarupi*, *Rhionaeschna pallipes*, *Progomphus joergenseni*, 4. for *Castoraeschna decurvata*, and 5. for *Phyllocycla vesta*, *Phyllogomphoides joaquina*, *Progomphus australis*, *Tibiagomphus noval*, *Staurophebia bosqi*. Grey outline: biogeographic provinces.

## REFERENCES

- BELLE, J., 1983. A review of the genus *Zonophora* Selys (Odonata, Gomphidae). *Tijdschr. Ent.* 126(7/8): 145-173.
- BELLE, J., 1988. A synopsis of the species of *Phyllocyca* Calvert, with descriptions of four new taxa and a key to the genera of neotropical Gomphidae (Odonata, Gomphidae). *Tijdschr. Ent.* 131: 73-102.
- CABRERA, A.L. & A. WILLINK, 1980. *Biogeografía de América Latina*. Secretaría General O.E.A., (Biol.), Washington D.C.
- DE MARMELS, J., 2001. *Revision of Megapodagrion Selys, 1886 (Insecta, Odonata: Megapodagrionidae)*. Diss. Univ. Zürich.
- FRASER, F.C., 1947. The Odonata of the Argentine Republic 1. *Acta zool. lilloana* 4: 427-462.
- FRASER, F.C., 1948. The Odonata of the Argentine Republic 2. *Acta zool. lilloana* 5: 47-67.
- GARRISON, R.W., 1990. A synopsis of the genus *Hetaerina* with descriptions of four new species (Odonata: Calopterygidae). *Trans. Am. ent. Soc.* 116(1): 175-259.
- GARRISON, R.W., N. VON ELLENRIEDER & J.A. LOUTON. 2006. *The dragonfly genera (Odonata: Anisoptera) of the New World: an illustrated and annotated key*. Johns Hopkins Univ. Press, Baltimore.
- LENCIONI, F.A.A., 2006. *Damselflies of Brazil. An illustrated identification guide, 2: Coenagrionidae*. All Print Editora, São Paulo.
- MORRONE, J.J., 1999. Presentación preliminar de un nuevo esquema biogeográfico de América del Sur. *Biogeographica* 75(1): 1-16.
- MUZON, J. & N. VON ELLENRIEDER, 1998. Odonata. In: J.J. Morrone & S. Coscarón, [Eds], *Biodiversidad de Artrópodos argentinos*. Museo de La Plata.
- MUZON, J. & N. VON ELLENRIEDER, 1999. Status and distribution of Odonata (Insecta) within natural protected areas in Argentina. *Biogeographica* 75(3): 119-128.
- MUZON, J. & N. VON ELLENRIEDER, 2001. Revision of the subgenus *Aeshna* (Marmaraeschna) Calvert (Anisoptera, Aeshnidae). *Int. J. Odonatol.* 4(2): 93-124.
- MUZON, J., G.R. SPINELLI, P. PESSACQ, N. VON ELLENRIEDER, A.L. ESTEVEZ, P.I. MARINO, P.J. PEREZ GOODWYN, E.B. ANGRISANO, F. DIAZ, L.A. FERNANDEZ, S. MAZZUCCONI, G. ROSSI & O.D. SALOMÓN, 2005. Insectos acuáticos de la Meseta de Somuncurá, Patagonia, Argentina. Inventario preliminar. *Revta Soc. ent. argent.* 64(3/4): 47-68.
- NEEDHAM, J.G., 1944. Further studies on neotropical Gomphinae (Odonata). *Trans. Am. ent. Soc.* 69: 171-224.
- RAMIREZ, A., D.R. PAULSON & C. ESQUIVEL, 2000. Odonata of Costa Rica: diversity and checklist of species. *Revta Biol. trop.* 48(1): 247-254.
- RODRIGUES CAPITULO, A. 1992. Los Odonata de la República Argentina (Insecta). *Fauna de agua dulce de la República Argentina* 34(1): 1-91.
- PESSACQ, P., 2007. *Peristicta aeneoviridis* Calvert 1909 and *P. forceps* Hagen in Selys 1860: redescription and new synonymies. *Odonatologica* 36(2): 207-218.
- TENNESSEN, K.J., 2004. *Acanthagrion aepiolum* sp. nov. from South America (Odonata: Coenagrionidae). *Int. J. Odonatol.* 7(1): 79-86.
- VON ELLENRIEDER, N., 2001. Species composition and distribution patterns of the Argentine Aeshnidae (Odonata: Anisoptera). *Revta Soc. ent. argent.* 60(1/4): 39-60.
- VON ELLENRIEDER, N., 2003. A synopsis of the Neotropical species of *Aeshna* Fabricius: genus *Rhionaeschna* Förster (Odonata: Aeshnidae). *Tijdschr. Ent.* 146: 67-207.
- VON ELLENRIEDER, N., 2005. Taxonomy of the South American genus *Phyllopetalia* (Odonata: Austropetaliidae). *Int. J. Odonatol.* 8(2): 311-352.
- VON ELLENRIEDER, N. & R.W. GARRISON, 2003. A synopsis of the genus *Triacanthagyna*

- (Odonata: Aeshnidae). *Int. J. Odonatol.* 6(2): 147-184.
- VON ELLENRIEDER, N. & R.W. GARRISON, 2005. A synopsis of the South American genus *Gomphomacromia* (Odonata: Libellulidae). *Int. J. Odonatol.* 8(1): 81-96.
- VON ELLENRIEDER, N. & R.W. GARRISON, 2008. Dragonflies and damselflies (Insecta: Odonata) of the Argentine Yungas: species composition and identification. *Scientific Reports, Societa Zoologica 'La Torbiera', Italy*. [in press]
- VON ELLENRIEDER, N. & J. MUZÓN, 1999. The Argentinean species of the genus *Perithemis* Hagen (Anisoptera: Libellulidae). *Odonatologica* 28(4): 1-14.