

# Annotated bibliography of odonatological literature from continental Portugal, Madeira, and the Azores (Odonata)

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## Abstract

An annotated bibliography of odonatological literature from Portugal is presented, comprising 144 references from the years 1797 to 2005.

## Resumo

Neste trabalho é apresentada para Portugal uma lista bibliográfica odonitológica, constituída por 144 referências, com datas compreendidas entre 1797 e 2005.

## Zusammenfassung

Es wird eine kommentierte Auflistung des Schrifttums zu den Libellen Portugals vorgelegt, die 144 Arbeiten aus den Jahren 1797 bis 2005 umfasst.

## Introduction

Portugal is one of the most poorly investigated countries in western and central Europe regarding Odonata. This is a most astonishing fact as Portugal constitutes a "hot spot" between western palaeartic and palaeotropic faunas, making it – from a faunistic point of view – one of the most interesting European regions. Influxes of afrotropical species that today are regarded as regular part of the European fauna, as *Diplacodes lefebvreii* or *Brachythemis leucosticta*, have been recorded in Portugal for the very first time on the continent (ANON. 1910, MOURA 1960). Other potential palaeotropic candidates to become future members on the checklist of European Odonata – e.g., *Platycnemis subdilatata* or *Trithemis kirbyi ardens* – will probably establish their first bridgeheads within Europe in Portugal or neighbouring Andalusia, if ever. On the other hand, it

is currently still unclear whether the westernmost distribution ranges of some palaeartic species extend to Portugal or not – examples are *Ischnura elegans*, *Gomphus vulgatissimus* or *Sympetrum vulgatum ibericum*. Consequently, the Portuguese fauna still holds a satisfactory amount of potential surprises to stimulate the exploratory urge of odonatologists.

By providing an up-to-date, commented bibliography of odonatological literature from Portugal, our goal was to support future research on Odonata in the country as an according documentation constitutes an essential basic for this task. We tried to gather all available primary literature references on Odonata from continental Portugal and the archipelagoes of Madeira and the Azores, which politically belong to Portugal. Besides, we also took a number of studies into consideration, which do not provide primary references, but that we regard as important for odonatology in Portugal. However, to keep things as simple as possible, we decided not to include any reference that provides only not meaningful or unusable data. This concerned chiefly a number of studies providing only Odonata families or genera on checklists of invertebrate macrozoobenthos organisms. Regarding "grey" literature, i.e., unpublished diploma theses or research reports, we tried to include every reference that we were able to trace. In this context we would highly appreciate any information on relevant literature that is not included in the bibliography.

Acronyms of museum collections used in the comments:

BMNH: Natural History Museum, London, United Kingdom  
DSFL: Direção Geral dos Serviços Florestais e Aquícolas, Lisbon, Portugal  
MZCP: Museu Zoológico da Universidade de Coimbra, Coimbra, Portugal  
ZMHB: Museum für Naturkunde, Humboldt-Universität, Berlin, Germany  
ZSMC: Zoologische Staatssammlung München, Munich, Germany

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## Bibliography

### Continental Portugal

- AGUIAR C. & S. AGUIAR (1983) *Brachthemis* [sic!] *leucosticta* (Burm.) and *Trithemis annulata* (P. de Beauv.) in Portugal (Anisoptera: Libellulidae). *Notulae Odonatologicae* 2: 8-9 — [Records of ten spp. from Lake Vela]
- AGUIAR C. & S. AGUIAR (1985a) Estudos Odonatológicos em Portugal. Odonatos Portuguêses. Odonatos Africanos em Portugal. *Boletim da Sociedade Portuguesa de Entomologia* 4, Suplemento 1 [Actas do II Congresso Ibérico de Entomología]: 245-267 — [A review on the previous Portuguese Odonata literature with a checklist of dragonflies recorded from Portugal, including some highly questionable spp. as *Cordulia aenea* and *Leucorrhinia dubia*, and an appendix with five spp. in need of confirmation is provided. New records of six spp. and their distribution maps for Portugal are given.]
- AGUIAR C. & S. AGUIAR (1985b) *Paragomphus genei* (Sel.), *Hemianax ephippiger* (Burm.) and *Trithemis annulata* (P. de Beauv.) in Portugal (Anisoptera: Gomphidae, Aeshnidae, Libellulidae). *Notulae Odonatologicae* 2: 82-83 — [Brief review of hitherto known and some new records of *Anax ephippiger*, *P. genei* and *T. annulata* from Portugal.]
- AGUIAR S. (1989) As nossas libélulas. *Quercus* 2: 24-26 — [The first Portuguese record of *Zygonyx torridus* from Serra de Monchique, and records of seven additional spp.]
- ANON. (1910) Nevroptero de Portugal novo para a Europa da fam. Libellulidae. *Brotéria, Série Zoológica* 9: 90 — [The first records of *Diplacodes lefebvrii* from Europe: 1♀ taken in June 1904 near Setúbal, and 1♂, leg. Silvano, on 01-IX-1906 at Valle da Commenda near Setúbal. This note, written in Portuguese, was published at the end of an article by L. Navás in Spanish language, thus probably written by another, anonymous author.]
- BONESS M. (2000) Massenflug der Schabrackenlibelle *Hemianax ephippiger* Burmeister an der Küste der Algarve (Portugal) (Insecta, Odonata). *Atalanta* 31: 585 — [Observation of thousands migrating *Anax ephippiger* on cliffs near Ferragudo, Algarve, on 16-X-1999. The possibility of an influx from Africa or Spain is shortly discussed. However, as the few sampled specimens all were not fully mature males, an Iberian origin of the flock has to be taken into account, too.]
- BOUDOT J.-P. (2001) Les Cordulegaster du Paléarctique occidental: identification et répartition (Odonata, Anisoptera, Cordulegastridae). *Martinia* 17: 3-34 — [The distribution area of three spp. of the *C. boltonii*-group present in Portugal is mapped, without further details.]
- BOUDOT J.-P. & G. JACQUEMIN (1995). Revision of *Cordulegaster boltonii* (Donovan, 1807) in southwestern Europe and northern Africa, with description of *C. b. iberica* ssp. nov. from Spain (Anisoptera: Cordulegastridae). *Odonatologica* 24: 149-173 — [The distribution area of two spp. of the *C. boltonii*-group present in Portugal is mapped, without further details.]

- BRÄNDLE M. & M.-O. RÖDEL (1994) Beiträge zur Faunistik und Ökologie der Libellen der Iberischen Halbinsel. *Entomologische Zeitschrift* 104: 145-156 — [Records of *Cordulegaster boltonii* and *Aeshna cyanea* from the Vila Real district, and *A. juncea* from Serra da Estrela.]
- BRAUER F. (1868) Verzeichniss der bis jetzt bekannten Neuropteren im Sinne Linné's. Zweiter Abschnitt. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* 18: 711-742 — [Lists *Oxygastra curtisii* and *Sympetrum flaveolum* explicitly from Portugal]
- CHARPENTIER T. DE (1825) Horae entomologicae, adjectis tabulis novem coloratis. A. Gosohorsky, Wratislaviae — [On p. 8, the original description of *Lestes virens* is given, based on types from Portugal in coll. ZMHB: «*Agrion virens* (Mus. Berol.) .... Habitat in Lusitania»]
- CHELMICK D.G. (2004) *Macromia splendens* in Iberia. *Agrion* 8: 4-5. — [A review on the occurrence of *M. splendens* and other spp. in Iberia, repeating former records by CHELMICK & MITCHELL (1996)]
- CHELMICK D.G. & P. MITCHELL (1996) *Macromia splendens* (Pictet) in Portugal (Anisoptera: Corduliidae). *Notulae Odonatologicae* 4: 121-122 — [Records of eight spp. from the Coimbra area]
- COIMBRA C.N., M.A.S GRAÇA & R.M. CORTES (1996) The effects of a basic effluent on macroinvertebrate community structure in a temporary mediterranean river. *Environmental Pollution* 94: 301-307 — [Mention larval records of *Sympetrum fonscolombii*, «*Crocothemis* [sic!] *servilia*», «*Trithemis annullata*» [sic!], *Anax imperator*, *Gomphus pulchellus*, and *Orthetrum coerulescens* from a «temporary river in Alentejo» in 1994, without further specification of the site. *Crocothemis servilia* is a misidentification, most likely pertaining to *C. erythraea*.]
- COMPTE SART A. (1965) Distribución, ecología y biocenosis de los Odonatos ibéricos. *Publicaciones del Instituto de Biología Aplicada, Barcelona* 39: 33-64 — [The distribution of 20 spp. in Portugal is explicitly mentioned in the text, and is mapped for nine spp.]
- CONESA GARCIA M.A. (1985) Aportaciones a la biología de *Diplacodes lefebvrei* (Rambur, 1842) (Odon., Anisop., Libellulidae) en la Península Ibérica. *Boletín de la Asociación Española de Entomología* 9: 321-330 — [The distribution of *D. lefebvrei* on the Iberian peninsula is mapped according to literature citations. However, the reference for one locality indicated in the Algarve cannot be traced, because – to our knowledge – the first published record of the sp. from the Algarve has to be attributed to JONES (1996), although SEABRA (1938a) already recommended to search for the sp. in that region.]
- CORTES R.M.V. (1992) Seasonal pattern of benthic communities along the longitudinal axis of the river systems and the influence of abiotic factors on the spatial structure of those communities. *Archiv für Hydrobiologie* 126: 85-103 — [Larval records of 12 spp. from the Douro Basin, those of *Erythromma najas* and *Platycnemis pennipes* being most likely misidentifications.]

- CORTES R.M.V. & A. MONZÓN (1991) Biological assessment of water quality in Northern Portugal using a method combining species tolerance and diversity along the longitudinal axis. *Limnética* 7: 123-132 — [Lists larval records of *Pyrrosoma nymphula*, *Ophiogomphus cecilia*, *Boyeria irene*, and *Cordulegaster bidentata* from the Douro Basin, referred to as «Indicator taxa for B.I.N.P.» (Biotic Index for Northern Portugal). However, the record of *C. bidentata* is a misidentification most likely pertaining to *C. boltonii*, calling the classification of *O. cecilia* into question, too.]
- CORTES R.M.V., K. DE TJARDA & M.A.S. GRAÇA (1986) Estudio de un río de montaña de una zona granítica del norte de Portugal. *Limnética* 2: 197-204 — [Larval records of eight spp. from River Olo in the Douro Basin including *Ophiogomphus cecilia*, which is regarded as evidence for the occurrence of the sp. in northern Portugal (e.g., SCHORR 1996). However, considering other doubtful larval records or obvious misidentifications in macrozoobenthos studies from Portugal (GRAÇA et al. 1989, CORTES & MONZÓN 1991, CORTES 1992, COIMBRA et al. 1996), in our eyes this opinion is pending confirmation by imaginal records (cf. SUHLING & MÜLLER 1996: 213).]
- CORTES R.M.[V.], M.A.S. GRAÇA, J.N. VINGADA & S.V. DE OLIVEIRA (1995) Stream typology and dynamics of leaf processing. *Annales de Limnologie* 31: 119-131 — [Larval records of five spp. from River Olo, Douro Basin]
- CORTES R.[M.V.], M. FERREIRA, S. OLIVEIRA, & F. GODINHO (1998) Contrasting impact of small dams on the macroinvertebrates of two Iberian mountain rivers. *Hydrobiologia* 389: 51-61 — [Larval records of six spp. from Rivers Poio and Balsemão, Douro basin]
- CORTES R.[M.V.], M. FERREIRA, S. OLIVEIRA & D. OLIVEIRA (2002) Macroinvertebrate community structure in a regulated river segment with different flow conditions. *River Research and Applications* 18: 367-382 — [*Gomphus pulchellus* is recorded from River Lima, northwestern Portugal]
- D'ANTONIO C. (1997) Odonate collection in the Department of Agricultural Entomology and Zoology of the University of Naples. *Notulae Odonatologicae* 4: 139-141 — [Lists 1♂ *Sympetrum sanguineum* from Porto]
- DIJKSTRA K.-D.B. (1997) New records of *Libellula fulva* for Portugal (Anisoptera: Libellulidae). *Notulae Odonatologicae* 4: 160-161 — [The first records of *L. fulva* from Portugal since SEABRA (1939b), from Ludo near Faro, Algarve, and Praia de Mira, Beira Litoral]
- DOMMANGET J.-L. (1996a) *Gomphus graslini* Rambur, 1842. In: VAN HELSDINGEN P.J., L. WILLEMSE & M.C.D. SPEIGHT (eds): Background information on invertebrates of the Habitats Directive and the Bern Convention. Part II – Mantodea, Odonata, Orthoptera and Arachnida. *Nature and Environment* 80: 259-265 — [«as far as we know, a single old and inexact record is known from the north of Portugal (GIRARD 1891). The species is probably still present in this, as to the Odonata, badly inventorized country. Insufficiently known» (verbatim). The mentioned record refers in fact to McLACHLAN (1880).]

- DOMMANGET J.-L. (1996b) *Oxygastra curtisii* (Dale, 1834). In: VAN HELSDINGEN P.J., L. WILLEMSE & M.C.D. SPEIGHT (eds): Background information on invertebrates of the Habitats Directive and the Bern Convention. Part II – Mantodea, Odonata, Orthoptera and Arachnida. *Nature and Environment* 80: 341-349 — [«as far as we know, a single record, inaccurate and old, is available from the north of Portugal (GIRARD 1891). The species probably still occurs in this (with regard to Odonatology) poorly investigated country. Status: unknown» (verbatim)]
- ERICHSON W.F. (1838) Bericht über die Leistungen in der Entomologie während des Jahres 1837. *Archiv für Naturgeschichte* 4 (2): 187-264 — [The first secure note on «*Libellula nitens*» (= *Oxygastra curtisii*) to occur in Portugal is given on p. 236: «...*L. nitens* (eine neue ausgezeichnete Art, die auch in Portugal vorkommt)...» (verbatim)]
- FARIA M.M. (1995) Comportamento territorial e reprodutor das libélulas *Calopteryx virgo* e *Calopteryx haemorrhoidalis*. Parque Nacional da Peneda-Gerês — [Behavioural study]
- FERREIRA S. & J.M. GROSSO-SILVA (2003) Confirmação da presença de *Brachytron pratense* (Müller, 1764) (Odonata, Aeshnidae) em Portugal continental. *Boletín de la Sociedad Entomológica Aragonesa* 33: 272 — [Confirmation of the occurrence of *B. pratense* in Portugal by two new records from Barrinha de Esmoriz, Ovar district, and Esteiro de Salreu, Aveiro district. These constitute the first records for Portugal since SEABRA (1937b), whose record in some cases failed to be noticed in odonatological literature.]
- FERREIRA S., J.M. GROSSO-SILVA & P. SOARES-VIEIRA (2005) Miscellaneous records of dragonflies and damselflies (Insecta, Odonata) from Continental Portugal. *Boletín de la Sociedad Entomológica Aragonesa* 36: 275-277 — [Records of 20 spp. from northern and central Portugal]
- FERRERAS ROMERO M. (1998) Preparando la lista roja de los odonatos en Andalucía. *Zoologica baetica* 9: 107-116 — [The occurrence of *Zygonyx torridus* in southern Portugal is mentioned without a reference.]
- FIGUEIREDO D. & A. GOUVEIA (2001) Inventariação da taxocenose Odonata na Bacia do Rio Guadiana. *Boletim da Sociedade Portuguesa de Entomologia, Suplemento* 6 [1999; Actas VIII Congresso Ibérico de Entomologia]: 287-292 — [Records of 22 spp., not 24 spp. as stated in the article, from the Guadiana Basin. Credits for the first record of *Orthetrum trinacria* from Portugal go to JAHN (1996b), contrary to the claim made by the authors.]
- FONTOURA A.P. & A.M.G. MOURA (1984) Effects of some industrial effluents in the biological quality of the water of the River Lima. *Publicações do Instituto de Zoologia "Dr. Augusto Nobre"* 184: 1-21 — [Larval records of *Coenagrion puella* and «*Platycnemis pennifera*» [sic!] from River Lima, Minho, the latter obviously basing on misidentification.]
- GARDINER A.J. (1993) The dragonflies of Quinta da Rocha: September to December 1992. *A Rocha Observatory Report for the Year 1992* [Associação A Rocha, Portimão]: 89-91 — [Records of seven spp. from Quinta da Rocha, Algarve]

- GARDINER A.[J.] (1996) Western Algarve dragonfly atlasing project. Annual report to recorders 1996 (unpubl.)
- GARDINER A.[J.] (1997) Western Algarve dragonfly atlasing project. Annual report to recorders 1997 (unpubl.) — [Distribution maps of 39 spp.]
- GARDINER A.[J.] & P. Sturgess (1994) Dragonflies on Quinta da Rocha in 1993. *A Rocha Observatory Report for the Year 1993* [Associação A Rocha, Portimão]: 80-84 — [Records of 14 spp. from Quinta da Rocha, Algarve]
- GARDINER A.[J.] & P. STURGESS (1995) Dragonflies on Quinta da Rocha in 1994. *A Rocha Observatory Report for the Year 1994* [Associação A Rocha, Portimão]: 50-53
- GARDINER A.[J.] & P. WALLIS (1996) Insect recording on Quinta da Rocha in 1995. *A Rocha Observatory Report for the Year 1995* [Associação A Rocha, Portimão]: 58-67 — [Records of of *Sympecma fusca*, *Aeshna isocetes*, *Anax ephippiger* and *Diplacodes lefebvreii* from Quinta da Rocha, Algarve, and surrounding regions.]
- GESCHKE S. (2002) TÖP [Tierökologisches Praktikum] 2002. Monte Pereirinho, Südpotugal. Bericht der Libellengruppe. Study trip report, FB9, Fachhochschule Lippe und Höxter (unpubl.) — [Records of 24 spp. taken in May and June 2002 around Barragem de Santa Clara, southern Portugal. Of special interest are records of *Cordulegaster boltonii immaculifrons* and *Orthetrum trinacria*; besides, the possible occurrence of *Platynemis subdilata* in Portugal is taken into consideration.]
- GIRARD A.A. (1891) Liste des Odonates du Portugal et note critique sur les *Onychogomphus Genei*, Selys et *Hagenii*, Selys. *Revista de Sciencias Naturaes e Sociaes* 2 (5): 26-45 — [Checklist of 48 spp. recorded from Portugal, including an extensive literature review and a description of *Paragamphus genei* from Portugal, based on 11♂ and 6♀ collected at Rio Sorraya near Coruche. This reference has hitherto usually been cited in odonatological literature erroneously as «Revista da Sociedade Carlos Ribeiro», which is the name of the publisher. The date of publication also gives cause to confusion: publication details given in this study are «Ce 10 Septembre 1890», although the actual year of first publication was obviously 1891 when a pre-print of this study was published separately as an «extrait», which is acknowledged by us as well as usually in odonatological literature (e.g., SEABRA 1937b, 1942, AGUIAR & AGUIAR 1985a, JÖDICKE 1997b). However, the according issue of the journal was only published in 1893, referred to by, e.g., NAVÁS (1924).]
- GÖTZ W.H.J. (1923) Mitteilung über einige geographische Variationen bei Odonaten. *Mitteilungen der Münchner Entomologischen Gesellschaft* 13: 36-37 — [Description of «*Agriion splendens pfeifferi*», based on 1♂ in coll. ZSMC, leg. 1884 by M. Korb near Faro (Algarve). This taxon was synonymised by VON ROSEN (1991) with *Calopteryx xanthostoma*.]

- GRAÇA M.A.S., D.M. FONSECA & S.T. CASTRO (1989) The distribution of macro-invertebrate communities in two Portuguese rivers. *Freshwater Biology* 22: 297-308 — [Larval records of 11 spp. are provided from Rivers Soure and Alva, central Portugal. As *Platycnemis pennipes* is a misidentification, the records of *Gomphus vulgatissimus* and *Ophiogomphus cecilia* on this list must be called into question, too (cf. the comment to CORTES et al. 1986).]
- GRAND D. (1996) *Coenagrion mercuriale* (Charpentier, 1840). In: VAN HELSDINGEN P.J., L. WILLEMSE & M.C.D. SPEIGHT (eds): Background information on invertebrates of the Habitats Directive and the Bern Convention. Part II – Mantodea, Odonata, Orthoptera and Arachnida. *Nature and Environment* 80: 245-253 — [«Portugal: *C. mercuriale* is mentioned regularly at least on distribution maps, but ... it is almost impossible to find useful references. Still, ... the species most certainly occurs in brooks in the coastal region as is the case in adjacent Galicia; status unknown.» (verbatim)]
- GRAND D. & J.-L. DOMMANGET (1996) *Macromia splendens* (Pictet, 1843). In: VAN HELSDINGEN P.J., L. WILLEMSE & M.C.D. SPEIGHT (eds): Background information on invertebrates of the Habitats Directive and the Bern Convention. Part II – Mantodea, Odonata, Orthoptera and Arachnida. *Nature and Environment* 80: 315-323 — [«Portugal: there are two old records from the Coimbra-region, ... one from Soure (Seabra, 1937), the other from Poiães (Navas, 1924). ... endangered, possibly extinct.» (verbatim)]
- GROSSO-SILVA J.M. (2003) Introdução aos Insectos. In: MARAVALHAS E. (ed.) As Borboletas de Portugal. Vento Norte: 6-25 — [*Orthetrum coerulescens* is recorded from Peneda-Gerês National Park, northwestern Portugal.]
- HAGEN H.A. (1866) Die Neuropteren Spaniens nach Ed. Pictet's Synopsis des Neuroptères d'Espagne. Genève 1865. 8 tab. 14 col. und Dr. Staudingers Mittheilungen. *Entomologische Zeitung, Stettin* 27: 281-302 — [Contains a synopsis of 45 Odonata spp. known to occur in Iberia, of which 16 are listed explicitly for Portugal. From today's point of view, the statements on *Platycnemis pennipes* (according to Selys) and *Erythromma najas* (referring to specimens in coll. ZMHB, obviously collected by J.C. Hoffmannsegg: «*A. najas* Hansem. (Mus. Berol.)») must be regarded as erroneous.]
- HARTUNG M. (1985) *Orthetrum trinacria* (Sel.) as a part of the dragonfly fauna in southern Spain (Anisoptera: Libellulidae). *Notulae Odontologicae* 2: 101-102 — [A record of *Trithemis annulata*, 1♂ 2♀, collected 18-IX-1980 at Barragem de Santa Clara, Odemira province, is provided.]
- HARTUNG M. (1993) What is the true *Lestes virens virens* (Charpentier, 1825)? Abstracts and Papers of the XII International Symposium of Odonatology, Osaka: 11-12 — [The type specimen of *L. virens* in coll. ZMHB (cf. Charpentier 1825), collected by J.C. Hoffmannsegg in «Lusitania», was compared with other specimens collected in Iberia. All specimens from Portugal and Andalusia had a whitish-yellow bicoloured pterostigma in common, contrary to those from Central Spain with an unicoloured yellow ptero-



- stigma. It is concluded that the "bicoloured" form represents the true nominotypic ssp., whereas the "unicoloured" Mediterranean form should be given a new name to delimit it from the northern ssp. *L. v. vestalis*. Contrary to this opinion, in his analysis of the case JÖDICKE (1997a: 78f.) concludes from the facts that the nominotypic ssp. shows a bicoloured pterostigma in the southwestern parts of its range, and a unicoloured pterostigma in northern Spain and southern France.]
- HARTUNG M. (1996) Odonata from the Iberian Peninsula with a description of *Calopteryx haemorrhoidalis almogravensis* ssp. n. from Portugal. *Advances in Odonatology, Supplement 1*: 53-59 — [Records of 11 spp. from the Odemira province are given. The newly described ssp. *C. h. almogravensis* was synonymised in our eyes by JAHN (1996a) in the same issue with *C. haemorrhoidalis*, pertaining only to dwarf forms of the latter due to the cool coastal climate.]
- HEYNE K.-H. (1989) Massenhafte Wanderung der Frühen Heidelibelle (*Sympetrum fonscolombi*, Selys 1840) in Portugal. *Dendrocopos* 16: 126-127 — [Observation of several 10,000 migrating *Sympetrum fonscolombii* at Cabo de São Vicente, the southeastern tip of Iberia in the Algarve, on 01-X-1988 and consecutive days.]
- JAHN P. (1996a) Dwarf forms of dragonflies in Portuguese coastal waters (Zygoptera: Calopterygidae; Anisoptera: Libellulidae). *Advances in Odonatology, Supplement 1*: 61-63 — [Records of very small individuals of *Calopteryx haemorrhoidalis* (cf. HARTUNG 1996) and *Orthetrum coerulescens* in southwestern Portugal]
- JAHN P. (1996b) Libellen im Einzugsgebiet des Guadiana in Südostportugal. *Advances in Odonatology, Supplement 1*: 65-76 — [Records of 34 spp. from the Serpa region, southeastern Portugal, including the first records for Portugal of *Onychogomphus costae* at River Guadiana, and *Orthetrum trinacria* at a reservoir 3 km NE of Pulo do Lobo in June 1991.]
- JÖDICKE R. [ed.] (1996) Faunistic data of dragonflies from Portugal. *Advances in Odonatology, Supplement 1*: 149-153 — [Records of 34 spp. from eight Portuguese districts]
- JÖDICKE R. (1997a) Die Binsenjungfern und Winterlibellen Europas. Lestidae. Die Neue Brehm-Bücherei 631. Westarp Wissenschaften, Magdeburg — [A monography on European Lestidae, with distribution maps for all taxa. The case of the type specimens of *Lestes virens* from Portugal (cf. Charpentier 1825) and of *L. virens* ssp. (cf. HARTUNG 1993) is thoroughly discussed (pp. 74f., 78f.).]
- JÖDICKE R. (1997b) Die Verbreitung von *Sympetrum sinaiticum tarraconense* Jödicke (Odonata, Anisoptera: Libellulidae). *Opuscula Zoologica Fluminensia* 155: 1-7 — [Museum material of potential *S. sinaiticum* in coll. MZCP was checked. One specimen labelled as *Sympetrum decoloratum* from Coimbra was in fact *S. meridionale*, and two specimens labelled as *S. vulgatum*, from Mata de Leira and Coimbra, turned out to be *S. fonscolombii*. The existence of *S. vulgatum* (ssp. *ibericum*) in Portugal is called into question.]

- JONES S.P. (1996) Notes and observations on dragonflies in southern Portugal. *Advances in Odonatology, Supplement 1*: 113-116 — [Records of 20 spp. from 12 localities situated mainly in the Algarve]
- KAPPES E. & W. KAPPES (1999) Südliche iberische Halbinsel – Naturkundliche Reisenotizen. Algarve/Portugal 22. bis 29. März 1997; Andalusien/Spanien 3. bis 17. April 1998; 11. bis 27. September 1998; Route; Artenlisten: Säugtiere, Vögel, Libellen, Tagfalter, Amphibien/Reptilien, Farbfotos. *Naturkundliche Reiseberichte* 13: 1-112 — [Records of 18 spp. from southern Portugal]
- LIEFTINCK M.A. (1965) *Macromia splendens* (Pictet, 1843) in Europe, with notes on its habits, larva, and distribution (Odonata). *Tijdschrift voor Entomologie* 108: 41-60 — [The known records of *M. splendens* of that time, including two from Portugal near Coimbra, are mapped and discussed. One of those records pertains to 1♂ in coll. DSFL, leg. by A.F. de Seabra in June 1922, which is thoroughly portrayed.]
- LOHR M. (2005a) Libellenbeobachtungen in Südpotugal (Odonata). *Libellula* 24: 87-107 — [Records of 39 spp. from Algarve and Baixo Alentejo taken in May 2003. The actual distribution of *Lestes dryas*, *Coenagrion scitulum*, *Gomphus graslinii*, *Macromia splendens*, and *Oxygastra curtisii* in Portugal is discussed in detail.]
- LOHR M. (2005b) First record of *Selysiotthemis nigra* from Portugal. *Notulae Odonatologicae* 6 (in press)
- LONGFIELD C. (1937) The dragonflies of the British Isles. Wayside and Woodland Series, Frederick Warne & Co., London — [Mentions *Oxygastra curtisii* as «of limited distribution in west Europe, being only really plentiful in Spain and Portugal» (p. 112), which was called into question by several authors later in the 20th century. Under consideration of the known distribution of the sp. at that time it remains unclear why this statement was given.]
- MALKMUS R. (1996a) Libellen im Gebiet des unteren Rio Guadiana, Portugal. *Advances in Odonatology, Supplement 1*: 123-126 — [Records of 16 spp. from the Guadiana Basin]
- MALKMUS R. (1996b) Neue Funde von *Macromia splendens* (Pictet) in Portugal (Anisoptera: Corduliidae). *Libellula* 15: 191-195 — [Records of *M. splendens* from Rio Bazágueda, Rio Sabor and Ribeira de Meirinhos]
- MALKMUS R. (1998) Frühjahrsbeobachtungen von Libellen in Portugal. *Libellula* 17: 91-96 — [Early spring records of 26 spp. from 30 localities]
- MALKMUS R. (2002a) Die Verbreitung der Libellen Portugals, Madeiras und der Azoren. *Nachrichten des Naturwissenschaftlichen Museums der Stadt Aschaffenburg* 106: 117-143 — [Provides distribution maps of 63 spp. from continental Portugal. It has to be noted that actual references for many mapped recording sites cannot be traced (e.g., *Ophiogomphus cecilia* in Serra da Estrela), and that there are taxonomical mistakes (*Orthetrum coerulescens anceps*) as well as questionable spp. (*Sympetrum vulgatum*) on the list.]

- MALKMUS R. (2002b) Weitere Funde von *Macromia splendens* (Pictet) in Portugal (Anisoptera: Corduliidae). *Nachrichten des Naturwissenschaftlichen Museums der Stadt Aschaffenburg* 106: 144-147 — [Six new records of *M. splendens* from northeastern Portugal taken in June 1997 and 2000.]
- MALKMUS R. (2003) Die Prächtige Smaragdlibelle – ein Juwel unter Portugals Libellen. *Natur und Museum* 133: 207-212 — [*Macromia splendens* is portrayed thoroughly, with special account on data from Portugal regarding distribution and biology of the sp.]
- MALKMUS R. (in press) Herbstbeobachtungen an Libellen in Ost-Portugal. *Nachrichten des Naturwissenschaftlichen Museums der Stadt Aschaffenburg* 108 — [Records of six spp. in November in eastern Portugal]
- MARTENS A. (1996) Die Federlibellen Europas. Platycnemididae. Die Neue Brehm-Bücherei 626. Westarp Wissenschaften, Magdeburg — [A monography on European and mediterranean Platycnemididae, with distribution maps for all taxa. For Portugal only the occurrence of *Platycnemis acutipennis* and *P. latipes* is taken into account.]
- MAUERSBERGER R. (1994) Zur wirklichen Verbreitung von *Orthetrum coerulescens* (Fabricius) und *O. ramburi* (Selys) = *O. anceps* (Schneider) in Europa und die Konsequenzen für deren taxonomischen Rang (Odonata, Libellulidae). *Deutsche Entomologische Zeitschrift* (NF) 41: 235-256 — [Two specimens of *Orthetrum coerulescens* from southern Portugal are listed: one from Coule in coll. ZSMC, leg. H. Itzerott, and one from Milfontes in coll. Jahn, leg. P. Jahn.]
- MCLACHLAN R. (1880) Notes on the entomology of Portugal. II. Pseudo-Neuroptera (in part) & Neuroptera-Planipennia. *The Entomologist's Monthly Magazine* 17: 103-108 — [Fifteen spp. collected by A.E. Eaton in May and June 1880 are mentioned, including the first Iberian record of *Gomphus graslinii*: «One ♀, Cea, 1692 feet, 8th June». The actual identity of that site, which was sometimes traced without success in odonatological literature (e.g., COMPTE SART 1965, JAHN 1996b), is to our knowledge Seia in the Serra da Estrela.]
- MORAIS M., P. PINTO, P. GUILHERME, J. ROSADO & I. ANTUNES (2004) Assessment of temporary streams: the robustness of metric and multimetric indices under different hydrological conditions. *Hydrobiologia* 516: 229-249 — [Larval record of *Boyeria irene* from the Grândola stream, Baixo Alentejo]
- MOURA A.R. (1960) Contribuição para o conhecimento dos Odonata portugueses: género e espécie novos para Portugal: *Brachythemis leucosticta* (Burm.). *Memórias e Estudos do Museu Zoológico da Universidade de Coimbra* 264: 1-6 — [First record of *B. leucosticta* from Iberia, 1♂ collected at Vale de Santarém, July 1957]
- NAVÁS L. (1906) Neurópteros de España y Portugal. *Brotéria, Série Zoológica* 5: 145-184, Table XI — [Literature citations and new records for Portugal of eight spp.]
- NAVÁS L. (1907) Neurópteros de España y Portugal (Continuado). *Brotéria, Série Zoológica* 6: 43-100 — [Literature citations and new records for Portugal of 16 spp.]

- NAVÁS L. (1908) Neurópteros de España y Portugal. *Brotéria, Serie Zoologica* 7: 5-131 — [In the section "Adiciones y Correcciones" (p. 113), all Portuguese records of *Sympetrum vulgatum* are indicated as pertaining to *S. striolatum*.]
- NAVÁS L. (1924) Sinopsis de los Paraneurópteros (Odonatos) de la península ibérica. *Memorias de la Sociedad Entomologica de España* 1: 1-69 — [Fifteen spp. are explicitly reported from Portugal. However, exact locality names are only added to spp. that are not considered as common by the author, explaining the small number of spp. indicated for Portugal. The undated record of *Macromia splendens* from «Poigres (Portugal)» (referring in fact to Poiares, Beira Litoral; cf. LIEFTINCK 1965: 56) is the first published record of the sp. from the country.]
- NOGUEIRA C.D.S. & F.A. SILVA (1970) Insectos de água doce da fauna lusitânica (revisão bibliográfica). Estudos e Divulgação Técnica, Grupo A, Seccão Aqüicultura. Ed.: Secretaria de Estado da Agricultura, Direcção Geral dos Serviços Florestais e Aqüícolas — [A checklist of the Portuguese aquatic fauna, including 69 Odonata spp. that in part have to be regarded as erroneous, without primary records]
- OCHARAN LARONDO F.J. (1987) Los Odonatos de Asturias y de España. Aspectos sistemáticos y faunísticos. Doctoral thesis, Universidad de Oviedo — [Primary records for Portugal of *Calopteryx haemorrhoidalis* (split in three spp.), *C. virgo meridionalis*, *C. xanthostoma*, and *Oxygastra curtisii*.]
- OCHARAN LARONDO F.J. (1988) Composición de la odonatofauna Ibérica. *Revista de Biología de la Universidad de Oviedo* 6: 83-93 — [A commented checklist of 71 spp. regarded as occurring in the Iberian peninsula. It has to be noted that the doubtful spp. *Erythromma najas*, *Ophiogomphus cecilia* and *Cordulia aenea* are not included.]
- OWEN D.F. (1958) Dragonfly migration in south-west Portugal, autumn 1957. *The Entomologist* 91: 91-95 — [Records of migrating *Anax parthenope*, *Crocothemis erythraea*, and *Sympetrum fonscolombii* at Cabo de São Vicente, the southeastern tip of Iberia in the Algarve, and of *Lestes viridis* from Serra de Monchique. Additionally, an unpublished observation by J.F. Monk and R.E. Moreau of «several million» migrating *S. fonscolombii* near Sagres, Cabo de São Vicente, on 27-IX-1956 is provided.]
- PEAU H.K. (1985) Die eigentümliche Eiablage der Cordulegaster-Weibchen. *Natur und Museum* 115: 77-86 — [Provides photographs of a *C. boltonii* ovipositing into Rio Zêzere, Serra da Estrela]
- RIS F. (1911) Libellulinen monographisch bearbeitet. Vol. II. Libellulinen 5. Collections Zoologiques du Baron Edm. de Selys Longchamps. *Catalogue Systématique et Descriptif* 13: 529-700 — [p. 537: 1♂ *Crocothemis erythraea* from Lisbon in coll. Selys]
- RÖHN C. (1996) Frühjahrsbeobachtungen von Libellen im zentralen und südlichen Teil der Iberischen Halbinsel. *Advances in Odonatology, Supplement* 1: 129-137 — [Spring records of ten spp. from southern Portugal]

- SAHLÉN G., R. BERNARD, A. CORDERO RIVERA, R. KETELAAR & F. SUHLING (2005) Critical species of Odonata in Europe. In: CLAUSNITZER V. & R. JÖDICKE (eds) «Guardians of the watershed. Global status of dragonflies: critical species, threat and conservation.» *International Journal of Odonatology* 7: 385-398 — [*Gomphus graslinii* and *Macromia splendens* are listed as threatened and endemic to Europe, both «restricted to few river systems in southwestern France, Spain and Portugal».]
- SAMPAIO A., R. CORTES & C. LEÃO (2001) Invertebrate and microbial colonisation in native and exotic leaf litter species in a mountain stream. *International Review of Hydrobiology* 86: 527-540 — [Larval records of *Boyeria irene* and *Onychogomphus uncatu* from River Olo, Douro Basin.]
- SANTOS F.M. (1883) 4. Contributions pour la faune de Portugal. A. Notes entomologiques. I. Orthoptères. 1. Pseudo-Neuroptères, Amphibiotiques, Fam. Odonata. *Jornal de Ciencias Mathematicas, Physicas e Naturaes* 9 (34): 88-104 — [Records of 22 spp. from continental Portugal; a synoptic table of the general geographic distribution of 37 spp. regarded as occurring in Portugal is presented, including the name of the author of the first Portuguese record for each sp.]
- SCHMIDT E. (1965) Über den Wanderweg der *Boyeria* aus Kreta (Odonata, Aeschnidae). *Nachrichtenblatt der Bayerischen Entomologen* 14: 43-46 — [One specimen of *B. irene* from Porto in coll. Schmidt, leg. O. Staudinger, is listed.]
- SCHORR M. (1996) *Ophiogomphus cecilia* (Fourcroy, 1785). In: VAN HELSDINGEN P.J., L. WILLEMSE & M.C.D. SPEIGHT (eds): Background information on invertebrates of the Habitats Directive and the Bern Convention. Part II – Mantodea, Odonata, Orthoptera and Arachnida. *Nature and Environment* 80: 324-340 — [«in Portugal *O. cecilia* is known to occur in the river-systems of the Olo and Alva» (verbatim)]
- SEABRA A.F. DE (1937a) Notas entomológicas. *Memórias e Estudos do Museu Zoológico da Universidade de Coimbra* 101: 1-12 — [Records of *Diplacodes lefebvreii* from Leirosa, July 1926, and *Macromia splendens* from Soure, June 1922. Although the spp. are referred to as new for the Portuguese fauna, both had been reported from there previously (cf. ANON. 1910, NAVÁS 1924)]
- SEABRA A.F. de (1937b) Notas sobre os Odonatos de Portugal. *Memórias e Estudos do Museu Zoológico da Universidade de Coimbra* 104: 1-14 — [Review of the Portuguese Odonata records known at that time. Thirteen spp. are recorded for the first time from Portugal, and a checklist of Odonata spp. kept in coll. MZCP is given.]
- SEABRA A.F. de (1938a) «*Diplacodes Lefebvrei* Ramb.» em Portugal. *Memórias e Estudos do Museu Zoológico da Universidade de Coimbra* 109: 1-2 — [This note corrects the erroneous information on the first record of *D. lefebvreii* from Portugal claimed by SEABRA (1937a), and gives credit to ANON. (1910).]

- SEABRA A.F. DE (1938b) Subsídios para o conhecimento da fauna das Matas Nacionais – Conclusões de estudos realizados durante os meses de Julho e Agosto de 1925 na Mata de Leiria. *Arquivos da Secção de Biologia e Parasitologia* 2: 173-242 — [Records of 15 spp. from Mata de Leiria]
- SEABRA A.F. DE (1939a) Contribuição para a história da entomologia em Portugal. A secção entomológica do Laboratório de Biologia Florestal. *Publicações da Direcção Geral dos Serviços Florestais e Aquícolas* 6: 1-146 — [Includes the checklists of Odonata collected in 21 mountain and/or forest areas.]
- SEABRA A.F. DE (1939b) Contribuição para a história da entomologia em Portugal. Catálogo das colecções entomológicas do Laboratório de Biologia Florestal em 1937. *Publicações da Direcção Geral dos Serviços Florestais e Aquícolas* 6: 155-304 — [Checklist of the 41 spp. present in the collection of Laboratório de Biologia Florestal, and their provenance.]
- SEABRA A.F. DE (1942) Contribuições para o inventário da fauna lusitânica. Insecta. Odonata. *Memórias e Estudos do Museu Zoológico da Universidade de Coimbra* 129: 1-8. — [Some information regarding previous literature on Odonata from Portugal, and a checklist of the 67 spp. regarded as occurring in Portugal at that time.]
- SEIDENBUSCH R. (1995) Diskrimination der Exuviae bei *Onychogomphus forcipatus forcipatus* Linnaeus 1758 und seinen Subspecies *O. f. unguiculatus* VanderLinden 1823 und *O. f. albotibialis* Schmidt 1954. *Sulzbach-Rosenberger Libellenrundbriefe* 1: [10-11, unpaginated] — [An analysis of discrimination features in *O. forcipatus* spp.; two exuviae of *O. f. unguiculatus* used for this study were collected at Tocha, western Portugal.]
- SELYS LONGCHAMPS E. DE (1876) Synopsis des Agrionines. Suite de la 5me legion: Agrion. *Bulletins de l'Academie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique* (II) 41: 247-322, 496-539, 1233-1309 — [Lists *Coenagrion mercuriale* and *Ischnura graellsii* explicitly for Portugal, and doubts the occurrence of *C. pulchellum* there: «Pas encore observée en Espagne ni en Portugal.»]
- SELYS LONGCHAMPS E. DE (1887) Odonates de l'Asie mineure et revision de ceux des autres parties de la faune dite Européenne. *Annales de la Société Entomologique de Belgique* 31:1-85 — [*Lestes macrostigma* and *Paragomphus genei* are mentioned explicitly from Portugal.]
- SELYS LONGCHAMPS E. DE & H.A. HAGEN (1850) Revue des Odonates ou Libellules d'Europe. *Mémoires de la Société Royale des Sciences de Liège* 6: i-xxii, 1-408, pls 1-11 — [Seventeen spp. are given for Portugal on a checklist, and four more in the text. From today's point of view, the statements on *Platycnemis pennipes* and *Erythromma najas* (both referring to specimens collected by J.C. Hoffmannsegg) as occurring in Portugal have to be regarded as erroneous.]
- SUHLING F. & O. MÜLLER (1996) Die Flußjungfern Europas. Gomphidae. Die Neue Brehm-Bücherei 628. Westarp Wissenschaften, Magdeburg — [A mono-

- graphy on European and mediterranean Gomphidae, with distribution maps for all taxa. The possible occurrence of *Ophiogomphus cecilia* in Portugal is thoroughly discussed (p. 213): Larval records by CORTES et al. (1986) are called into question, but the existence of 1♂ in coll. Navás (cf. SEABRA 1937b) is acknowledged as the hitherto only secure record from Iberia.]
- TIBERGHEN G. (1985) *Macromia splendens* (Pictet, 1843): Additions faunistiques, biologiques, et récapitulation des principales données connues [Odon. Anisoptera Corduliidae]. *Bulletin de la Société Entomologique de France* 90: 8-13 — [A literature review on biology and distribution of *M. splendens*, mapping literature records from Portugal.]
- VANAPPELGHEM C. & E. FERNANDEZ (2003) Nouvelle localité pour *Macromia splendens* (Pictet, 1843) au Portugal (Odonata, Anisoptera, Macromiidae). *Martinia* 19: 65-67 — [Records of *M. splendens* and eight accompanying spp. from Rio Côa, northeastern Portugal]
- VANDELLI D. (1797) Floræ, et Faunæ Lusitanicæ Specimen. *Memorias da Academia Real das Sciencias de Lisboa* 1: 37-79 — [The first reference regarding Odonata from Portugal, reporting the occurrence of «*Libellula vulgata*» (= *Sympetrum*, sp. unclear), «*Libellula cancellata*» (= *Orthetrum cancellatum*), «*Libellula aenea*» (sp. unclear) and «*Libellula virgo* β. δ.» (= *Calopteryx* spp.) in the country. According to AGUIAR & AGUIAR (1985a), these spp. were classified by C. Linnaeus, and the term "libélula" was introduced to Portuguese language by this study.]
- VON ROSEN G. (1991) *Agrion splendens pfeifferi* Götz, ein Synonym von *Calopteryx xanthostoma* (Charpentier). *Nachrichtenblatt der Bayerischen Entomologen* 40: 61-62 — [«*Agrion s. pfeifferi*» (cf. Götz 1923), based on 1♂ in coll. ZSMC, collected 1884 by M. Korb near Faro (Algarve), is synonymised with *C. xanthostoma*.]
- WILLIAMS T. (1990) Catálogo provisório dos Odonatas existentes no Museu Zoológico da Universidade de Coimbra. (unpubl.) — [Catalogue of the Odonata kept in coll. MZCP, listing specimens from Portugal, Spain, Timor, Macau, Mozambique, Angola, Madagascar, Congo, Brazil, Philippines, Molucas, and Takau.]
- WEIHRAUCH F. & S. WEIHRAUCH (2003) Spring Odonata records from Alentejo (Portugal), Andalusia and Extremadura (Spain). *Opuscula Zoologica Fluminensia* 207: 1-18 — [Lists records of 14 spp. from Ribeira de Ardila and Ribeira do Vascão, Beja district, Alentejo. Two exuviae from Ribeira do Vascão collected on 21-IV-2001, indicated as *Brachythemis leucosticta*, refer in fact to erroneously misidentified *Trithemis annulata* (FW).]

## The Azores and Madeira

- ANON. [“A Young Traveller“, most likely G. Miller, Jr.] (1815) The traveller's guide to Madeira. G. Miller & Son, Haddington — [According to MCLACHLAN (1882) and GARDNER (1963) the first reference to mention Odonata in Madeira: «there are several kinds, and the largest sort 3 inches long» (verbatim).]
- BÁEZ M. (1985) Las libelulas de las Islas Canarias. Enciclopedia Canaria 28. Aula de Cultura del Excmo. Cabildo Insular de Tenerife, Santa Cruz — [In a comparative checklist of Odonata from Macaronesia (p. 39), five spp. are mentioned as occurring in Madeira, and four in the Azores. The statement on «*Ischnura senegalensis*» pertains to *I. hastata* in the Azores, and in Madeira most likely to *I. hastata* or *I. saharensis*.]
- BÁEZ M. (1993) Origins and affinities of the fauna of Madeira. *Boletim do Museu Municipal do Funchal, Suplemento 2* [Proceedings of Manchester N. Atlantic Islands Conference, September 1990]: 9-40 — [Lists *Ischnura pumilio*, *Anax imperator*, *Sympetrum fonscolombii*, and *S. nigrifemur* as known from Madeira.]
- BELLE J. (1992) The Odonata of the Azores. *Entomologische Berichten, Amsterdam* 52: 63-65 — [Lists records of *Ischnura pumilio*, *I. hastata*, *Anax imperator* and *Sympetrum fonscolombii* from São Miguel, São Jorge, and Pico. A tabular presentation of the known Odonata records from the different islands of the archipelago is added.]
- BELLE J. & J. VAN TOL (1990) *Anomalagrion hastatum* (Say), an American damselfly indigenous to the Azores (Odonata, Coenagrionidae). *Tijdschrift voor Entomologie* 133: 143-147 — [First notification on the true identity of *Ischnura hastata* from Pico, formerly misidentified as *I. senegalensis* (cf. VALLE 1940, GARDNER 1960).]
- BORGES P.A.V. & V. VIEIRA (1994) The entomological bibliography of the Azores. II. The taxa. *Boletim do Museu Municipal do Funchal* 46 (251): 5-75 — [List nine Odonata literature references for the Azores.]
- BOWDICH T.E. (1825) Excursions in Madeira and Porto Santo, during the autumn of 1823, while on his third voyage to Africa. George B. Whittaker, London — [p. 169: reference to an «*Aeschna* approaching *grandis*, and greatly resembling the species figured by Roesel, t.2, Insect. Aquat. tab. ii fig. 1» (= *Anax imperator*), which is the first Odonata sp. reported from Madeira.]
- BRAUER F. (1864) Erster Bericht über die auf der Weltfahrt der kais. Fregatte Novara gesammelten Neuropteren. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* 14: 159-164 — [Mentions *Ischnura pumilio* and «*Diplax striolata*» (= *Sympetrum nigrifemur*) from Madeira.]
- BRAUER F. (1901) Über die von Prof. Simony auf den Canaren gefundenen Neuroptera und Pseudoneuroptera (Odonata, Corrodentia et Ephemeroptera). *Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften in Wien*,



- Mathematisch-Naturwissenschaftliche Classe, Abtheilung I*, 109 [1900]: 464-477 — [Lists the published six taxa of Odonata of that time from Madeira by HAGEN (1865) and McLACHLAN (1882), in comparison to the Odonata of the Canary Islands.]
- CORDERO RIVERA A., M.O. LORENZO CARBALLA & C. UTZERI (2001) Evidence for parthenogenetic reproduction in populations of *Ischnura hastata* from the Azores. Abstracts of Oral Presentations at the 2nd WDA International Symposium of Odonatology, Gällivare: 11
- CORDERO RIVERA A., [M].O. LORENZO [CARBALLA] & J. ANDRÉS (2005a) Endosymbiont-induced parthenogenesis in a diplo-diploid damselfly? Tagungsband der 24. Jahrestagung der Gesellschaft Deutschsprachiger Odonatologen, Freising, 18.-20. März 2005: 25 — [Abstract of a lecture on parthenogenetic populations of *I. hastata* in the Azores, suggesting that they are caused by infection of a novel endosymbiotic bacterium.]
- CORDERO RIVERA A., M.O. LORENZO CARBALLA, C. UTZERI & V. VIEIRA (2005b) Parthenogenetic *Ischnura hastata* (Say), widespread in the Azores (Zygoptera: Coenagrionidae). *Odonatologica* 34: 1-9 — [An extensive study on the distribution of parthenogenetic populations of *I. hastata* in the Azores. In addition, new records of *I. pumilio* and *Anax imperator* are provided.]
- DROUËT H. (1861) *Eléments de la faune Açoréenne*. J.B. Baillière et Fils, Paris — [Obviously the first reference to mention the occurrence of Odonata in the Azores (p. 90): «Parmi les névroptères, quelques libellules, vivant soit dans les lieux cultivés autour des habitations, soit près des lacs dans les montagnes, ont frappé mon attention; mais je n'en ai pas capturé et je ne saurais dire à quels genres elles se rapportent.» (verbatim)]
- GARDNER A.E. (1955) A study of the genitalia of the two species *Sympetrum nigrescens* Lucas and *S. nigrifemur* (Selys) with notes on their distribution. (Odonata: Libellulidae). *Entomologist's Gazette* 6: 86-108 — [A thorough analysis on the discrimination of various *Sympetrum* spp. based on genital features, with specimens of *S. nigrifemur* from Madeira: 1♂ in coll. McLachlan, 3♂ 2♀ in coll. BMNH, leg. by T.V. Woolaston on 23-XII-1858, and 2♂ in coll. BMNH, leg. by the Shackleton-Rowett expedition on 17-X-1921.]
- GARDNER A.E. (1959) Aspects of the fauna and flora of the Azores XII. (a) Odonata. *Annals and Magazine of Natural History* 13: 791-792 — [Lists records of *Ischnura pumilio*, *Anax imperator* and *Sympetrum fonscolombii* from Faial and Pico. *Sympetrum fonscolombii* is described as new ssp. *S. f. azorensis*, which was not regarded as valid by later authors (e.g., Belle 1992).]
- GARDNER A.E. (1960) Odonata from the Azores and Madeira. *Boletim do Museu Municipal do Funchal* 13 (41): 119-122 — [Lists larval records of «*Ischnura senegalensis*» (= *I. hastata*), *I. pumilio*, *Anax imperator* and *Sympetrum fonscolombii* from various islands of the Azores, and of *I. pumilio* and *S. nigrifemur* from Madeira, all collected by P. Brinck and E. Dahl in March and April 1957.]

- GARDNER A.E. (1963) Report on the Insects collected by E. W. Classey and A. E. Gardner expedition to Madeira in December 1957 (With special reference to the life-history of *Sympetrum nigrifemur* (Selys)). Part III. Odonata. *Proceedings of the South London Entomological and Natural History Society* 1962: 62-85, pls III-VI — [Gives a review and critical discussion on the Odonata of Macaronesia, especially Madeira. The first records of «*Ischnura senegalensis*» (sp. unclear, most likely *I. hastata* or *I. saharensis*) and *Anax ephippiger* from the island of Porto Santo near Madeira are added in a footnote.]
- GARDNER A.E. (1968) Notes on insects collected in Madeira in 1966. *Boletim do Museu Municipal do Funchal* 22 (102): 35-37 — [Lists records of *Anax imperator* from Madeira and *Sympetrum fonscolombii* from Ilheu Chão, Ilhas Desertas]
- GUERNE J. DE (1888) Excursions zoologiques dans les Iles de Fayal et de San Miguel (Açores). Gauthier-Villars et Fils, Paris — [Records of Odonata larvae collected in Caldeira (Faial) are given on p. 67: «*Aeschna* sp.? Larves; *Agriion* sp.? Id.» (verbatim). According to CORDERO RIVERA et al. (2005b), the records of zygopteran larvae are probably the first of *Ischnura hastata* from the Azores, as in 2003 a large population of the sp. was found at the same site.]
- HAGEN H.A. (1865) The Neuroptera of Madeira. *The Entomologist's Monthly Magazine* 2: 8-11, 25-28, 59-62, 75-81 — [Lists *Ischnura pumilio*, *Anax imperator*, *Sympetrum fonscolombii* and *S. nigrifemur* as known from Madeira. «I have not seen the *Gomphus* taken by M. Hartung in Madeira, and deposited in the collection of Professor Heer; it is probably *G. simillimus*» (verbatim)]
- HARCOURT E.W.V. (1851) A sketch of Madeira; containing information for the traveller, or invalid visitor. John Murray, London — [Mentions on p. 125 «several kinds of *Libellula*» to occur on the island]
- HUGHES S.J., M.T. FURSE, J.H. BLACKBURN & P.H. LANGTON (1998) A checklist of Madeiran freshwater macroinvertebrates. *Boletim do Museu Municipal do Funchal* 50 (284): 5-41 — [Lists «*Ischnura senegalensis*» (= *I. hastata* in the Azores; in Madeira sp. unclear, most likely *I. hastata* or *I. saharensis*), *I. pumilio*, *Anax imperator* and *Sympetrum fonscolombii* as known from the Azores and Madeira, and *S. nigrifemur* from Madeira only. The record of an unidentified *Gomphus* sp. (cf. HAGEN 1865) is regarded as questionable.]
- JÖDICKE R., J.-P. BOUDOT, G. JACQUEMIN, B. SAMRAOUI & W. SCHNEIDER (2005) Critical species of Odonata in northern Africa and the Arabian peninsula. In: CLAUSNITZER V. & R. JÖDICKE (eds) «Guardians of the watershed. Global status of dragonflies: critical species, threat and conservation.» *International Journal of Odonatology* 7: 239-253 — [Eleven literature references for Madeira and the Azores are given. The *Ischnura hastata* populations in the Azores and – probably – Madeira («Parthenogenesis is unique amongst all Odonata»), and *Sympetrum nigrifemur* («Endemic to Canary Islands and Madeira») are included on the list of critical spp. from northern Africa and the Arabian Peninsula.]

- LE ROI [O.] (1915) Odonaten aus der algerischen Sahara von der Reise des Freiherrn H. Geyr von Schweppenburg. Mit einer Übersicht der nordafrikanischen Odonaten-Fauna. *Deutsche Entomologische Zeitschrift* 1915: 609-634 — [Lists the known records of that time of seven Odonata spp. from the Azores and Madeira. Additionally, further investigations on the identity of «*Ischnura senegalensis*» (sp. unclear, most likely *I. hastata* or *I. saharensis*) specimens from Madeira in coll. Selys, and on a specimen of *Anax imperator mauricanus* from Madeira in coll. McLachlan (cf. McLACHLAN 1882) are recommended. The record of an unidentified *Gomphus* sp. from Madeira (cf. HAGEN 1865) is regarded as doubtful.]
- MALKMUS R. (2002) Die Verbreitung der Libellen Portugals, Madeiras und der Azoren. *Nachrichten des Naturwissenschaftlichen Museums der Stadt Aschaffenburg* 106: 117-143 — [Lists five spp. as having been recorded in Madeira, two in Porto Santo, one in Selvagem Grande, and four in the Azores. To our knowledge, only the record of *Anax ephippiger* from Madeira (SMT 1998) is missing on this list.]
- MCLACHLAN R. (1882) The Neuroptera of Madeira and the Canary Islands. *Journal of the Linnean Society, Zoology* 16: 149-183 — [Lists and discusses records of «*Ischnura senegalensis*» (sp. unclear, most likely *I. hastata* or *I. saharensis*), *I. pumilio*, *Gomphus* sp., *Anax imperator*, *Sympetrum fonscolombii*, and *S. nigrifemur* from Madeira. A record of *A. i. mauricanus* from Madeira is regarded as doubtful, owing to imperfect identification.]
- NAVÁS L. (1933) Voyage de MM. L. Chopard et A. Méquignon aux Açores (Août-Septembre 1930). III. Névroptères et Pseudo-Névroptères. *Annales de la Société Entomologique de France* 102: 19-20 — [Lists records of *Ischnura pumilio* and *Anax imperator* from São Miguel, and of *Sympetrum fonscolombii* from São Miguel and Terceira.]
- RAMBUR M.P. (1842) Histoire naturelle des insectes. Névroptères. Roret, Paris — [«*Agrion pumilio* (= *Ischnura pumilio*) ...il se trouve aussi à Madère» (verbatim, p. 278).]
- SAMPAIO A. DA SILVA (1904) Memória sobre a Ilha Terceira. Imprensa Municipal, Angra do Heroísmo — [Mentions «*Libellula grandis*» and «*Libellula puella*» as common on Terceira. The former sp. certainly pertains to *Anax imperator*, as a detailed drawing is provided, whereas the identity of the latter sp. remains unclear.]
- SELYS LONGCHAMPS E. DE (1884) Révision des Diplax paléarctiques. *Annales de la Société Entomologique de Belgique* 28: 29-45 — [p. 35: Description of *Sympetrum nigrifemur* as a race of «*D. vulgata*», based on 2♂ 2♀ from Madeira.]
- SELYS LONGCHAMPS E. DE (1887) Odonates de l'Asie Mineure et revision de ceux des autres parties de la faune dite européenne. *Annales de la Société Entomologique de Belgique* 31: 1-85 — [p. 66: Based on the study by MCLACHLAN (1882), six taxa are listed for Madeira. The record of *Anax imperator mauricanus* from Madeira is called into question due to a lack of certainty. «*Gomphus* sp? - D'après une larve de Madère. Probablement le *G. Lucasii* d'Algérie.» (verbatim)]

- SELYS LONGCHAMPS E. DE & H.A. HAGEN (1850) Revue des Odonates ou Libellules d'Europe. *Mémoires de la Société Royale des Sciences de Liège* 6: i-xxii, 1-408, pls 1-11 — [Mention records of *Ischnura pumilio* (according to Rambur 1842) and *Anax imperator* (in coll. Guérin) from Madeira.]
- SHERRATT T.N. & C.D. BEATTY (2005) Island of the clones. *Nature*, London 435: 1039-1040 — [A brief review on selection pressures faced by Odonata spp. colonizing islands with main emphasis on parthenogenetic *Ischnura hastata* in the Azores, based chiefly on the study by CORDERO RIVERA et al. (2005b).]
- SMIT J.T. (1998) De Zoogeografie van de libellen en de zweefvliegen van Madeira (Odonata & Diptera; Syrphidae). Afstudeerscriptie [final study thesis], Hogeschool van Utrecht, vakgroep Biologie — [Lists and discusses six published taxa of Odonata from Madeira. In addition, the first records of *Anax ephippiger* taken on the island at four sites from 27-II-1998 to 17-IV-1998 are provided. As those records comprised up to several hundred individuals at a time (e.g., Ponta de São Lorenzo, 25-III-1998), they are discussed as an influx driven by "Leste" winds.]
- STAUDER A. (1990) Untersuchungen des Makrozoobenthos in einem Bach auf Madeira mit zoogeographischen Aspekten. Diploma thesis, Institut für Biologie I, Universität Freiburg i.Br. — [Extended version of STAUDER (1991)]
- STAUDER A. (1991) Water fauna of a Madeiran stream with notes on the zoogeography of the Macaronesian Islands. *Boletim do Museu Municipal do Funchal* 43 (235): 243-299 — [Provides larval records of *Sympetrum nigrifemur*, and imaginal records of *Anax imperator* and *S. fonscolombii* from Ribeira das Cales on Madeira.]
- STAUDER A. (1995) Survey of the Madeiran limnological fauna and their zoogeographical distribution. *Boletim do Museu Municipal do Funchal, Suplemento 4* [Proceedings of the 1st symposium of "Fauna and Flora of the Atlantic Islands", Funchal – October 1993]: 715-723 — [Lists five Odonata spp. for Madeira and the Azores, respectively, repeating former records by STAUDER (1991). The statement on *Sympetrum nigrifemur* to occur in the Azores is wrong, and «*Ischnura senegalensis*» pertains to *I. hastata* in the Azores, and in Madeira most likely to *I. hastata* or *I. saharensis*.]
- VALLE K.J. (1940) Iter entomologicum et botanicum ad insulas Madeiram et Azores anno 1938 a Richard Frey, Ragnar Storå et Carl Cedercreutz factum N:o 5. Odonaten von den Azoren und Madeira. *Societas Scientiarum Fennica, Commentationes Biologicae* 8: 1-7 — [Lists and discusses records of «*Ischnura senegalensis*» (= *I. hastata*; it is noted that all 62 collected specimens were females), *Anax imperator*, and *Sympetrum fonscolombii* from the Azores, and of *I. pumilio* from Madeira and the Azores, all taken by R. Frey and R. Storå from May to July 1938.]
- VIEIRA R. (1954) Lista de trabalhos sobre Insectos do Arquipélago da Madeira. *Boletim do Museu Municipal do Funchal* 7 (19): 63-77 — [Lists three literature references regarding Odonata from Madeira (McLACHLAN 1882, BRAUER 1901, VALLE 1940)]

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