

ZOOTAXA

3853

An annotated Checklist of the Italian Butterflies and Skippers (*Papilionoidea, Hesperiioidea*)

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Magnolia Press
Auckland, New Zealand

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An annotated checklist of the Italian Butterflies and Skippers (Papilionoidea, Hesperioidae)
(*Zootaxa* 3853)

114 pp.; 30 cm.

20 Aug. 2014

ISBN 978-1-77557-473-6 (paperback)

ISBN 978-1-77557-474-3 (Online edition)

FIRST PUBLISHED IN 2014 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

<http://www.mapress.com/zootaxa/>

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ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

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Abstract

We present here an updated checklist of the Italian butterflies (Lepidoptera: Hesperioidea and Papilioidea) organised in the following sections (tables):

1. Introduction, providing a broad outline of the paper.
2. Checklist proper, summarised in a table, listing, in separate columns:
 - a. Indications of endemicity (sub-endemic, Italian endemic).
 - b. The relevant Annex in the Habitats Directive (legally protected species).
 - c. Threat levels (in Europe: for threatened species only).
 - d. A serial number (whose format is uniform across all Italian animal groups). This number runs throughout all the following tables (see 3, 4).
 - e. Name, author, date of publication.
 - f. Schematic overall indication of each specie's Italian range (N[orth], S[outh], Si[cily], Sa[rdinia]).
3. Nomenclature, containing basic nomenclatural details for all listed genera, species and some of the generally or historically recognised subspecies and synonyms.
4. Notes, where a variety of other information is provided, on a name by name (family, subfamily, genus, species, subspecies) basis. All remaining doubts as concerns each individual case are clearly stated.

The number of nominal species listed in the previous edition of this checklist, published almost 20 years ago, was 275, whereas it has raised to 290 in the current list. The status of about a dozen of these remains controversial, as discussed in the text. The present checklist is meant to provide an update of the Italian butterfly fauna, taking into account all relevant publications, and tries to explain all nomenclatural changes that had to be introduced, in the appropriate section. Many detailed comments are offered, when necessary or useful, in the notes.

Key words: biodiversity, taxonomy, nomenclature, conservation

Introduction

This Checklist of the Italian butterflies inevitably derives from, and tries to maintain continuity with, the former and much simpler edition which some of us published almost 20 years ago (Balletto & Cassulo 1995). Since all checklists of the Italian fauna, listing almost 60,000 nominal species in total, are based on an identical format (Minelli *et al.* 1993–1995), also this new edition retains all the original basic features, even though it is now organised in three main tables, namely:

Checklist at-a-glance, where genera are listed by the original taxonomic order and species alphabetically, apart from a few cases where a name change has occurred with respect to the former edition of this checklist. For each taxon we have maintained i) indications of endemicity; ii) of conservation status iii) a number of order, as a string of 7 (genus group names), or 11 digits (species group names), thereby providing compatibility with the previous edition, as well as for insertions or deletions becoming necessary along time. The same numerical order is maintained throughout the tables; iv) name authorship/date of publication and v) Italian general distribution, indicated by the acronyms N [orth Italy], S [outh Italy, comprised central Italy], Si [cily], Sa [rdinia] (Balletto & Cassulo, 1995).

Nomenclature, where all nomenclatural details of each name are provided. Many more names are listed in this

Acknowledgments

The authors wish to express their gratitude to the Italian Ministry for the Environment for its continuous support in many phases of this work; Prof. Sergio Cecchin (Turin University: Faculty of Letters) for his invaluable help in checking the gender of genus-group names and their agreement in gender with those of species-group names; Dr. Gian-Cristoforo Bozano (Milano), Prof. Tommaso Racheli, and his son Luigi, for having provided us with many important publications and much valuable advice; Prof. Paolo Parenzan (Palermo University) for having very generously allowed us to have open access to his huge entomological library and vast knowledge of the international lepidopterological literature, as well as for reading a first draft of this manuscript and giving many useful suggestions; Dr. Roberto Poggi, Director of Museo civico di Storia naturale «Giacomo Doria» (Genova), as well as the Librarians of the Department of Systems Biology of the Turin University and of Museo regionale di Scienze naturali (Torino), for their invaluable help in finding the very large amount of entomological literature necessary for the completion of the nomenclatural part this work.

Literature

(Introduction only. The more specific literature is listed, case by case, in the Nomenclature and in the Notes tables accompanying this work).

- Abbott, R., Albach, D., Ansell, S., Arntzen, J.W., Baird, S.J.E., Bierne, N., Boughman, J., Breelsford, A., Buerkle, C.A., Buggs, R., Butlin, R.K., Dieckmann, U., Eroukhmanoff, F., Grill, A., Cahan, S.H., Hermansen, J.S., Hewitt, G., Hudson, A.G., Jiggins, C., Jones, J., Keller, B., Marczewski, T., Mallet, J., Martínez-Rodríguez, P., Möst, M., Mullen, S., Nichols, R., Nolte, A.W., Parisod, C., Pfennig, K., Rice, A.M., Ritchie, M.G., Seifert, B., Smadja, C.M., Stelkens, R., Szymura, J.M., Väinölä, R., Wolf, J.B.W. & Zinner, D. (2013) Hybridization and speciation. *Journal of Evolutionary Biology*, 26, 229–246.
<http://dx.doi.org/10.1111/j.1420-9101.2012.02599.x>
- Ackery, P.R., de Jong, R. & Vane-Wright, R.I. (1999) The butterflies: Hedyloidea, Hesperioidea and Papilioidea. In: Kristensen, N.P. (Ed.), *Handbuch der Zoologie, Band/Vol. IV. Arthropoda: Insecta, Teilband/Part 35, - Lepidoptera, Moths and Butterflies. Vol. 1. Evolution, Systematics and Biogeography*. Walter de Gruyter, Berlin et New York, x + 490pp.
- Allioni, C. (1766) [Lepidoptera]. In: *Manipulus Insectorum Taurinensis a Carolo Allionio editus. Mélanges de Philosophie et de Mathématique de la Société Royale de Tourin pour les années 1762–1765*, 3 (7), 185–198.
- Balletto, E. (2007) Terrestrial Fauna: Lepidoptera. In: Blasi, C., Boitani, L., La Posta, S., Manes, F., Marchetti, M. (Eds.), *The State of Italian Biodiversity. A contribution for a national strategy on Biodiversity*. Ministry for the Environment, Rome, pp. 256–261.
- Balletto, E. & Casale, A. (1991) Mediterranean insect conservation. In: Collins, N.M. & Thomas, J.A. (Eds.), *The conservation of insects and their habitats*. Academic Press, London, pp. 121–142.
- Balletto, E. & Cassulo, L. (1995) Lepidoptera Hesperioidea, Papilioidea. In: Minelli, A., Ruffo, S., La Posta, S. (Eds.), *Checklist delle specie della fauna italiana. Vol. 89*. Calderini, Bologna and Ministero per l'Ambiente, Roma, 11 pp.
- Balletto, E. & Kudrna, O. (1985) Some aspects of the conservation of butterflies in Italy, with recommendations for a future strategy. *Bollettino della Società Entomologica Italiana*, 117, 39–59.
- Balletto, E., Bonelli, S., Cassulo, L., Meregalli, M. & Tontini, L. (2003) Italy. In: Van Swaay, C. & Warren, M.S. (Eds.), *Prime Butterfly Areas in Europe: priority sites for conservation*. Ministry of Agriculture, Nature Management and Fisheries, the Netherlands, pp. 328–356.
- Balletto, E., Bonelli, S. & Cassulo, L. (2005) Mapping the Italian butterfly diversity for conservation. In: Kühn, E., Feldmann, R., Thomas, J.A. & Settele, J. (Eds.), *Studies on the Ecology and Conservation of butterflies in Europe. Vol. 1. General concepts and case studies*. Pensoft Publishers, Sofia-Moscow, pp. 71–76.
- Balletto, E., Bonelli, S. & Cassulo, L. (2007) Insecta Lepidoptera Papilioidea. In: Ruffo, S. & Stoch, F. (Eds.), *Checklist and Distribution of the Italian Fauna. 10,000 terrestrial and freshwater species. 2nd Revised Edition*. Memorie del Museo Civico di Storia Naturale di Verona, 2° serie, Sez. Scienze della Vita. 17, pp. 257–261, 280 pls. [on CD-ROM, updated from the original Italian edition]
- Balletto, E., Bonelli, S., Borghesio, L., Casale, A., Brandmayr, P. & Vigna-Taglianti, A. (2010) Hotspots of biodiversity and conservation priorities: a methodological approach. *Italian Journal of Zoology*, 77, 2–13.
<http://dx.doi.org/10.1080/1125000902758923>
- Bertoloni, J. (1844) *Historia Lepidopterorum agri Bononiensis*. Emigdi ab Ulmo, Bononia, 212 pp.
- Bonelli, F.A. (1826) Descrizione di sei nuove specie d'Insetti, dell'ordine dei Lepidotteri diurni, raccolte in Sardegna dal cav. Alberto della Marmora. *Memorie della Reale Accademia delle Scienze di Torino*, 30, 171–188, pls. 1–3.

- Bonelli, S., Cerrato, C., Loglisci, N. & Balletto, E. (2011) Population extinctions in the Italian diurnal Lepidoptera: an analysis of possible causes. *Journal of Insect Conservation*, 15 (6), 879–890.
<http://dx.doi.org/10.1007/s10841-011-9387-6>
- Bolognesi, A. (1999) *Conoscere ed allevare gli Agrodiaetus d'Italia*. Bolognesi, Milano, 37 pp., 18 pls.
- Bonifacino, M., Gallo, E. & Lupi, M. (2009) Sulla presenza in Liguria di *Callophrys avis* Chapman, 1909, specie nuova per l'Italia. *Doriana*, 8 (365), 1–7. [Res Ligusticae 259]
- Bridges, C.A. (1988) *Catalogue of Family group and Genus group names (Lepidoptera Rhopalocera)*. C. A. Bridges, Urbana, Ill, 400 pp.
- Caporale, F. & Guidi, M. (2013) *Azanus ubaldus* nuovo per l'Italia (Lepidoptera Lycaenidae). *Bollettino della Società Entomologica Italiana*, 145, 2, 87–89.
<http://dx.doi.org/10.4081/bollettinosei.2013.87>
- Casacci, L.P., Barbero, F. & Balletto, E. (2013) The “Evolutionarily Significant Unit” concept and its applicability in biological conservation. *Italian Journal of Zoology*. [published online]
<http://dx.doi.org/10.1080/11250003.2013.870240>
- Chapman, T.A. (1916) On the pairing of the Plebeiid blue butterflies (Lycaenidae, tribe Plebeiidi). *Transactions of the Entomological Society of London*, 156–180, pls. 18–62.
<http://dx.doi.org/10.1111/j.1365-2311.1916.tb03125.x>
- Costa, O.G. (1836) *Fauna del Regno di Napoli. Lepidotteri. Parte prima. Lepidotteri Diurni, Crepuscolari ed alcune famiglie de' Notturni*. Napoli, dai torchi del Tramater, xi + 204 pp.
- Curò, A. (1885) *Saggio di un Catalogo dei Lepidotteri d'Italia*. Tip. Cenniniana, Firenze, 188 pp.
- Cyrillo, D. (1787) *Entomologiae Neapolitanae specimen primum*. Napoli, xi + 46 pp., 12 pls.
- de Jong, R. (1972) Systematics and geographic history of the genus *Pyrgus* in the Palaearctic Region. *Tijdschrift voor Entomologie*, 115 (1), 1–121, 6 Pls.
- de Loche, C. [François de Mouxy de Loche] (1801) Papillons du Piémont nouvellement connus. *Memorie della Reale Accademia delle Scienze di Torino*, 6, 127–150, pls. 6–8.
- de Prunner, L. (1798) *Lepidoptera Pedemontana Illustrata*. Mathaeus Guaita, Augusta Taurinorum. iii + 124 pp.
- Descimon, H. & Mallet, J. (2009) Bad species. In: Settele, J., Shreeve, T.G., Konvicka, M. & van Dyck, H. (Eds.), *Ecology of Butterflies in Europe*. Cambridge University Press, Cambridge, pp. 219–249.
- Eliot, J.N. (1973) The higher classification of the Lycaenidae: a tentative arrangement. *Bulletin of the British Museum (Natural History) (Entomology)*, 28, 373–506.
- Franceschini, F. (1879) *Le Farfalle*. Treves, Milano, xvi + 383 pp.
- Frankham, R., Ballou, J.D., Dudash, M.R., Eldridge, M.D.B., Fenster, C.B., Lacy, R.C., Mendelson III, J.R., Porton, I.J., Ralls, K. & Ryder, O.A. (2012) Implications of different species concepts for conserving biodiversity. *Biological Conservation*, 153, 25–31.
<http://dx.doi.org/10.1016/j.biocon.2012.04.034>
- Gallo, E. & Gianti, M. (2003) Sulla presenza in Italia di *Euphydryas matura* (Linnaeus, 1758). *Doriana*, 8 (335), 1–8.
- Gené, J. [= G.] (1839) De quibusdam insectis Sardiniae novis aut minus cognitis. *Memorie della Reale Accademia delle Scienze di Torino*, Series 2, 1 (2), 43–44, pls. 2.
<http://dx.doi.org/10.5962/bhl.title.8156>
- Gianelli, G. (1890) *Osservazioni ed Aggiunte al Catalogo dei Lepidotteri del Piemonte di Vittore Ghiliani*. Camilla e Bertolero, Torino, 27 + i pp.
- Giorna, S.F. (1791) *Calendario entomologico, ossia osservazioni sulle stagioni proprie agl'insetti nel cima piemontese e propriamente ne' contorni di Torino*. Stamperia Reale, Torino, 146 pp.
- Ghiliani, V. (1852) Materiali per servire alla compilazione della Fauna Entomologica Italiana, ovvero Elenco delle specie di Lepidotteri riconosciute esistenti negli Stati Sardi. *Memorie della Reale Accademia delle Scienze di Torino*, Series 2, 14, 131–247.
- Gompertz, Z., Parchman, T.L. & Buerkle, C.A. (2012) Genomics of isolation in hybrids. *Philosophical Transactions of the Royal Society B*, 367, 439–450.
<http://dx.doi.org/10.1098/rstb.2011.0196>
- Griffini, A. (1895) *Lepidotteri italiani*. U. Hoepli, Milano, viii + 236 pp.
- Harrison, R.G. (1990) Hybrid zones: windows on evolutionary process. *Oxford Surveys in Evolutionary Biology*, 7, 69–128.
- Harrison, R.G. (1998) Linking evolutionary pattern and process: the relevance of species concepts for the study of speciation. In: Howard, D.J. & Berlocher, S.H. (Eds.), *Endless forms: species and speciation*. Oxford Press, New York, pp. 19–31.
- Hausdorf, B. (2011) Progress toward a general species concept. *Evolution*, 65, 923–931.
<http://dx.doi.org/10.1111/j.1558-5646.2011.01231.x>
- Häuser, C.L. (in co-operation with) de Jong, R., Lamas, G., Robbins, R.K., Smith, C. & Vane-Wright, R.I. (2005) Papilionidae – revised GloBIS/GART species checklist (2nd draft). Available from: <http://www.insects-online.de/frames/papilio.htm> (accessed 5 May 2014)
- Hemming, A.F. (1937) *Hübner. A bibliographical and systematic account of the entomological works of Jacob Hübner*. Vol. 1. & 2. Royal Entomological Society, London, xxxiv + 605 pp. & 274 pp.
- Hemming, A.F. (1967) The generic names of the butterflies and their type-species. *Bulletin of the British Museum*, 9

- (Supplement), 1–509. [Natural History, Entomology]
- Heppner, J.B. (1981) The dates of E.L.C. Esper's "Die Schmetterlinge in Abbildungen..." 1776-[1830]. *Archives of Natural History*, 10 (2), 251–254.
<http://dx.doi.org/10.3366/anh.1981.10.2.251>
- Heppner, J.B. (1982) Dates of selected Lepidoptera literature for the western hemisphere fauna. *Journal of the Lepidopterists' Society*, 36 (2), 91–92.
- Higgins, L.G. (1975) *The classification of European butterflies*. W. Collins Sons Co Ltd, London, 320 pp.
- Higgins, L.G. & Riley, N.D. (1975) *A field guide to the butterflies of Britain and Europe*. Collins, London, 384 pp.
- ICZN (1999) *International Code of Zoological Nomenclature*. Available from: <http://www.nhm.ac.uk/hosted-sites/iczn/code/> (accessed 5 May 2014)
- ICZN (2012) Official Lists and Indexes of Names in Zoology. Updated December 2011. Available from: <http://iczn.org/sites/iczn.org/files/listsindexes.pdf> (accessed 5 May 2014)
- Karsholt, O. & Razowski, J. (1996) *The Lepidoptera of Europe. A Distributional Checklist*. Apollo Books Ed., Stenstrup, 380 pp.
- Karsholt, O. & Razowskyi, J. (1996) *The Lepidoptera of Europe. A distributional checklist*. Apollo Books, Stenstrup, 380 pp.
- Kudrna, O. (1986) Butterflies of Europe. In: Kudrna, O. (Ed.), *Butterflies of Europe. Vol. 8. Aspects of the conservation of butterflies in Europe*. Aula Verlag, Wiesbaden, 323 pp.
- Kudrna, O. (2002) The distribution atlas of European butterflies. *Oedippus*, 20, 1–342.
- Kudrna, O. & Belicek, J. (2005) On the 'Wiener Verzeichnis', its authorship and the butterflies named therein. *Oedippus*, 23, 1–36.
- Kudrna, O., Harpke, A., Lux, K., Pennerstorfer, J., Schweiger, O., Settele, J. & Wiemers, M. (2011) *Distribution Atlas of Butterflies in Europe*. Gesellschaft f. Schmetterlingschutz, Halle, 576 pp.
- Mantero, G. (1912) *Il libro delle Farfalle*. A. Donath Ed., Genova, 97 pp., 25 pls.
- Marchi, G. (1910) *I Ropaloceri del Trentino*. Società Alpinisti Tridentini, Trento, 190 pp.
- Mariani, M. (1939) Fauna Lepidopterorum Siciliae. (Catalogo ragionato). *Memorie della Reale Accademia delle Scienze di Torino*, 17 (1938), 129–187.
- Mariani, M. (1943) Fauna Lepidopterorum Italiae. Parte I. Catalogo ragionato dei Lepidotteri d'Italia. *Giornale di Scienze naturali ed economiche*, Palermo, 42 (1940–41), Mem. N. 3, 1–237.
- Mariani, M. (1943) Fauna Lepidopterorum Siciliae. I. Addenda. *Bollettino della Società Entomologica Italiana*, 78 (1–2), 15–16.
- Marko, K. & Verovnik, R. (2009) First record of *Cacyreus marshalli* (Lycaenidae) from the Balkan Peninsula. *Nota Lepidopterologica*, 32 (1), 81–82.
- Martinou, A.F., Papachristos, D. & Milonas, P.G. (2011) Report of the Geranium Bronze Butterfly, *Cacyreus marshalli* for mainland Greece. *Hellenic Plant Protection Journal*, 4, 31–34.
- Melville, R.V. & Smith, J.D.D. (1987) *Official Lists and Indexes of Names in Zoology*. International Trust for Zoological Nomenclature, London, 366 pp.
- Meyer, M. (1981) Révision systématique, chorologique et écologique des populations européennes de *Lycaena (Helleia) helle* Denis & Schiffmüller, 1775 (Lep. Lycaenidae). *Linneana Belgica*, 8 (6), 238–260, (8), 345–358, (10), 451–466.
- Minà-Palumbo, F. & Failla-Tealdi, L. (1889) *Materiali per la Fauna Lepidotteroologica della Sicilia*, Virzi, Palermo, 148 pp.
- Nabokov, V. (1944) The Nearctic forms of Lycaeides Hüb. (Lycaenidae, Lepidoptera). *Psyche*, 50 (3/4), 87–99.
<http://dx.doi.org/10.1155/1943/69615>
- Nabokov, V. (1949) The Nearctic members of the genus Lycaeides Hübner (Lycaenidae, Lepidoptera). *Bulletin of the Museum of Comparative Zoology*, 101 (4), 479–541, pls 1–9.
<http://dx.doi.org/10.1086/397624>
- Nachman, M.W. & Payseur, B.A. (2012) Recombination rate variation and speciation: theoretical predictions and empirical results from rabbits and mice. *Philosophical Transactions of the Royal Society B*, 367, 409–421.
<http://dx.doi.org/10.1098/rstb.2011.0249>
- Nadeau, N.J., Whibley, A., Jones, R.T., Davey, J.W., Dasmahapatra, K.K., Baxter, S.W., Quail, M.A., Joron, M., French-Constant, R.H., Blaxter, M.L., Mallet, J. & Jiggins, C.D. (2012) Genomic islands of divergence in hybridizing *Heliconius* butterflies identified by large-scale targeted sequencing. *Philosophical Transactions of the Royal Society B*, 367, 343–353.
<http://dx.doi.org/10.1098/rstb.2011.0198>
- Petagna, V. (1786) *Vincentii Petagnae Specimen insectorum ulterioris Calabriae*. Petri Perger, Neapolis, 47 pp., 1 pl.
- Quacchia, A., Ferracini, C., Bonelli, S., Balletto, E. & Alma, A. (2008) Can the Geranium Bronze, *Cacyreus marshalli*, become a threat for European Butterflies? *Biodiversity Conservation*, 17 (6), 1429–1437.
<http://dx.doi.org/10.1007/s10531-008-9350-3>
- Remington, C.L. (1968) Suture-zones of hybrid interaction between recently joined biotas. *Evolutionary Biology*, 2, 321–428.
http://dx.doi.org/10.1007/978-1-4684-8094-8_8
- Remington, C.L. (1985) Genetical differences in solutions to the crises of hybridization and competition in early sympatry. *Bollettino di Zoologia*, 52, 21–43.
<http://dx.doi.org/10.1080/11250008509440342>

- Rocci, U. (1911) Contribuzione allo studio dei Lepidotteri del Piemonte. Note ed osservazioni. I. *Atti della Società ligustica di Scienze naturali e geografiche Genova*, 22, 153–221.
- Rossi, P. (1790) *Fauna etrusca. Vol. 1.* Liburni Thomae Masi & Sociorum. xxii + 272 pp, 10 pls.
- Rossi, P. (1807) *Fauna etrusca. Vol. 2.* C.G. Fleckeisen, Helmstadii, vi + 511 pp, 9 pls.
- Scoble, M.J. (2002) *The Lepidoptera, form, function and diversity.* The Natural History Museum and Oxford University Press. xi+404 pp., 321 Figs.
- Scopoli, J.A. (1763) *Entomologia carniolica, exhibens insecta Carnioliae indigena et distributa in ordines, genera, species, varietates. Methodo Linnaeano.* Vindobonae, Typis Ioannis Thome Trattnerm, xxxvi + 420 pp., 43 pls.
- Senna, A. (1912) *Le farfalle.* U. Hoepli, Milano, 195 pp., 24 pls.
- Settele, J., Kudrna, O., Harpke, A., Kühn, I., van Swaay, C., Verovnik, R., Warren, M., Wiemers, M., Hanspach, J., Hickler, T., Kühn, E., van Halder, I., Veling, K., Vliegenhart, A., Wynhoff, I. & Schweiger, O. (2008) *Climatic risk atlas of European butterflies.* Pensoft, Sofia, Moscow, 710 pp.
- Sordelli, B. (1885) *Museo Entomologico. Le Farfalle.* U Hoepli, Milano, vi + 170 pp, 50 pls.
- Stefanelli, P. (1869) *Catalogo illustrativo dei Lepidotteri toscani. Parte prima (Rhopalocera).* *Bollettino della Società Entomologica Italiana*, 1, 138–160, 236–245, 295–305.
- Stefanelli, P. (1901) Nuovo catalogo illustrativo dei Lepidotteri ropoloci della Toscana. *Bollettino della Società Entomologica Italiana*, 32, 156–191, 325–374, 381–387.
<http://dx.doi.org/10.4081/bollettinosei.2013.69>
- Tolman, T. & Lewington, R. (1997) *Butterflies of Britain and Europe.* Collins, London, 384 pp.
- Tolman, T. & Lewington, R. (2008) *Butterflies of Britain and Europe. 2nd Edition.* Collins, London, 528 pp.
- Trematerra, P., Zilli, A., Valentini, V. & Mazzei, P. (1997) *Cacyreus marshalli*, un lepidottero sudafricano dannoso ai gerani in Italia. *Informatore Fitopatologico*, 1997 (7/8), 2–6.
- Turati, E. (1913) Un Record Entomologico. Materiali per una faunula dei lepidotteri della Sardegna. *Atti della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano*, 51 (3/4), 265–365.
- van Niekerken, E.J., Kaila, L., Kitching, I.J., Kristensen, N.P., Lees, D.C., Minet, J., Mitter, C., Mutanen, M., Regier, J.C., Simonsen, T.J., Wahlberg, N., Yen, S-H., Zahiri, R., Adamski, D., Baixeras, J., Bartsch, D., Bengtsson, B.A., Brown, J.W., Bucheli, S.R., Davis, D.R., De Prins, J., De Prins, W., Epstein, M.E., Gentili-Poole, P., Gielis, C., Hättenschwiler, P., Hausmann, A., Holloway, J.D., Kallies, A., Karsholt, O., Kawahara, A.Y., Koster, S., Kozlov, M.V., Lafontaine, J.D., Lamas, G., Landry, J-F., Lee, S., Nuss, M., Park, K.-T., Penz, C., Rota, J., Schintlmeister, A., Schmidt, B.C., Sohn, J.-C., Solis, M.A., Tarmann, G.M., Warren, A.D., Weller, S., Yakovlev, R.V., Zolotuhin, V.V. & Zwick, A. (2011) Order Lepidoptera Linnaeus, 1758. In: Zhang, Z.-Q. (Ed.), *Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness*. Zootaxa, 3148, 212–221.
- van Swaay, C., Cuttelod, A., Collins, S., Maes, D., Lopez Munguira, M., Šašic, M., Settele, J., Verovnik, R., Verstraet, T., Warren, M., Wiemers, M. & Wynhof, I. (2010) *European Red List of Butterflies.* Publications Office of the European Union, Luxembourg, 48 pp.
- Verity, R. (1940) *Le Farfalle diurne d'Italia. Vol. 1. Considerazioni generali. Superfamiglia Hesperiidae.* Marzocco, Firenze, xxxiv + 131 pp., pls. [unnumbered], 1–4, i–ii.
- Verity, R. (1943) *Le Farfalle diurne d'Italia. Vol. 2. Divisione Lycaenida.* Marzocco, Firenze, xii+401 pp., pls. 5–19, iii–ix.
- Verity, R. (1947) *Le Farfalle diurne d'Italia. Vol. 3. Divisione Papilionida. Sezione Papilionina. Famiglie Papilionidae e Pieridae.* Marzocco, Firenze, xvi + 381 pp., pls. 20–37, x–xiv.
- Verity, R. (1950) *Le Farfalle diurne d'Italia. Vol. 4. Divisione Papilionida. Sezione Libytheina, Danaina e Nymphalina. Famiglie Apaturidae e Nymphalidae.* Marzocco, Firenze, xxv + 380 pp., pls. 38–54, xvi–xx. [1951]
- Verity, R. (1953) *Le Farfalle diurne d'Italia. 5. Divisione Papilionida. Sezione Nymphalina. Famiglia Satyridae.* Marzocco, Firenze, xix + 354 pp., pls 55–74, xxi–xxvi.
- Villa, R., Pellecchia, M. & Pesce, G.B. (2009) *Farfalle d'Italia.* Compositori, Bologna, 375 pp.