

PERSONAL INFORMATION

Silvia Angelini

 **National Research Council (CNR) – Institute of Biological Resources and Marine Biotechnologies (IRBIM)**

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 **Fano Marine Center, The Inter-Institute Center for Research and Marine Biodiversity, Resources and Biotechnologies**

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Sex Female | Date of birth 13/02/1986 | Nationality Italian

EDUCATION AND TRAINING

2016

▪ **Phd in Biodiversity and Evolution** at the University of Bologna carried out in collaboration with the Institute of Marine Sciences of the Italian National Research Council (ISMAR-CNR) (Ancona, Italy) and the 'Commonwealth Scientific and Industrial Research Organization (CSIRO) - Marine and Atmospheric Research (CMAR)' (Brisbane and Hobart, Australia). Thesis title: "TOWARDS AN ECOSYSTEM APPROACH TO FISHERIES FOR *NEPHROPS NORVEGICUS* AND *MERLUCCIIUS MERLUCCIIUS* INHABITING THE CENTRAL ADRIATIC SEA".

2011

▪ **Master of Science degree in MARINE BIOLOGY** at the University of Bologna – Faculty of Mathematical, Physical and Natural Science. Final degree mark: 106/110. Thesis title: "ASSESSMENT OF THE STOCKS OF ANCHOVIES (*Engraulis encrasicolus*) AND SARDINES (*Sardina pilchardus*) WITH POPULATION DYNAMIC METHODS".

2008

▪ **Bachelor of Science degree in Aquaculture and Ittiopathology** at the University of Bologna - Faculty of Veterinary Medicine. Final degree mark: 108/110. Thesis title: "CHANGES INDUCED BY THE CALF BIRTH IN THE BEHAVIOR OF A FEMALE BOTTLENOSE DOLPHIN".

WORK EXPERIENCE

January 2023 – Present

▪ **Senior Researcher** at the Institute of Biological Resources and Marine Biotechnologies of the Italian National Research Council (IRBIM-CNR Ancona). Aim: stock assessment of demersal and small pelagic species using both single species models and ecosystem models.

December 2017 – December 2022

▪ **Researcher** at the Institute of Biological Resources and Marine Biotechnologies of the Italian National Research Council (IRBIM-CNR Ancona). Aim: stock assessment of demersal and small pelagic species using both single species models and ecosystem models, including also UWTV.

July 2014 – December 2017

▪ **Research fellowship** from the Institute of Marine Sciences of the Italian National Research Council (ISMAR-CNR Ancona). Aim: stock assessment of demersal species using both single species models and ecosystem models, including also UWTV.

June 2011 - June 2014

▪ **Scholarship** from the Institute of Marine Sciences of the Italian National Research Council (ISMAR-CNR Ancona). Aim: analysis of biological data from landings and discards of fishing activities in the Adriatic Sea, and assessment of the fish stocks via population dynamics methods.

JOB RELATED SKILLS

Fishery scientist. She is principally involved in producing stock assessments for small pelagic and demersal species; specifically, she is the stock coordinator for the stock assessment of anchovy and hake in the Adriatic Sea within the General Fishery Commission for the Mediterranean and Black Sea (GFCM) framework. The results of these assessments are presented at various international management fora such as the European Union and FAO (GFCM and STECF). She is also involved in the development of stock assessments of data limited stocks. She has experience in using both simple single species stock assessment models that more complex models; during her PhD she developed expertise for developing models regarding the Ecosystem Approach to Fisheries. Moreover, she is also

involved in the Italian data collection framework for the EU, collecting and analysing fishery and biological data for the most important commercial species of the Adriatic Sea. Producing reports for the projects in which she is involved is part of her work, as well as keeping contacts and circulating information among project partners. She regularly participates to stakeholder (e.g. OP, regional institutions) meetings with the aim of promoting research results, but also for discussing problems related to the fishing activity and trying to identify possible solutions. She served as supervisor for one PhD student, one scholarship holder, and one research fellow.

RESPONSIBILITY OF SCIENTIFIC PROJECTS

▪ CONVENZIONE UNCI – CNR IRBIM

Aim of the project: Technical and scientific support for the monitoring of small pelagic stocks living in the Central Adriatic Sea.

Role: Scientific Responsible for CNR IRBIM Ancona

Duration: June 2021 – October 2022

Funded by: Italian National three-year Program for Fisheries and Aquaculture 2017-2019 postponed to 2021

Total budget: 10,000 €

Budget for CNR-IRBIM unit: 10,000 €

Reference number: 0004008/31-08-2021 released by CNR-IRBIM Ancona

▪ MARE 2020/08 – MED & BS DB

Aim of the project: Development of a European database for the Data Collection Framework (DCF)

Role: responsible for CNR-IRBIM Ancona operational unit

Duration: January 2021 – December 2022

Funded by: European Commission – Directorate General for Maritime Affairs and Fisheries

Total budget: 24,998 €

Budget for CNR-IRBIM unit: 12,000 €

▪ INTERREG Europe: Innovative Strategies and Tools for Adriatic small pelagic fisheries to increase Competitiveness and sustainability (ITACA)

Aim of the project: Build a network between Italy and Croatia to strengthen the small pelagic fishery sector with the principal aims of promote a sustainable market and exploitation

Role: project manager for CNR-IRBIM

Duration: September 2018 – on going (June 2022)

Funded by: Interreg Europe (European Union – European Regional Development Fund)

Total budget: 1,487,202.00 €

Budget for CNR-IRBIM unit: 257,265.00 €

▪ Progetto P.A.L. 2017-2020 FLAG MARCHE CENTRO, Creazione del Centro Innovazione e Sviluppo della Pesca (CISP) - Sostegno all'attivazione di laboratori di innovazione ed alla realizzazione di progetti pilota (Creation of the Fisheries Innovation and Development Center (CISP) - Support for the activation of innovation laboratories and the implementation of pilot projects)

Aim of the project: Network of public institutes, universities and OP operating in the fishery and aquaculture sectors joined to promote the fishing sector and the blue economy

Role: scientific responsible for CNR-IRBIM during the beginning of the project activities

Duration: January 2018 – on going (I was involved since March 2019)

Funded by: FEAMP

Total budget: 800,000.00 €

Budget for CNR-IRBIM unit: 340,000 €

Reference number: 0006598/14-09-2018 released by CNR-ISMAR Ancona

▪ Specific Contract nr. 01 – TENDER EASME/EMFF/2016/032

RECOVERY of FISHERIES historical time series for Mediterranean and Black sea stock assessment – RECFISH

Aim of the project: Development of a database including data about fishery and survey activities in the Mediterranean and Black Sea. Development of stock assessments of relevant species for whom evaluations are still not available

Role: leader of WP4

Duration: January 2018 – December 2019

Funded by: European Commission – Executive Agency for innovative Small and Medium-sized Enterprises (EASME)

Total budget: 289,930 €

Budget for CNR-IRBIM unit: 25,117 €

POSITIONS HELD IN NATIONAL AND INTERNATIONAL TECHNICAL-SCIENTIFIC BODIES

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- **STECF EWG 22 16 - Stock Assessment in the Adriatic, Ionian and Aegean Sea 2022**
Role: Invited expert
Organisation: European Commission Joint Research Centre
 - **Tavolo di Confronto Permanente nel settore della pesca dei piccoli pelagici (Permanent working group on small pelagic fishing sector)**
Role: Scientific representative CNR-IRBIM Ancona
Organisation: MIPAAF – Direzione Generale della pesca marittima e dell'acquacoltura
Reference number: 0018637/10-11-2016 released by DGPEMAC
0019576/23-11-2016 released by DGPEMAC
 - **STECF EWG 18 16 - Stock assessments in the Mediterranean Sea 2018 – Part 2**
Role: Invited expert
Organisation: European Commission Joint Research Centre
Reference number: Ares (2018) 5208822 - 10/10/2018
 - **STECF EWG 18 01 – Data gaps and Biomass Escapement Strategy for Adriatic anchovy and sardine**
Role: Invited expert
Organisation: European Commission Joint Research Centre
Reference number: Ref. Ares (2018)968950 – 20/02/2018
 - **STECF EWG 17 15 Stock assessments in the Mediterranean Sea 2017 – Part 2**
Role: Invited expert
Organisation: European Commission Joint Research Centre
Reference number: Ares (2017) 5532327 – 13/11/2017
 - **STECF EWG 17 09 Stock assessments in the Mediterranean Sea 2017 – Part I**
Role: Invited expert
Organisation: European Commission Joint Research Centre
Reference number: Ref. Ares (2017)4417082 – 11/09/2017
 - **STECF EWG 15 16 Mediterranean assessment – Part 2**
Role: Invited expert
Organisation: European Commission Joint Research Centre
Reference number: Ares (2015) 5418072 – 27/11/2016

PARTICIPATION AT SCIENTIFIC SURVEYS

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- **Oceanographic survey: “I-UWTV Survey”**
Aim of the project: Investigate the stock of *Nephrops norvegicus* living in the Pomo/Jabuka Pits (Central Adriatic Sea) using the Under Water TV methodology
Role: Responsible for biological sampling, insertion and analysis of collected data, video analysis of the underwater material collected during the survey (i.e. visual recognition of species or structures of the seabed)
Funded by: various (SSD-Pesca, RITMARE, MIPAAF, European Union)
N° of surveys: 5
Activity period: 27/04/2017 – 16/05/2017
02/04/2016 – 15/04/2016

09/05/2015 – 25/05/2015

28/04/2014 – 14/05/2014

29/04/2012 – 12/05/2012

Reference number: 0007805/19-09-2017 released by CNR-ISMAR Ancona

▪ **Oceanographic survey: “Bianchetto survey – SSD Pesca”**

Aim of the project: Evaluate the state of the stock of *bianchetto* (juveniles of *Engraulis encrasicolus* and *Sardina pilchardus*) in the Adriatic Sea

Role: Biological sampling

Funded by: SSD-Pesca project

N° of surveys: 1

Activity period: 29/02/2012 – 8/03/2012

Reference number: 0007805/19-09-2017 released by CNR-ISMAR Ancona

▪ **Oceanographic survey: “MEDIAS Adriatico”**

Aim of the project: Collection acoustic data about small pelagic species living in the Adriatic Sea

Role: Biological sampling

Funded by: MIPAAF and European Union

N° of surveys: 1

Activity period: 8/07/2010 – 23/07/2010

Reference number: 0007805/19-09-2017 released by CNR-ISMAR Ancona

PUBLICATIONS with IF
2025

▪ ***Incorporating key environmental drivers in European anchovy (*Engraulis encrasicolus*) stock assessment model in the Adriatic Sea***

Caserta V., Punt A.E., Ameri E., Berginc T., Cikes-Kec V., Costantini I., De Felice A., Fonato F., Leonori I., Santojanni A., [Angelini S.](#)

ICES Journal of Marine Science, 2025, Vol. 82, Issue 9, fsaf171.
<https://doi.org/10.1093/icesjms/fsaf171>

▪ ***How fishing pressures and environmental changes can impact the mean size of fish resources: a case study of small pelagics in the Adriatic Sea***

Cacciamani R., Caserta V., Guizzardi o Guicciardi S., Santojanni A., Colella S., Domenichetti F., Donato F. and [Angelini S.](#)

Front. Mar. Sci. 12:1703481. doi: 10.3389/fmars.2025.1703481

2022 ▪ ***Accounting for environmental and fishery management factors when standardizing CPUE data from a scientific survey: A case study for *Nephrops norvegicus* in the Pomo Pits area (Central Adriatic Sea)***

Chiarini M., Guicciardi S., [Angelini S.](#), Tuck I.D., Grilli F., Penna P., et al.

PLoS ONE 17(7): e0270703. <https://doi.org/10.1371/journal.pone.0270703>

▪ ***Looking for a Simple Assessment Tool for a Complex Task: Short-Term Evaluation of Changes in Fisheries Management Measures in the Pomo/Jabuka Pits Area (Central Adriatic Sea)***

Chiarini, M.; Guicciardi, S.; Zacchetti, L.; Domenichetti, F.; Canduci, G.; [Angelini, S.](#); Belardinelli, A.; Croci, C.; Giuliani, G.; Scarpini, P.; et al.

Sustainability 2022, 14, 7742. <https://doi.org/10.3390/su14137742>

▪ ***The potential effects of COVID-19 lockdown and the following restrictions on the status of eight target stocks in the Adriatic Sea***

Scarcella G., [Angelini S.](#), Armelloni E.N., Costantini I., De Felice A., Guicciardi S., Leonori I., Masnadi F., Scanu M. and Coro G.

Front. Mar. Sci. 9:920974. doi: 10.3389/fmars.2022.920974

2021 ▪ ***Understanding the Dynamics of Ancillary Pelagic Species in the Adriatic Sea***

[Angelini S.](#), Armelloni E. N., Costantini I., De Felice A., Isajlović I., Leonori I., Manfredi C., Masnadi F., Scarcella G., Tičina V., Santojanni A.

Front. Mar. Sci. 8:728948 | doi: 10.3389/fmars.2021.728948

▪ ***Data poor approach for the assessment of the main target species of rapido trawl fishery in Adriatic Sea***

- Armelloni E.N., Scanu M., Coro G., Masnadi F., Angelini S., Scarcella G.
Front. Mar. Sci. 8:552076 | doi: 10.3389/fmars.2021.552076
- **The Mediterranean fishery management: A call for shifting the current paradigm from duplication to synergy**
Cardiale M., Colloca F., Bonanno A., Scarcella G., Arneri E., Jadaud A., Saraux C., Aronica S., Genovese S., Barra M., Basilone G., Angelini S., Falsone F., Gancitano V., Santojanni A., Fiorentino F., Milisenda G., Mureno M., et al.
Marine Policy 131: 104612. <https://doi.org/10.1016/j.marpol.2021.104612>
 - **Preliminary results on the occurrence and anatomical distribution of microplastics in wild populations of *Nephrops norvegicus* from the Adriatic Sea**
Martinelli M., Gomiero A., Guicciardi S., Frapiccini E., Strafella P., Angelini S., Domenichetti F., Belardinelli A., Colella S.
Environmental Pollution, 278. <https://doi.org/10.1016/j.envpol.2021.116872>
- 2020
- ***Nephrops norvegicus* in the Adriatic Sea. Connectivity modelling, essential fish habitats and management area network.**
Melaku Canu D., Laurent C., Morello E.B., Querin S., Scarcella G., Vrgoc N., Froggia C., Angelini S., Solidoro C. Fisheries Oceanography, 2020. DOI: 10.1111/fog.12522
 - **Biological evidence of the presence of different subpopulations of Norway lobster (*Nephrops norvegicus*) in the Adriatic Sea (Central Mediterranean Sea).**
Angelini S., Martinelli M., Santojanni A., Colella S. Fisheries Research, Volume 221, 105365. DOI: 10.1016/j.fishres.2019.105365
- 2018
- **A model combining landings and VMS data to estimate landings by fishing ground and harbour**
Russo T., Morello E.B., Parisi A., Scarcella G., Angelini S., Labanchi L., Martinelli M., D'Andrea, Santojanni A., Arneri E., Cataudella S. Fisheries Research, Volume 199, Pages 218-230. <https://doi.org/10.1016/j.fishres.2017.11.002>
- 2017
- **Spatial planning for fisheries in the Northern Adriatic: working toward viable and sustainable fishing**
Bastardie F., Angelini S., Bolognini L., Fuga F., Manfredi C., Martinelli M., Nielsen J. R., Santojanni A., Scarcella G., Grati F. Ecosphere 8(2): e01696. 10.1002/ecs2.1696
- 2016
- **An Ecosystem Model of Intermediate Complexity to test management options for fisheries: A case study**
Angelini S., Hillary R., Morello E. B., Plaganyi E. E., Martinelli M., Manfredi C., Isajlovic I., Santojanni A. Ecological Modelling, Volume 319, Pages 218 - 232. <https://doi.org/10.1016/j.ecolmodel.2015.07.031>

PUBLICATIONS without IF

- 2019
- **GSA17 - Mare Adriatico Settentrionale e Centrale.**
Santojanni A., Leonori I., Fabi G., Angelini S., Armelloni E., Belardinelli A., Biagiotti I., Canduci G., Colella S., Costantini I., Croci C., De Felice A., Domenichetti F., Donato F., Giuliani G., Grati F., Malavolti S., Manfredi C., Martinelli M., Masnadi F., Panfilii M., Piccinetti C., Scanu M., Scarcella G., Tesauro C. in Maiorano P., Sabatella R.F., Marzocchi B.M. – Annuario sullo stato delle risorse e sulle strutture produttive dei mari italiani. 432pp. Questo volume è stato realizzato nell'ambito del Piano di Lavoro Nazionale di Raccolta Dati Alieutici (PLNRDA) 2017-2019, Regolamento (EU) 2017/1004
- 2018
- **Scientific, Technical and Economic Committee for Fisheries (STECF) – 2018 Mediterranean Stock Assessments - Part 2 (STECF-18-16).**
Authors: STECF advice: Ulrich, C., Abella, J. A., Andersen, J., Arrizabalaga, H., Bailey, N., Bertignac, M., Borges, L., Cardinale, M., Catchpole, T., Curtis, H., Daskalov, G., Döring, R., Gascuel, D., Knittweis, L., Malvarosa, L., Martin, P., Motova, A., Murua, H., Nord, J., Prellezo, R., Raid, T., Sabatella, E., Sala, A., Scarcella, G., Soldo, A., Somarakis, S., Stransky, C., van Hoof, L., Vanhee, W., Vrgoc, Nedo. EWG-18-16 report: Simmonds, E. J., Angelini S., Fernandez, C., Isajlovic, I., Ligas, A., Mannini, A., Mantapoulou Palouka, D., Martin, P., Murenu, M., Musumeci, C., Pinto, C., Ticina, V., Vrog, N. Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-79399-8,

doi:10.2760/598716, JRC114787

- **Scientific, Technical and Economic Committee for Fisheries (STECF) – Data gaps and Biomass Escapement Strategy for Adriatic anchovy and sardine (STECF-18-01)**
 STECF advice: Ulrich, C., Abella, J. A., Andersen, J., Arrizabalaga, H., Bailey, N., Bertignac, M., Borges, L., Cardinale, M., Catchpole, T., Curtis, H., Daskalov, G., Döring, R., Gascuel, D., Knittweis, L., Lloret, J., Malvarosa, L., Martin, P., Motova, A., Murua, H., Nord, J., Prellezo, R., Raid, T., Sabatella, E., Sala, A., Scarcella, G., Soldo, A., Somarakis, S., Stransky, C., van Hoof, L., Vanhee, W., van Oostenbrugge, H., Vrgoc, N. EWG-18-01 report: Jardim, E., Accadia, P., Angelini, S., Bitetto, I., Cikes Kec, V., Costantini, I., Mannini, A., Mihanovic, M., Mosqueira, I., Murenu, M., Raid, T., Tičina, V., Vasilakopoulos, P. Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-79383-7, doi:10.2760/800034, JRC111721
- **Observations on the reproductive biology of Norway lobster from two different areas of the Adriatic Sea**
 Colella S., Angelini S., Martinelli M., Santojanni A.
 Biologia Marina Mediterranea: 235-236. ISSN: 1123-4245
- 2017 ▪ **Scientific, Technical and Economic Committee for Fisheries (STECF) – 2017 Mediterranean Stock Assessments – Part 2 (STECF-17-15)**
 STECF advice: Ulrich, C., Abella, J. A., Andersen, J., Arrizabalaga, H., Bailey, N., Bertignac, M., Borges, L., Cardinale, M., Catchpole, T., Curtis, H., Daskalov, G., Döring, R., Gascuel, D., Knittweis, L., Lloret, J., Malvarosa, L., Martin, P., Motova, A., Murua, H., Nord, J., Prellezo, R., Raid, T., Sabatella, E., Sala, A., Scarcella, G., Soldo, A., Somarakis, S., Stransky, C., van Hoof, L., Vanhee, W., van Oostenbrugge, H., Vrgoc, N. EWG-17-09 report: Simmonds, E. J., Abella, A., Angelini, S., Bitetto, I., Colloca, F., Isajlovic, I., Mannini A., Mantopoulou Palouka, D., Mantzoyini E. Martin, P., Molla Gazi, K., Murenu, M., Musumeci, C., Ordinas, F., Orío, A., Pengal, P., Recasens, L., Sbrana, M., Sgardeli, V., Tsikliras, A., Tserpes, G., Vasilakopoulos, P. Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-67494-5, doi:10.2760/90316, JRC111820
- **Scientific, Technical and Economic Committee for Fisheries (STECF) – 2017 Mediterranean Stock Assessments – Part I (STECF-17-15)**
 STECF advice: Ulrich, C., Abella, J. A., Andersen, J., Arrizabalaga, H., Bailey, N., Bertignac, M., Borges, L., Cardinale, M., Catchpole, T., Curtis, H., Daskalov, G., Döring, R., Gascuel, D., Knittweis, L., Lloret, J., Malvarosa, L., Martin, P., Motova, A., Murua, H., Nord, J., Prellezo, R., Raid, T., Sabatella, E., Sala, A., Scarcella, G., Soldo, A., Somarakis, S., Stransky, C., van Hoof, L., Vanhee, W., van Oostenbrugge, H., Vrgoc, N. EWG-17-09 report: Simmonds, E. J., Angelini, S., Bitetto, I., Cikes Kec, V., Costantini, I., Giannoulaki, M., Ligas, A., Mannini, Mantopoulou Palouka, D., Martin, P., Molla Gazi, K., Musumeci, C., Murenu, M., Pesci, A., Ticina, V., Tsikliras, A., Vasilakopoulos, P., Vrgoc, N., Zorica, B. Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-67487-7, doi:10.2760/897559, JRC109350
- 2016 ▪ **Scientific, Technical and Economic Committee for Fisheries (STECF) – Mediterranean assessments part 2 (STECF 16-08)**
 STECF advice: Ulrich, C., Abella, J. A., Andersen, J., Arrizabalaga, H., Bailey, N., Bertignac, M., Borges, L., Cardinale, M., Catchpole, T., Curtis, H., Daskalov, G., Döring, R., Gascuel, D., Knittweis, L., Lloret, J., Malvarosa, L., Martin, P., Motova, A., Murua, H., Nord, J., Prellezo, R., Raid, T., Sabatella, E., Sala, A., Scarcella, G., Soldo, A., Somarakis, S., Stransky, C., van Hoof, L., Vanhee, W., van Oostenbrugge, H., Vrgoc, N. EWG-15-16 report: Angelini, S., Abella, A., Cardinale, M., Carpi, P., Celic, I., Colloca, F., Facchini, M. T., Knittweis, L., Ligas, A., Leoni S., Mannini, A., Martin, P., Minto, C., Morello, B., Murenu, M., Osio G.C., Orío, A., Pengal, P., Russo, T., Sbrana, M., Scarcella G., Scott, F., Spedicato, M. T., Vrgoc, N. Publications Office of the European Union, Luxembourg, 2016, ISSN 1831-9424 (online), ISSN 1018-5593 (print)
- 2015 ▪ **Rapporto annuale sullo stato delle risorse della GSA17 - Mare Adriatico Settentrionale e Centrale** Santojanni A., Leonori I., Piccinetti C., Fabi G., Angelini S., Belardinelli A., Biagiotti I., Canduci G., Carpi P., Colella S., Costantini I., Croci C., De Felice A., De Marco R., Domenichetti F., Donato F., Giuliani G., Grati F., Malavolti S., Manfredi C., Martinelli M., Panfilii M., Scarcella G., Tesaro C., Vasapollo C. In: Mannini A., Sabatella R. F. Biologia Marina Mediterranea 22 (Suppl.1): 358 pp.,

2015. ISSN: 1123-4245

- 2012 ▪ **Rapporto annuale sullo Stato delle Risorse Biologiche dei Mari Circostanti l'Italia. Anno 2009 / State of Biological Resources in the Sea Surrounding Italia. Yearbook 2009** Santojanni A., Leonori I., Piccinetti C., Fabi G., Angelini S., Belardinelli A., Biagiotti I., Campanella F., Canduci G., Carpi P., Cingolani L., Cingolani N., Colella S., Donato F., De Felice A., Giuliani G., Grati F., Manfredi C., Martinelli M., Panfili M., Scarcella G, Manfredi C. In: Mannini A., Relini G. *Biologia Marina Mediterranea* 19 (s1): 113-137, 2012
- 2011 ▪ **Capitolo 2.4 - Lo stato dei piccoli pesci pelagici". In: "Lo stato della pesca e dell'acquacoltura nei mari italiani" a cura di S. Cataudella e M. Spagnolo** Santojanni A., Angelini S., Basilone G., Biagiotti I., Bonanno A., Carpi P., De Felice A., Leonori I., Patti B., Petrillo M., Sbrana M. Ministero delle Politiche Agricole, Alimentari e Forestali, Direzione Generale della Pesca e dell'Acquacoltura, 2011, pp. 188-194. Disponibile on line sul sito: <http://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/5164>

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Ancona, 2 February 2016



(Dr. Silvia Angelini)