



Deliverable Report

Deliverable No:	D31.20	Delivery Month:	48
Deliverable Title	Presentations of DIVERSIFY (Y4) at the Aqua Europe meetings (Diversification Sessions) by the Species leaders		
WP No:	31	WP Lead beneficiary:	P18. CTAQUA
WP Title:	Dissemination		
Task No:	31.3	Task Lead beneficiary:	P1. HCMR
Task Title:	Presentation of DIVERSIFY at the AQUACULTURE EUROPE meetings		
Other beneficiaries:	P18. CTAQUA		
Status:	Delivered	Expected month:	44

Lead partner preparing the deliverable: Mylonas, C.C. (HCMR)

Other partners participating: Robles, R. (CTAQUA)

Objective: Instead of summary presentations by the Species leaders, this year we presented a larger number of specific presentations from DIVERSIFY Tasks, during a Special Session for DIVERSIFY at the European Aquaculture Society's (EAS) annual meeting.

Description: A Special Session was organized at the AQUACULTURE EUROPE 2017 conference held between 17-20 October 2017 in Dubrovnik, Croatia (**Fig. 1**), titled "DIVERSIFY- New/emerging finfish species (EU Project). The session was chaired by the WP31 Dissemination leader (Dr. Rocio Robles) and the Project Coordinator (PC) of DIVERSIFY (Dr. Constantinos C. Mylonas). Instead of summary presentations by the six Species Leaders (SL) of DIVERSIFY -as described in the DOW, reporting on species studied in the project, it was decided to allow as many researchers as possible from the consortium to present their work undertaken in the various specific tasks of the project.

The Special Session lasted for the whole day (Wednesday, 18 October, 10:30 - 17:30) and an estimated of 50-120 persons were present at the different presentations in the designated room (**Fig. 2**). A total of 16 presentations were given, 15 from DIVERSIFY work (**Fig. 3**). In addition, a number of Posters were presented under this Special Session, being also from DIVERSIFY tasks.



Figure 1. The poster of the AQUACULTURE EUROPE 2017 that is organized every year by the European Aquaculture Society (left), and a panoramic view of the old harbor of Dubrovnik, Croatia (right).



Figure 2. Dr. Marija Banovic (AU) presenting at the DIVERSIFY Special Session of AQUACULTURE EUROPE 2017.

<p>15.30 Konstantin D. Matishov, Ulyana S. Aleksandrova DEVELOPMENT OF INTEGRATED INNOVATIVE TECHNOLOGIES FOR PRODUCING ENVIRONMENTALLY FRIENDLY PRODUCTS OF AQUACULTURE IN A RECIRCULATING SYSTEM</p> <p>15.50 Benz Kotzen, Mohammed Khandaker THE POTENTIAL FOR COMBINING LIVING WALL AND VERTICAL FARMING SYSTEMS IN AQUAPONICS</p> <p>16.10 Maja Turnšek Hančič, R.I. Thorarinnsson, Agnes Joly FROM DREAM TO REALITY: DIFFICULTIES ENCOUNTERED BY AQUAPONIC START-UPS IN EUROPE</p> <p>16.30 Daniel Malić, Paul Kledal, Vesna Milčić, Maria Dos-Santos, Joao Cotter AQUAPONICS: THE UGLY DUCKLING IN EUROPEAN ORGANIC REGULATION</p> <p>16.50 Kyra Hoevenaars, Matej Leskovec EU POLICIES: OPPORTUNITIES FOR AQUAPONICS</p> <p>DIVERSIFY – NEW / EMERGING SPECIES (EU PROJECT) Wednesday, October 18 10.30 - 17.30 Olipa 1 & 2 Chairs: Rocio Robles, Constantinos Mylonas</p> <p>10.30 Constantinos C. Mylonas, Rocio Robles “DIVERSIFY”: EXPLORING THE BIOLOGICAL AND SOCIO-ECONOMIC POTENTIAL OF NEW/EMERGING CANDIDATE SPECIES FOR THE EXPANSION OF THE EUROPEAN AQUACULTURE INDUSTRY</p> <p>10.50 Aldo Corriero, Constantinos C. Mylonas, Rosa Zupa, Chrysvalentinus Pousis, Ioannis Fakriadis, Maria Papadaki, Caterina De Virgilio, Nicoletta Santamaria, Letizia Passantino REPRODUCTIVE DEVELOPMENT IN WILD AND CAPTIVE-REARED GREATER AMBERJACK <i>Seriola dumerili</i> (RISSO, 1810)</p> <p>11.10 Ioannis Fakriadis, Francesca Lisi, Irini Sigelaki, Maria Papadaki, Anastasios Raftopoulos, Constantinos C. Mylonas SPAWNING KINETICS OF GREATER AMBERJACK <i>Seriola dumerili</i> IN RESPONSE TO MULTIPLE GnRH INJECTIONS OR IMPLANTS</p> <p>11.30 Maria Papadaki, Jose Benito Peleteiro, Blanca Alvarez-Blázquez, J.L. Rodriguez Villanueva, Fatima Linares, Antonio Villar, Evaristo Pérez Rial, Nuria Lluch, Ioannis Fakriadis, Constantinos C. Mylonas DESCRIPTION OF THE ENDOCRINE REPRODUCTIVE CYCLE OF THE WRECKFISH <i>Polyprion americanus</i> IN CAPTIVITY</p> <p>11.50 Neil Duncan, Sandra Ramos, Wendy Gonzalez, Gilbert Dutto, Constantinos Mylonas, Christian Fauvel GAMETE QUALITY AND MANAGEMENT FOR <i>IN VITRO</i> FERTILISATION IN MEAGRE <i>Argyrosomus regius</i> TO FACILITATE THE IMPLEMENTATION OF GENETIC BREEDING PROGRAMS</p> <p>12.10 Sebastian Baekelandt, Syaghalirwa N.M. Mandiki, Patrick Kestemont LIGHT ENVIRONMENT AFFECTING ENDOCRINE AND IMMUNE CIRCADIAN RHYTHMS IN PIKEPERCH <i>Sander lucioperca</i></p>	<p>12.30 Torstein Harboe, Sonal Patel, Audun H. Nerland, Nina Sandlund, Øivind Bergh, Birgitte Norberg RECIRCULATION (RAS) VS. FLOW THROUGH (FT) SYSTEMS DURING YOLK SAC AND FIRST FEEDING STAGES: EFFECTS ON REARING SYSTEM BACTERIOLOGY, AND SURVIVAL, QUALITY AND GROWTH OF ATLANTIC HALIBUT <i>Hippoglossus hippoglossus</i> LARVAE</p> <p>12.50 LUNCH</p> <p>14.30 William Koven, Enric Gisbert, Oriya Nixon, Iris Meiri-Ashkenazi, Aviad Gaon, Mikhail Solov'yev, Amos Tandler, Hanna Rosenfeld DESIGNING WEANING DIETS BASED ON THE ONTOGENY OF DIGESTIVE TRACT ENZYME ACTIVITY DURING THE CARNIVOROUS-OMNIVOROUS TRANSITION IN GREY MULLET <i>Mugil cephalus</i> JUVENILES</p> <p>14.50 Ioannis Papadakis, Nikos Papandroulakis, Alkioni Sfendouraki, Veronica Camporesi, Manolis Vasilakis, Constantinos Mylonas THE EFFECT OF DIFFERENT STIMULI ON MEAGRE <i>Argyrosomus regius</i> FEEDING BEHAVIOUR</p> <p>15.10 Pascal Fontaine, Tatiana Colchen, Ledoré Yannick, Soumaya Hmilla, Enric Gisbert, Daniel Zarski, Alain Pasquet IMPROVEMENT OF REARING CONDITIONS FOR JUVENILE PIKEPERCH <i>Sander lucioperca</i> PRODUCTION IN RAS</p> <p>15.30 Blanca Álvarez-Blázquez Fernández, J. Luis Rodríguez Villanueva, A. Vilar, C. Mylonas, N. Papandroulakis, Evaristo Pérez Rial, Nuria Lluch, Gemma Pazos, Fátima Linares PROGRESS IN THE WRECKFISH <i>Polyprion americanus</i> INTENSIVE CULTIVATION: NEW CANDIDATE SPECIES FOR AQUACULTURE</p> <p>15.50 M.I. Tseretou, S. Chatzifotis, R. Fontanillas, E. Cotou, E. Fountoulaki, M. Smyrli, E. Antonopoulou, P. Katharios RECENT ADVANCES IN THE STUDY OF SYSTEMIC GRANULOMATOSIS IN MEAGRE <i>Argyrosomus regius</i></p> <p>16.10 Yannis Koltzamanis, Ramon Fontanillas, Emmanouil Kouroupakis, Vassiliki Ilia, Sofia Vardali, Efthimia Antonopoulou LYSINE OPTIMIZATION OF A DIET WITH LOW FISH MEAL INCLUSION FOR GREATER AMBERJACK <i>Seriola dumerili</i> (RISSO, 1810)</p> <p>16.30 Alvaro Fernández-Montero, Maria José Caballero, Silvia Torrecillas, Douglas Milne, Chris Secombes, Maria Soledad Izquierdo, Daniel Montero DIETARY USE OF PREBIOTICS IN GREATER AMBERJACK JUVENILES: EFFECTS ON GROWTH PERFORMANCE, IMMUNE GENE EXPRESSION AND DISEASE RESISTANCE AGAINST <i>Neobenedenia girellae</i></p> <p>16.50 Marija Banović, Athanasios Krystallis FISH FOR THE FUTURE: WHAT COULD INFLUENCE EUROPEAN CONSUMER CHOICE OF NEW AQUACULTURE PRODUCTS? EVIDENCE FROM AN EXPERIMENTAL STUDY WITH LOW AND MEDIUM PROCESSED PRODUCTS</p> <p>17.10 Philip James THE EU URCHIN PROJECT: UTILISING THE ARCTIC SEA URCHIN RESOURCE – PROGRESS AND PITFALLS</p>
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Figure 3. The program pages of the DIVERSIFY Special Session of AQUACULTURE EUROPE 2017.

The session opened with a summary presentation for DIVERSIFY, given by the PC of the project (Fig. 4). The presentation begun with a very brief mention of the project and its consortium, and the underlining reasons for the support of this project by the European Union. The presentation explained the justification of the project's species selection. Then, there was a brief description of the major achievements of the project in the six species examined, as well as in the area of Socioeconomics. The presentation then focused on the dissemination activities of the project (Fig. 5) and a presentation of the website (www.diversifyfish.eu). The participants were informed of the new pages of the web site, which now contain all the presentation of the carried work given during the annual coordination meetings, and more recently as work is completed and submitted for publication, the scientific articles from the project (21 Articles so far).



Then, a special mention was made of the upcoming **Species-specific knowledge transfer workshops**, which are planned for 2018 (**Fig. 5**). These will be constituted of 30 min presentations on selected aspects on the production methods for the specific species, given by DIVERSIFY researchers, but also from any authorities in the species from outside the consortium. Aquaculturists, but also European aquaculture support companies (feed, pharmaceutical, etc.) will be invited to attend these meetings. The cost of the invited speakers and the registration of the participants will be covered by the programme (50-100 participants). The seminars will be organized by the Species Leaders from DIVERSIFY in countries where the particular species are cultured --or has the potential to be cultured. One seminar will be organized for each of the selected species. For more information on the presentation of the PC, please refer to **Deliverable 31.19 Annual presentation of DIVERSIFY (Y4) at a relevant conference (mainly Aqua Europe meetings, EU Forum) by the Project Coordinator**.

COOPERATION for GROWTH October 17-20, 2017 Dubrovnik, Croatia

DIVERSIFY-Exploring the biological and socioeconomic potential of new/emerging fish species for the expansion of the European aquaculture industry

Co-funded by the Seventh Framework Programme of the European Union

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Pikeperch

- Genetic variability of cultured broodstocks and comparison with wild populations for future breeding selection programs
- Effects of various environmental factors (light intensity, water renewal rate, water flow direction and tank cleaning timing) on larval rearing of pikeperch
- Behaviour traits during early development

Figure 4. Representative slides of the Species achievements in the project.

Dissemination - magazine articles

Species-specific knowledge transfer workshops
www.diversifyfish.eu

- One day workshop for each species
- Presentations from DIVERSIFY work, but also outside
- Open to all stakeholders, first come-first served (60-100 persons)
- Free of charge (no registration costs)
- Spring-Fall 2018

For information consult our website

Species Workshops 2018

Figure 5. The slide presenting the six publications that have been made so far in the “Aquaculture Europe” magazine (left) and the announcement of the **Species-specific knowledge transfer workshops** of DIVERSIFY (right).



After the PC presentation, specific presentations from different scientific disciplines were given, beginning with the work on reproduction in greater amberjack and wreckfish (Fig. 6), followed by a number of presentations on other species and scientific disciplines (Fig. 7).



Figure 6. The opening slides from the presentations of Fakriadis et al. on greater amberjack spawning induction (left) and from Papadaki et al. on the reproductive cycle of wreckfish.



Figure 7. The opening slides from other presentations from the DIVERSIFY Special Session.



Table 1. The titles of the poster presentations from the Special Session of DIVERSIFY, the majority coming from the DIVERSIFY project.

AQUACULTURE AND ENHANCEMENT OF GONAD PRODUCTION IN THE SEA URCHIN <i>Paracentrotus lividus</i> . PRELIMINARY RESULTS	Pombo	Ana
EFFECT OF MALE ROTATION ON INDUCED PAIR SPAWNING OF MEAGRE <i>Argyrosomus regius</i>	Sigelaki	Irini
PROXIMATE, FATTY ACIDS AND VOLATILE COMPOUNDS COMPOSITION OF REARED VS. WILD GREATER AMBERJACK (<i>Seriola dumerili</i>) AS AFFECTED BY FISH SIZE	Grigorakis	Kriton
IMPROVEMENT OF REPRODUCTIVE PERFORMANCE OF F1 GENERATION GREATER AMBERJACK (<i>Seriola dumerili</i>) WITH SUCCESSIVE IMPLANTS OF GONADOTROPIN-RELEASING HORMONE AGONIST (GnRH α)	Jerez	Salvador
EFFECTS OF STOCKING DENSITY ON GROWTH PERFORMANCE AND HEALTH OF GREATER AMBERJACK (<i>Seriola dumerili</i>) JUVENILES	Jerez	Salvador
HEMATOLOGICAL AND PLASMA BIOCHEMICAL PARAMETERS IN F1 GENERATION GREATER AMBERJACK (<i>Seriola dumerili</i>) DURING SPAWNING INDUCTION WITH GnRH α DELIVERY SYSTEMS	Martín	M. Virginia
COMBINED EFFECT OF IMMUNE-STIMULANT ENRICHMENT PRODUCTS AND FEEDING FREQUENCY ON GREATER AMBERJACK LARVAL PERFORMANCE	Martín	M. Virginia
THE MICROBIOME OF <i>Seriola lalandi</i> OF WILD AND AQUACULTURE ORIGIN REVEALS DIFFERENCES IN COMPOSITION AND POTENTIAL FUNCTION	Ramirez	Carolina
PRELIMINARY STUDIES ON THE RELATIONSHIP OF TEMPERATURE AND TIME OF DIGESTION ON ENZYMATIC ACTIVITY AND GROWTH OF <i>SERIOLA DUMERILI</i> .	Sanmartín Almeida	Antonio
EFFECT OF DIFFERENT RATIOS OF DHA, EPA AND ARA ON ONTOGENY OF DIGESTIVE ACTIVITIES AND LARVAL DEVELOPMENT OF PIKEPERCH LARVAE <i>Sander lucioperca</i>	El Kertaoui	Najlae
POPULATION GENETIC STRUCTURE OF GREATER AMBERJACK (<i>Seriola dumerili</i>) IN THE MEDITERRANEAN SEA AND EASTERN ATLANTIC OCEAN	Tsigenopoulos	Costas S.
EVALUATION OF WRECKFISH <i>Polyprion americanus</i> GROWTH IN GALICIA (SPAIN)	Rodríguez Villanueva	José Luis

Overall, this Special session demonstrated that significant progress has been achieved in the study of new/emerging species for the EU aquaculture industry. The knowledge acquired so far, will now be more widely disseminated to the scientific community through the publication of scientific articles, and to the aquaculture industry through the upcoming **Species-specific knowledge transfer workshops**, with the objective of increasing their annual production with the inclusion of new species that offer significant biological (faster growth and better FCR) and market advantages (flesh quality, consumer acceptance and world-wide distribution).

Deviations: The deliverable is submitted 4 months later than anticipated in the DOW, but within a month from the conclusion of the Conference.