



**European Syngnathid Meeting
Oceanario de Lisboa, Lisbon, Portugal
21-22 October 2018**

**Organizers: IUCN SSC Seahorse, Pipefish and Stickleback Specialist Group (SPS SG)
and Project Seahorse**

Participants

Núria Baylina, Portugal
Miguel Correia, Portugal
Michele Gristina, Italy
Catarina Fonseca, Portugal
Vanda Lobo, Portugal
Patrick Louisy, France
Sylvie Louisy, France
Cristina Mena, Spain
Kenyon Mobley, Finland
Nuno Monteiro, Portugal
Francisco Otero, Spain
Jorge Palma, Portugal
Rita Sá, Portugal
Mohammad Reza Shokri, Iran*
Amanda Vincent, Canada (Chair)

*Attended part of the meeting remotely

Regrets

Ingrid Ahnesjö, Sweden
Jose Pedro Andrade, Portugal
Anders Berglund, Sweden
Carmen Bouza, Spain
Inés Castejón, Spain
Kostas Dounas, Greece
Kealan Doyle, UK

Andrej Gajic, Bosnia and Herzegovina
Neil Garrick-Maidment, UK
Stefano Goffredo, Italy
Sule Gurkan, Turkey
Christophe Heurtaux, France
William Vincent Holt, UK
Stephane Jamme, France
Adla Kahric, Bosnia and Herzegovina
Heather Koldewey, London
Charlotta Kvarnemo, Sweden
Neville McLellan, Malta
Vasilis Mentogiannis, Greece
Xavier de Montaudouin, France
Beatriz Morales, Spain
Arnaud Nadau, France
Celine Neutens, Belgium
Miguel Planas, Spain
Marina Quiñe, France
Pascal Romans, France
Gunilla Rosenqvist, Sweden
Helen Scales, UK
Luca Scapin, Italy
Richard Smith, UK
Lily Stanton, Canada
Jorge Terrados, Spain
Lucy Woodall, UK



1. Background

As with many other seahorse and pipefish species around the world, those in Europe are caught up in a great number of human-created changes, and face an uncertain future. The more we know and the more we apply such knowledge to conservation of their wild populations, the more we can safeguard the future of these fishes. This meeting gave a chance to bring together a group of researchers and other professionals who are actively engaged with seahorses and pipefishes in Europe.

We invited a wide array of people who have ever worked with seahorse and pipefish ecology or conservation in any European country. In making the inclusive invitation list, we consulted with many European seahorse biologists for recommendations and searched primary and popular literature to identify researchers and other actors in the field, including citizen science groups and NGOs. We apologise for missing anybody and invite you to join with us in the future.

Sincere thanks to the Oceanário de Lisboa and the Oceano Azul Foundation for their support for this meeting and for syngnathid (and marine) conservation in general. Heartfelt thanks to Guylian Chocolates Belgium for its generous help with this event and for its long lasting and very valuable determination to secure a future for seahorses in healthy oceans. Further thanks to all the team at Oceanário de Lisboa and Oceano Azul Foundation for their quick and effective actions to pull this meeting together. Particular thanks to Lily Stanton for her tremendous administrative contributions from Canada and to Miguel Correia, member of the SPS SG, for providing such excellent in-country liaison support.

Goals and Objectives of Meeting

Goal: Build network to help expand knowledge and action for syngnathid species

Objectives:

1. Address IUCN Red Listing for the European seahorse species, trying to resolve Data Deficient status
2. Generate quick response capacity when concerns arise for the European syngnathid species
3. Agree consistent methods for population assessment in support of IUCN Red Listing and other conservation action for syngnathids
4. Develop proposal for European Union's CostAction fund, to allow ongoing collaboration

We launched work on all four objectives during the meeting but much remains to be done. We invite all colleagues to contribute as they can, by contacting any of the participants. Thank you for your interest and efforts towards understanding and supporting seahorses.

2. Agenda

Saturday, 20 October 2018

- 2:00 pm Gather for first social interaction
2:30 pm Welcome & opening comments - Oceanário de Lisboa/ Oceano Azul Foundation
2:45 pm Summary presentations from participants:

Núria Baylina – [How can public aquariums contribute?](#)

Michele Gristina– [On the status of the long-snouted seahorse, *Hippocampus guttulatus*, along the Italian coasts](#)

Patrick Louisy – European syngnathid diversity

Sylvie Louisy– Introduction to Peau-Bleue Association

Cristina Mena– [Mar Menor: Current problem and evolution of the long-snouted seahorse \(*Hippocampus guttulatus*\)](#)

- 3:30 pm Oceano Azul Foundation talk

Vanda Lobo – [Save the seahorses in Ria Formosa](#)

- 4:00 pm Break

- 4:30 pm Summary presentations from participants continued:

Kenyon Mobley - Syngnathidae: Pipefishes, seahorses and seadragons

Nuno Monteiro

Francisco Otero - First revision of the current status of seahorses (Syngnathidae) and their distribution throughout the Macaronesia (NE Atlantic)

Jorge Palma / Miguel Correia – [Seahorse Working Group: Centre for Marine Sciences of Algarve](#)

Neil Garrick-Maidment*- The Seahorse Trust

Vasilis Mentogiannis*- Seahorses in Stratonis, Greece

Miquel Planas*- Proyecto Hippocampus

Marina Quiñe* - *Hippocampus ingens* on the northern and central coast of Peru.

Mohammad Shokri* - Are Caspian pipefish genetically different from the Mediterranean pipefish?

Richard Smith* - Ocean Realm Images

- 6:00 pm Tour of Oceanário de Lisboa

- 8:30 pm Dinner at Pateo Restaurante

*were not in attendance, brief presentations submitted electronically

Sunday, 21 October 2018

9:00 am Synthesis of summaries, identifying themes, patterns and ideas to discuss
9:30 am Global issues for syngnathids – *Amanda Vincent*

Planned agenda, which was altered to explore topics arising – see sections 4 to 7

10:00 am Explore plan for day/ambitions for collaboration
10:30 am Break
11:00 am Discuss “topics that arose”
12:30 pm Lunch
2:00 pm Discuss “topics that arose”
3:30 pm Break
4:00 pm Discuss challenges and responses
5:00 pm Ways forward together: protocols and funds
6:00 pm Drinks and socializing

3. Participants’ aspirations for meeting

- Make personal connections/bridges
- Standardise methods for censusing/share platform
- Share (old) data through platform & protocol
- Develop rapid response capacity
- Remove DD assessment for *Hippocampus spp.*
- Establish communication across groups/shared database/shared samples
- Learn new ideas
- Access photos for morphometric measurement (PL)
- Develop mechanisms for increasing collaboration
- Find opportunities to engage part-time
- Find new responses to challenges
- Find ways to survey other locations
- Seek common ground for research / collaborations across syngnathid populations
- Match analytical/writing needs to corresponding capacity
- “Adopt a seagrass bed”

4. Some topics that arose during the meeting

Each of these topics emerged during Day 1 and was discussed to some extent during Day 2.

Threats

- Illegal fishing
- Illegal trade
- Habitat degradation
- Invasive species (e.g. Caulerpa, blue crab)
- Pollution
- Climate change and adaptation (or not)

Knowledge gaps

- Taxonomy
- Population health/ dynamics (including fluctuations)
- Migrations (generally for all spp., most follow food not temp)

Possible tools and solutions

- Environmental DNA
- Protected areas
- Reintroductions (many caveats)

Collaborators

- Public Aquariums
- Citizen science
- Government

Challenges

- Censusing
- Tagging and marking
- Publishing
- Sharing data
- Recording info/publishing
- Getting/sharing samples
- Sharing images and outreach tools
- Moving beyond research

5. Some of the areas of shared interest that emerged from discussions

Wish list for biological knowledge

- Life history and ecology (e.g. breeding, environmental tolerance, habitat, food availability)
- Fluctuations in syngnathid populations, assessing long term trends over large areas
- Limits on reproduction and resilience
- Migration patterns in syngnathids
- and how to process/present existing data for publication and policy

Ideas for tools and methods

- Expand the number of focal sites for monitoring syngnathid populations to secure more consistent and reliable long term understanding
- Evaluate the potential of e-DNA to gather absence/presence data for syngnathid populations
- Draw on citizen science to extend databases in time and space

Management and policy

- Explore ways to collaborate with Public Aquariums on research, management, policy and communications
- Consider how to extend, improve and support Marine Protected Areas
 - CBD Aichi Target 11 (signed by 196 countries) includes need to protect 10% of the ocean by 2020 but that objective has not yet been reached, and implementation/enforcement is poor
- Share IUCN guidance on re-introduction and supplementation which advises firmly against these actions unless the threats have been alleviated, the local population has been extirpated, the objectives are clear and monitoring is in place (<https://portals.iucn.org/library/efiles/documents/2013-009.pdf>)

6. Mobilising information we hold / moving it into the public domain

We discussed how best to tap the considerable amount of unpublished and often uncollated/unsynthesised data on European seahorses held by most seahorse experts. We recognise this is important to increase public understanding of European syngnathid species and the threats they face. We also acknowledge the very real constraints: lack of time, lack of funding, dearth of technical skills, not a priority for many people's jobs. That said, we still need to get the data out there. So how ?

Opportunities (ideas):

- Look for researchers eager/available to help with the production of unpublished data
- Seek a European Union COST Action grant that could fund brainstorming sessions to facilitate sharing and deployment of unpublished research
- Document knowledge from citizen science and volunteer work in various forms of publication (not necessarily in primary scientific journals)
- Extract new knowledge from regional newsletters, communications, reports
- Encourage public aquariums to create a book with information about syngnathids

7. Possible areas for collaboration among European seahorse experts

- Improve communication of key messages
- Compare morphometrics across European distributions
- Gather and share taxonomic information
- Create database of study areas to facilitate cooperation
- Agree uniform visual census methodology for gathering information
 - Need to evaluate at least three possible methods of population assessment to consider creating a standardised protocol
 - Timed swims used in iSeahorse (<https://www.iseahorse.org/Trends/Underwater>)
 - Peau-Bleue's Syngnathid observation sheet used in Arcachon Bay and Thau lagoon (use whole duration of the dive as a sampling unit; timed swims within a study site)
 - Transect methods used by Curtis et al 2004 (https://static1.squarespace.com/static/55930a68e4b08369d02136a7/t/560c450ce4b083d9c3645f0d/1443644684932/Underwater_visual_census_seahorse_Population_Assessment.pdf), Correia et al. 2016 (<http://dx.doi.org/10.1016/j.rsma.2015.10.003>)
- Work with public aquariums to increase collaboration
- Establish connections and collaborations - share personal perspectives
- Develop rapid capacity for management/policy response to specific threat

8. Action points

Action	Actor	Timeline	Updates
Create working group to advance standardized methods for population assessment	Miguel, Fran, Michele, Patrick, Lily (+ others?)	Spring 2019	
Review literature for habitat data collection-use/adaptation studies in European syngnathids	Patrick, Jorge		
Compile and share current methods for evaluating natural markings of syngnathids for use in PhotoID software	Nuno, Miguel		
Gather up-to-date information on two European seahorses from grey literature, aquaria and museums to support Red List assessment	Lily, Catarina, Riley	April 2019	

Contact aquariums to create protocols to collect samples for scientific use (tissue repository for shared use among researchers in collaboration with Otlet https://otlet.io/)	Kenyon	Spring 2019	Draft complete
Compile information on methods used to assess reproductive status and size; produce advisory document to standardise across research projects	SPS SG, Lily		
Send all data that might help advance IUCN Red List assessments for the two European <i>Hippocampus</i> species to Catarina at Oceanário de Lisboa	All, Catarina, Lily	Spring 2019	
Lobby stakeholders to end illegal capture of seahorses in the Ria Formosa, Portugal	Oceano Azul Foundation, Vanda Lobo		
Create ties to key enforcement authorities and other stakeholders in Ria Formosa, Portugal	Oceano Azul Foundation, Miguel Correia		
Develop and provide a rapid response protocol to help address crises quickly, with field testing by colleagues	IUCN SPS SG and colleagues		
Seek EU COST Action & other funding opportunities for meetings and possible short-term assessments in particular locations	Jorge, Miguel, Fran	Spring 2019	



Appendix I

Contact details of participants invited

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