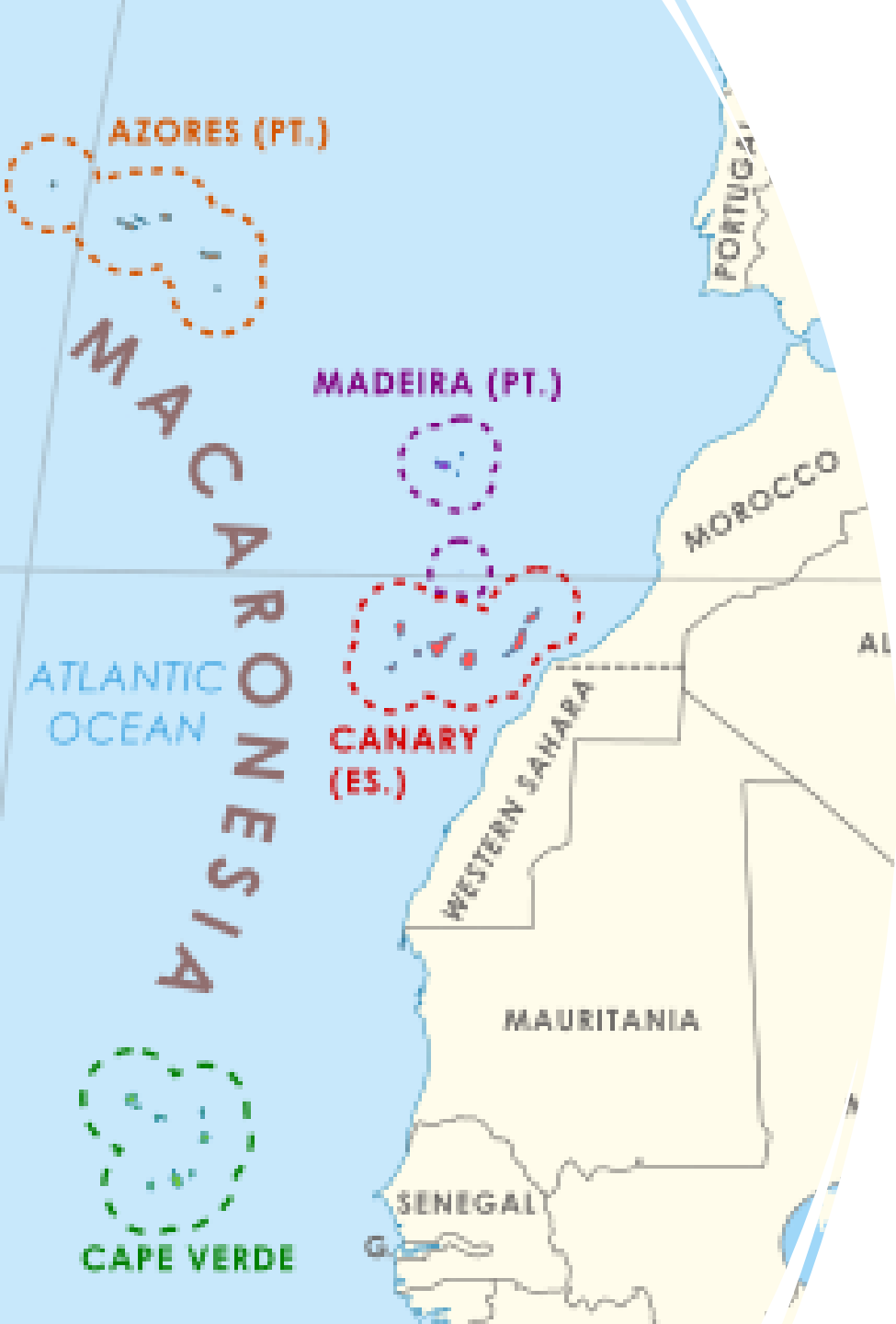


Amphipods, islands and marine fouling: hidden diversity and community drivers

Dr. Andrea Desiderato

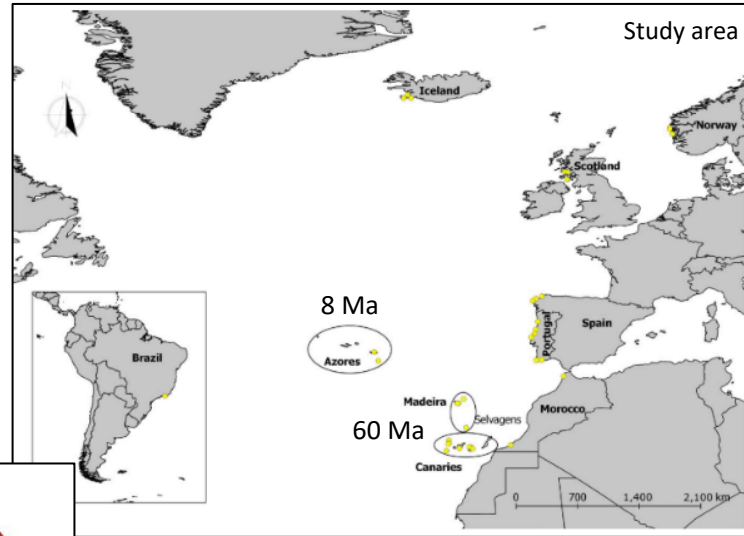




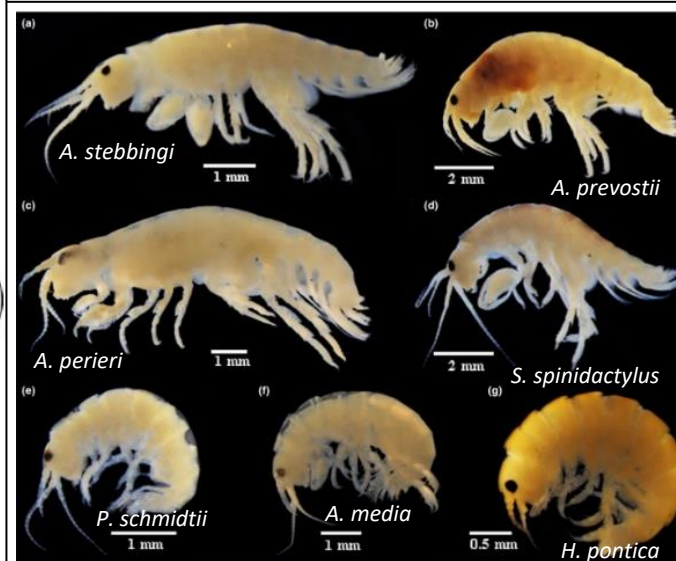
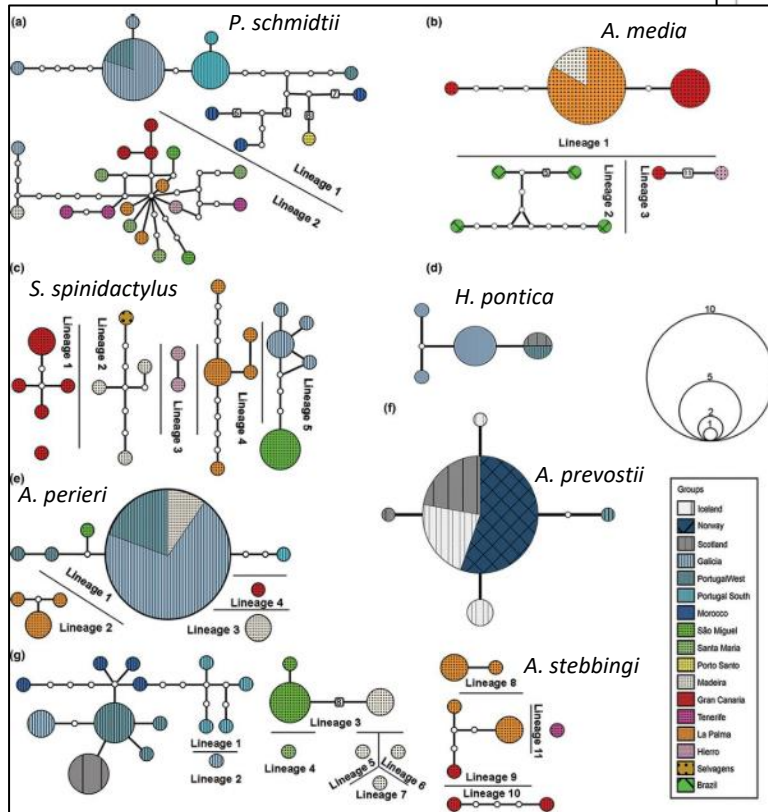
Oceanic Island biogeography

Macaronesian islands as promoters of diversification in amphipods: The remarkable case of the family Hyalidae (Crustacea, Amphipoda)

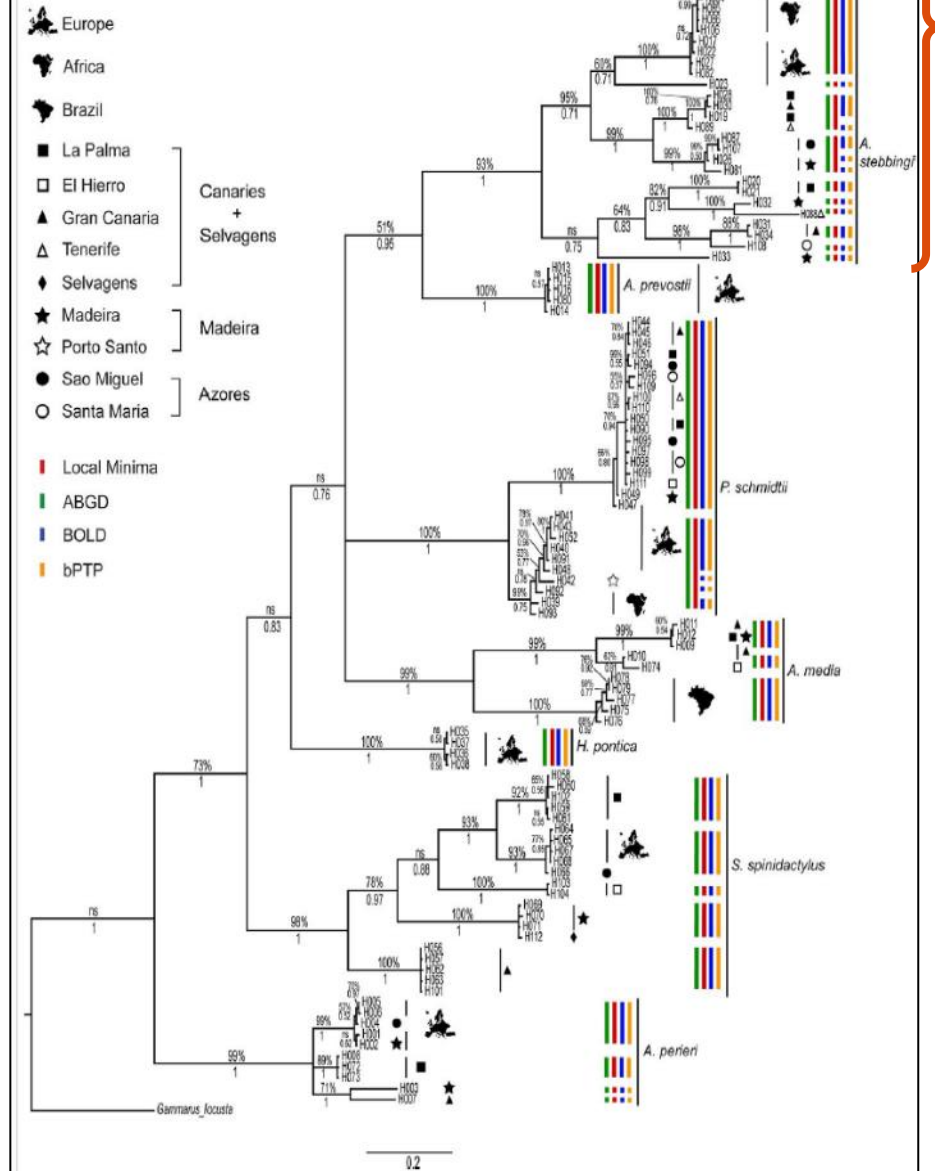
Andrea Desiderato^{1,2,3,4} | Filipe O. Costa^{5,6} | Cristiana S. Serejo⁷ | Marco Abbiati^{8,9,10} | Henrique Queiroga¹ | Pedro E. Vieira^{1,5,6}



Haplotype networks of COI

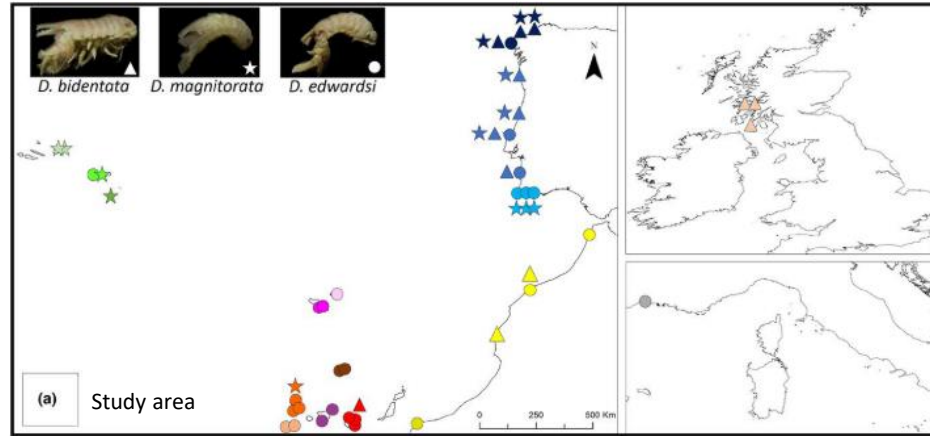


Phylogeny and species delimitation



Deep segregation in the open ocean: Macaronesia as an evolutionary hotspot for low dispersal marine invertebrates

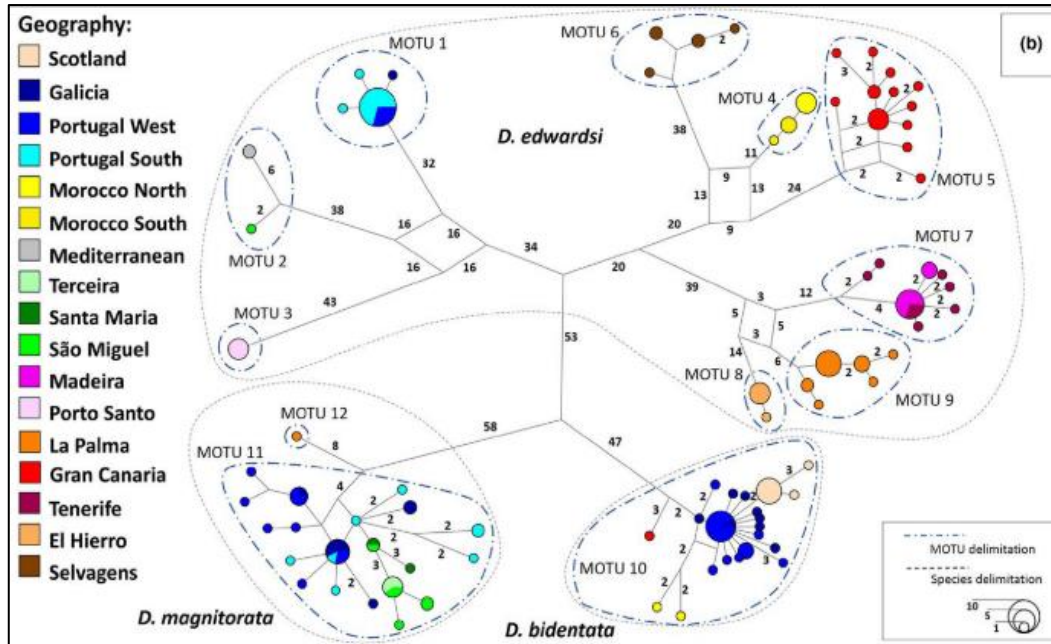
Pedro E. Vieira^{1,2,3} | Andrea Desiderato^{4,5} | David M. Holdich⁶ | Pedro Soares^{2,7} | Simon Creer³ | Gary R. Carvalho³ | Filipe O. Costa^{2,7} | Henrique Queiroga¹



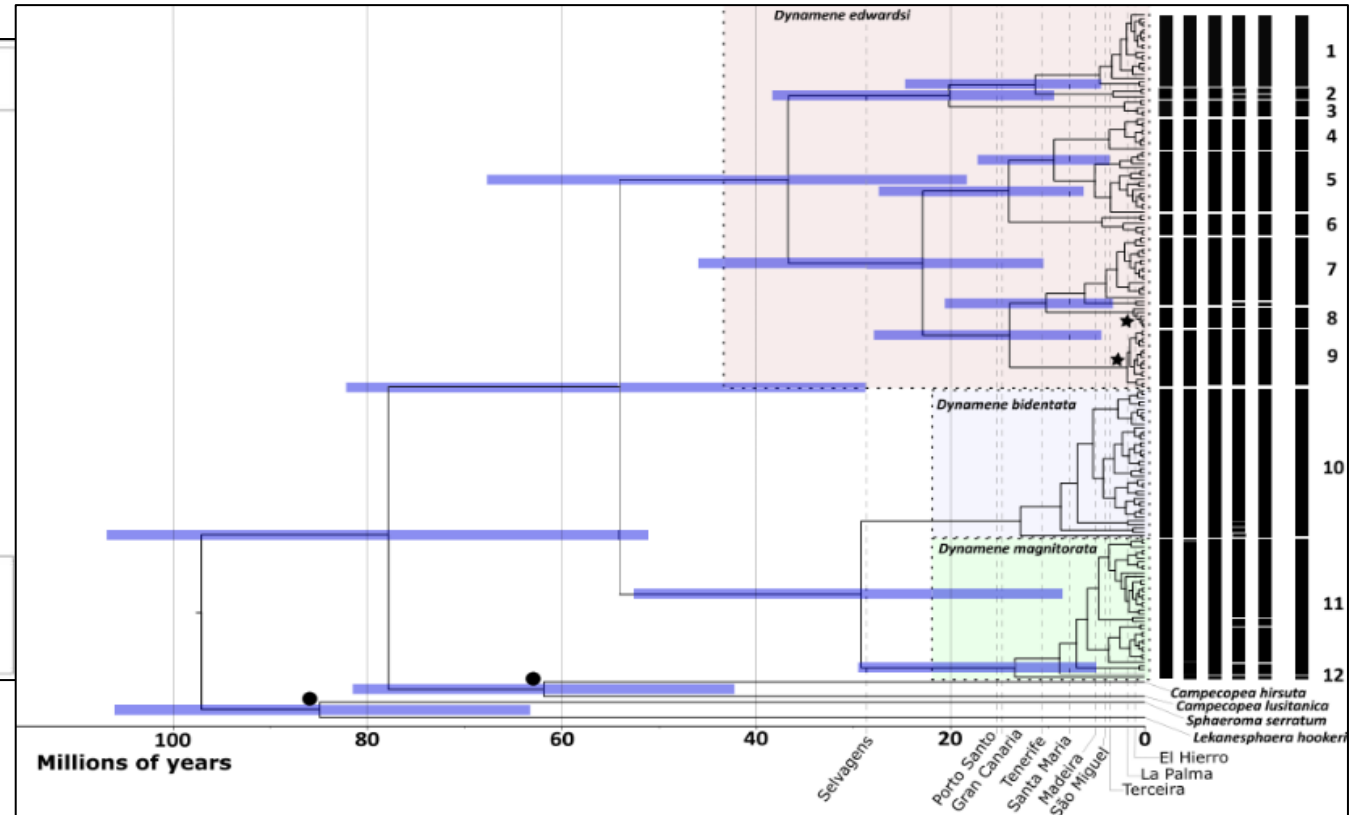
(a) Study area

Four loci used:
COI, 16S, 18S and 28S

Time tree of the three *Dynamene* species

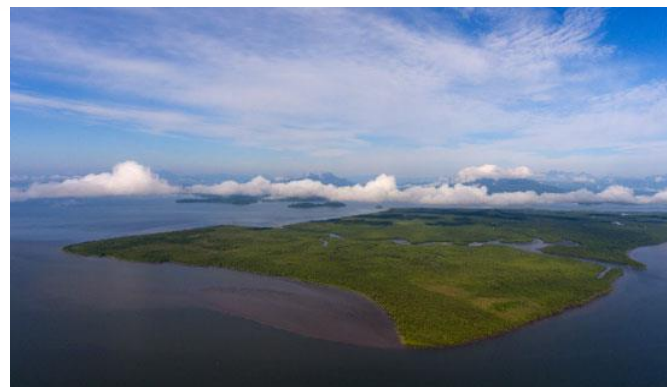
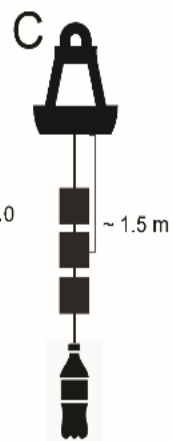
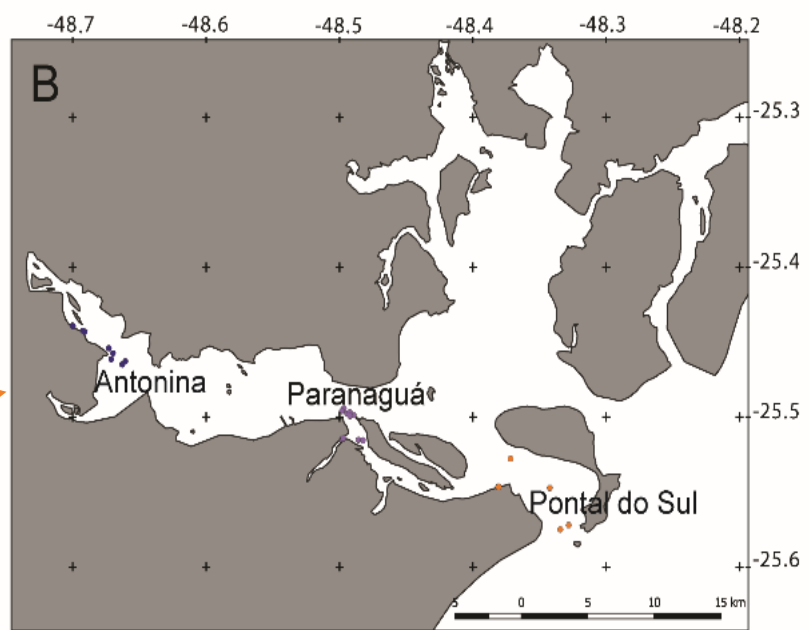
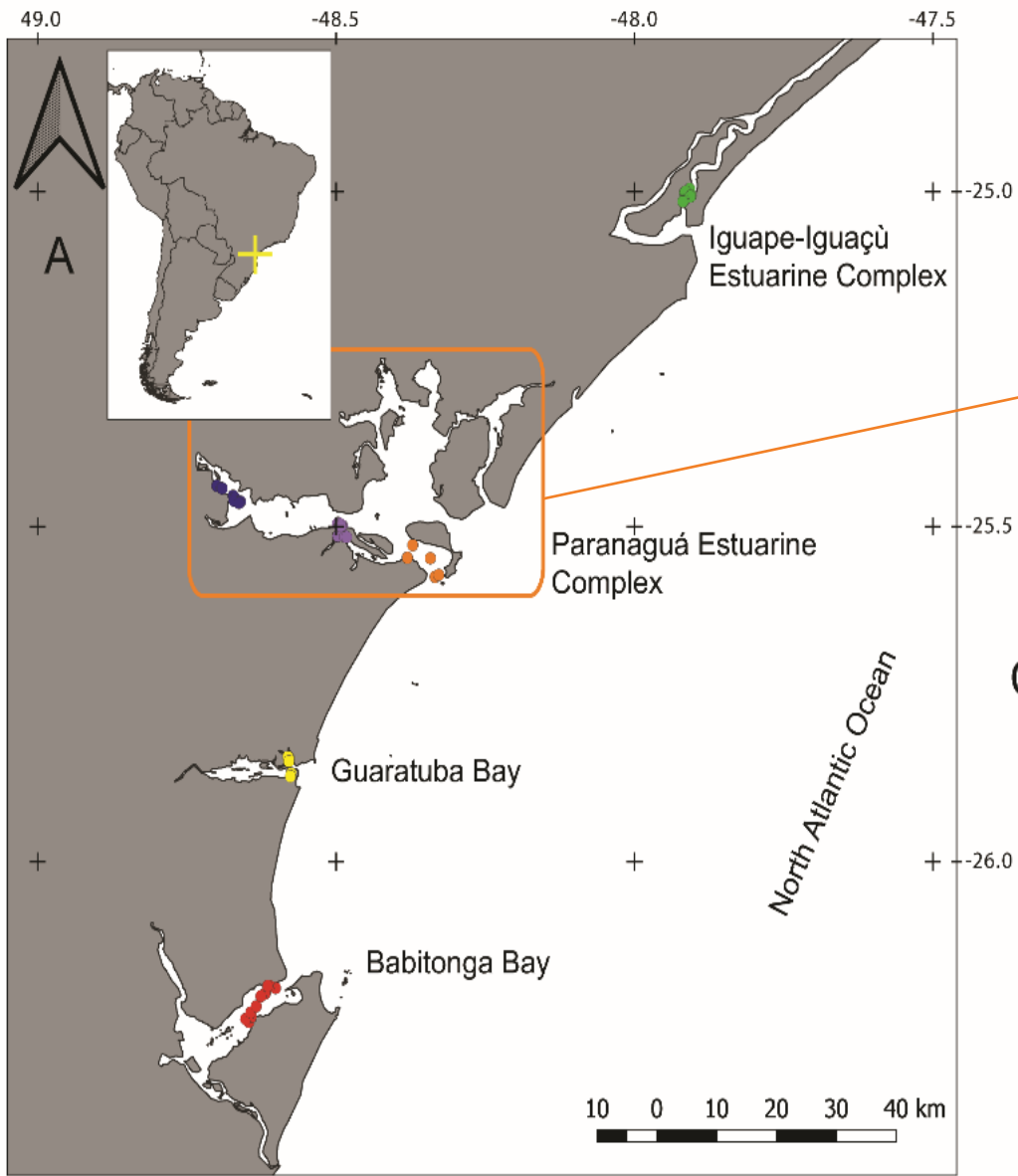


Haplotype network of the three *Dynamene* species based on COI gene

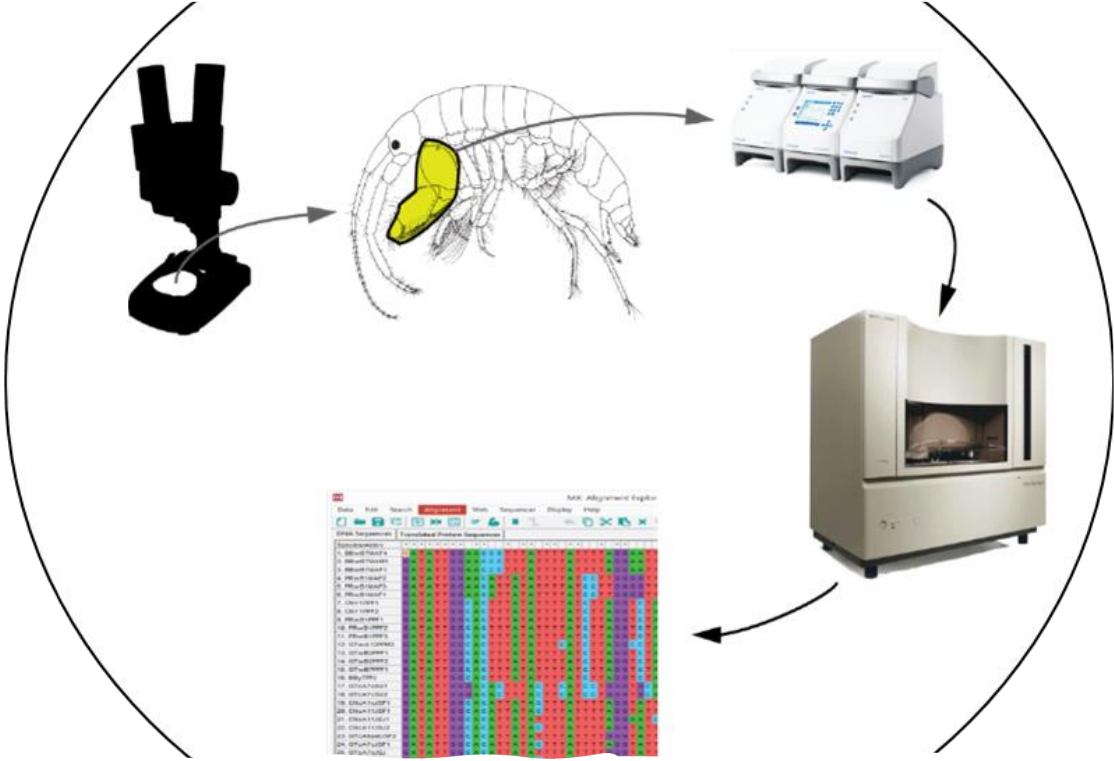
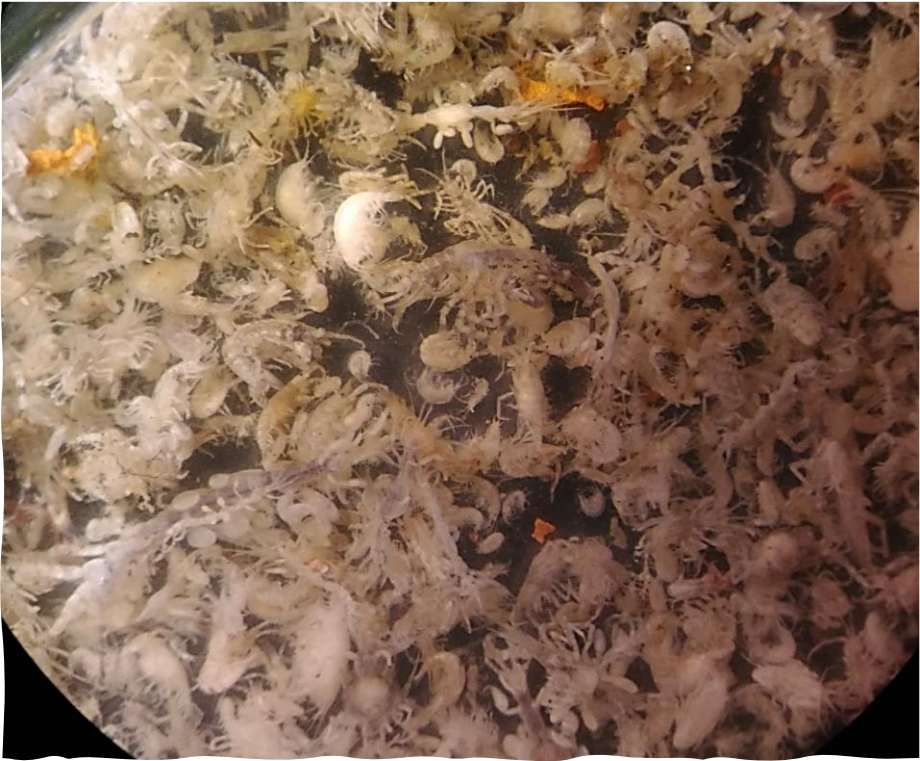




FOULING AND ANTHROPOGENIC IMPACT



CO1 barcoding



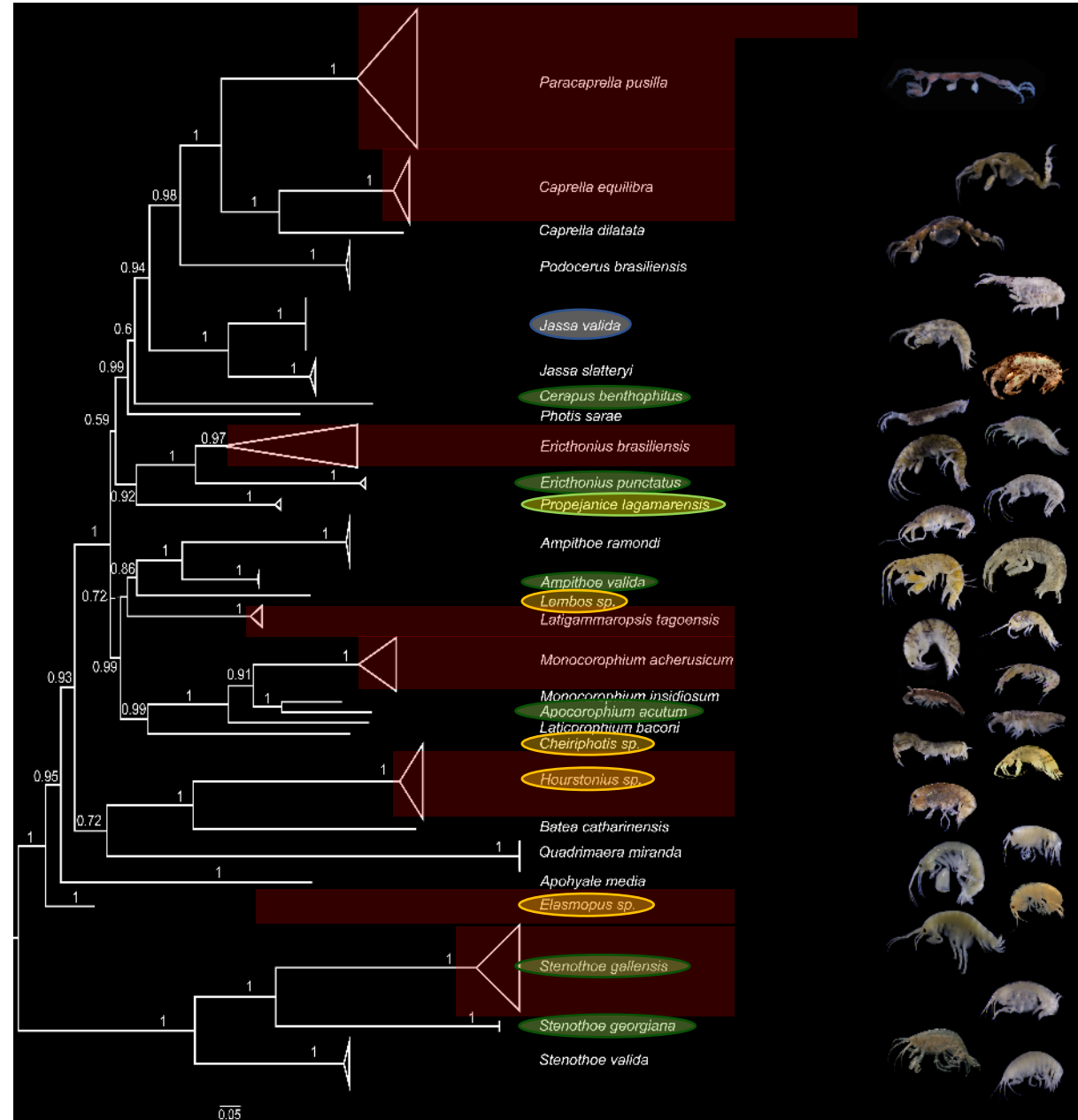
27 Morphospecies

6 new records


1 species rediscovered

5 species new
to science

8 with
multiple BINs



New species described

 Zootaxa 4629 (2): 287–293
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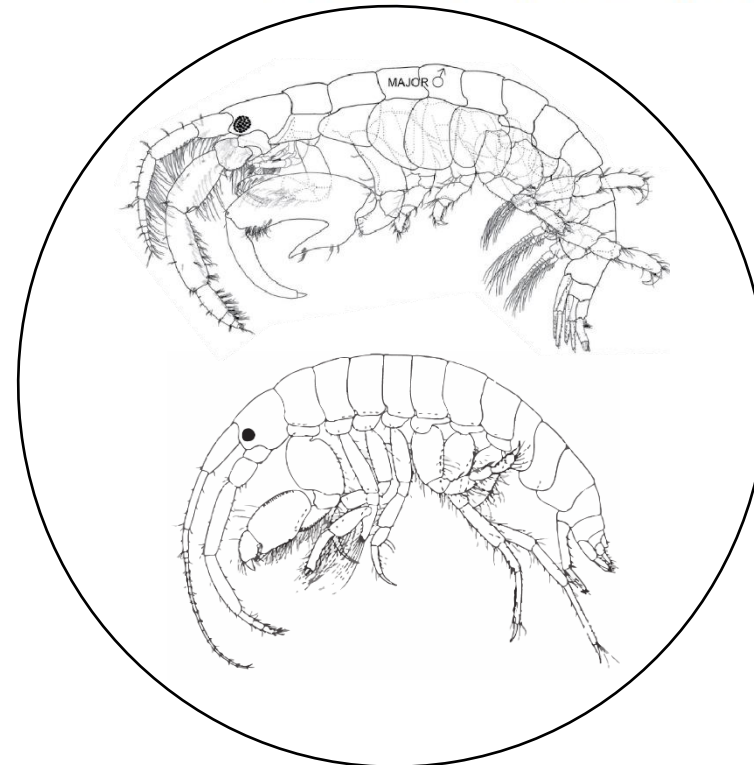
Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

<https://doi.org/10.11646/zootaxa.4629.2.11>
<http://zoobank.org/urn:lsid:zoobank.org:pub:6CC13FC6-7458-46F6-BB52-992528F7B449>

A new genus and species of Aoridae (Amphipoda, Senticaudata), *Propejanice lagamarensis* gen. nov. sp. nov. from Brazil

ALAN A. MYERS¹ & ANDREA DESIDERATO^{2,3}



 Zootaxa 4939 (1): 001–191
<https://www.mapress.com/j/zt/>
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Monograph

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

<https://doi.org/10.11646/zootaxa.4939.1.1>
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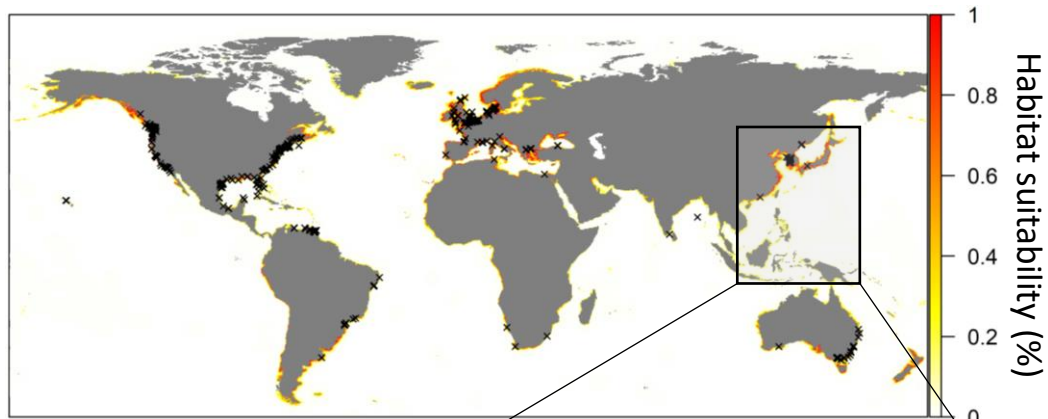
ZOOTAXA

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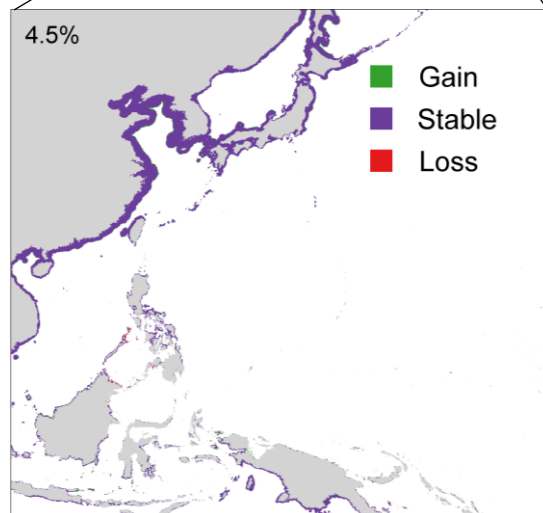
***Jassa* (Crustacea: Amphipoda):
a new morphological and molecular assessment of the genus**

KATHLEEN E. CONLAN¹, ANDREA DESIDERATO^{2,3} & JAN BEERMANN^{2,4,5}

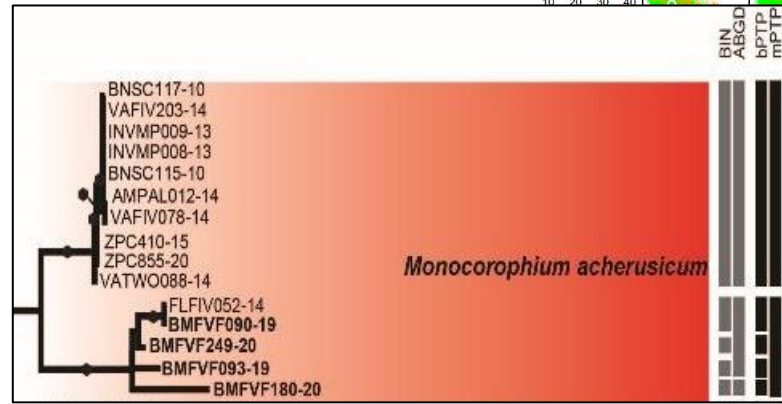
Species Distribution Models and Niche delimitation



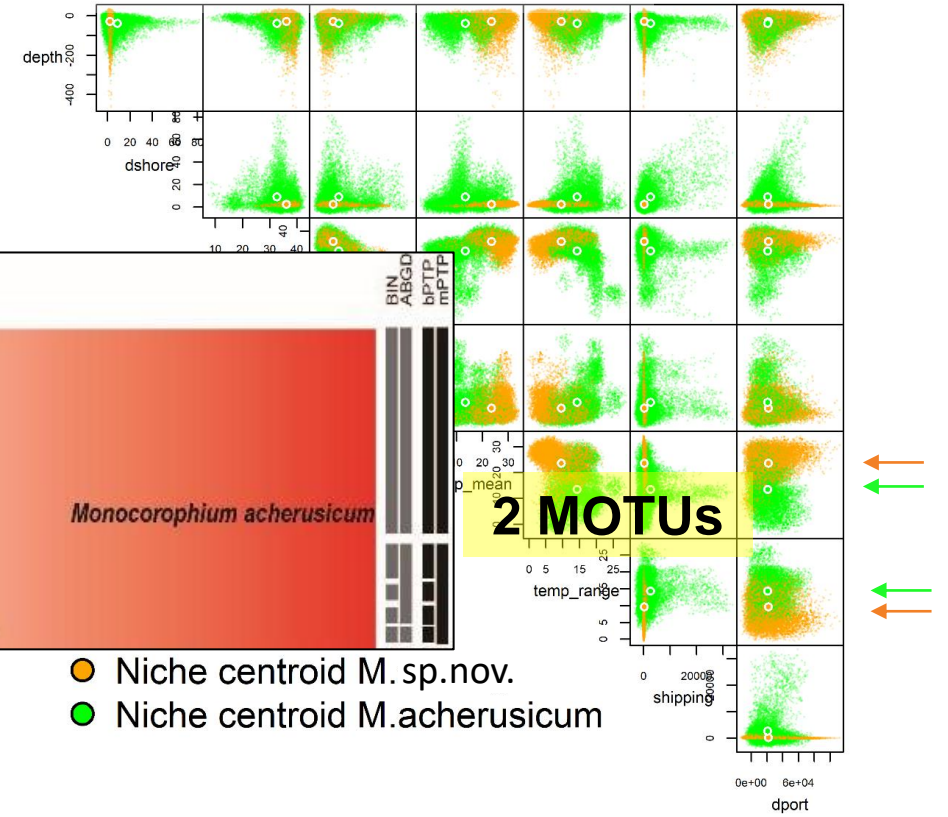
Monocorophium acherusicum



Monocorophium acherusicum

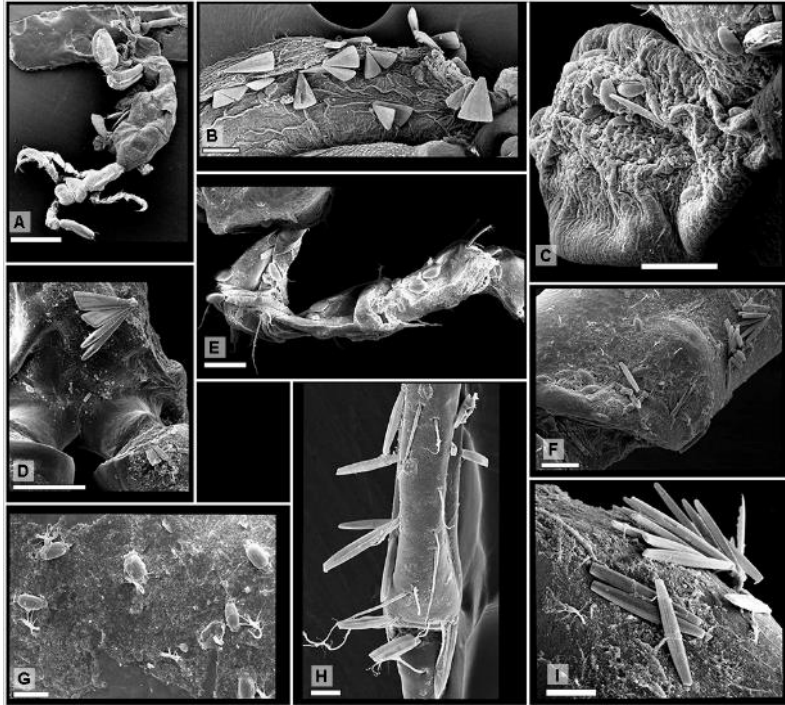


Cryptic species



Diatom Epibionts on Amphipod Crustaceans: a Possible Vector for Co-Introductions?

Andrea Desiderato ^{1,2,3,*}, Jan Beermann ^{1,4}, Maria Angelica Haddad ² and Luciano Felicio Fernandes ⁵



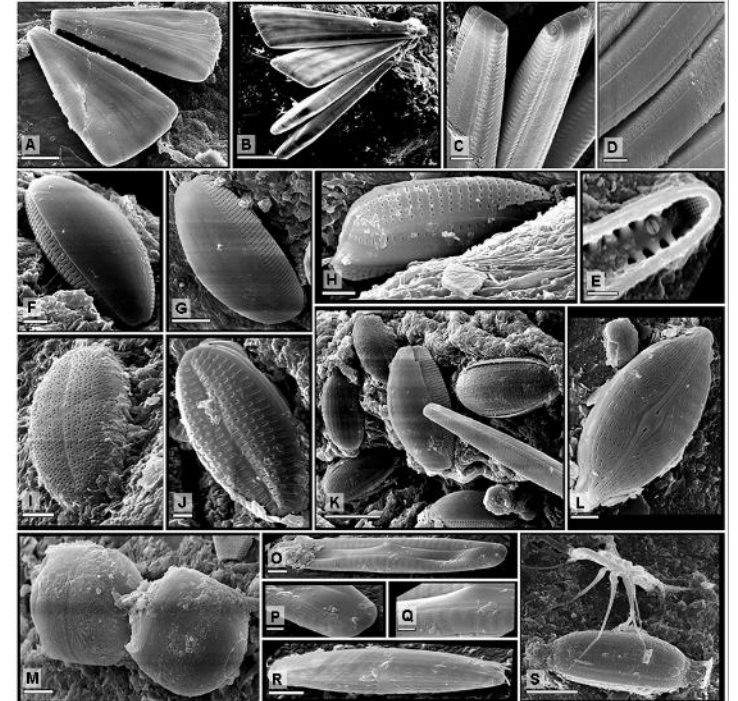
12 diatom species and
one new record



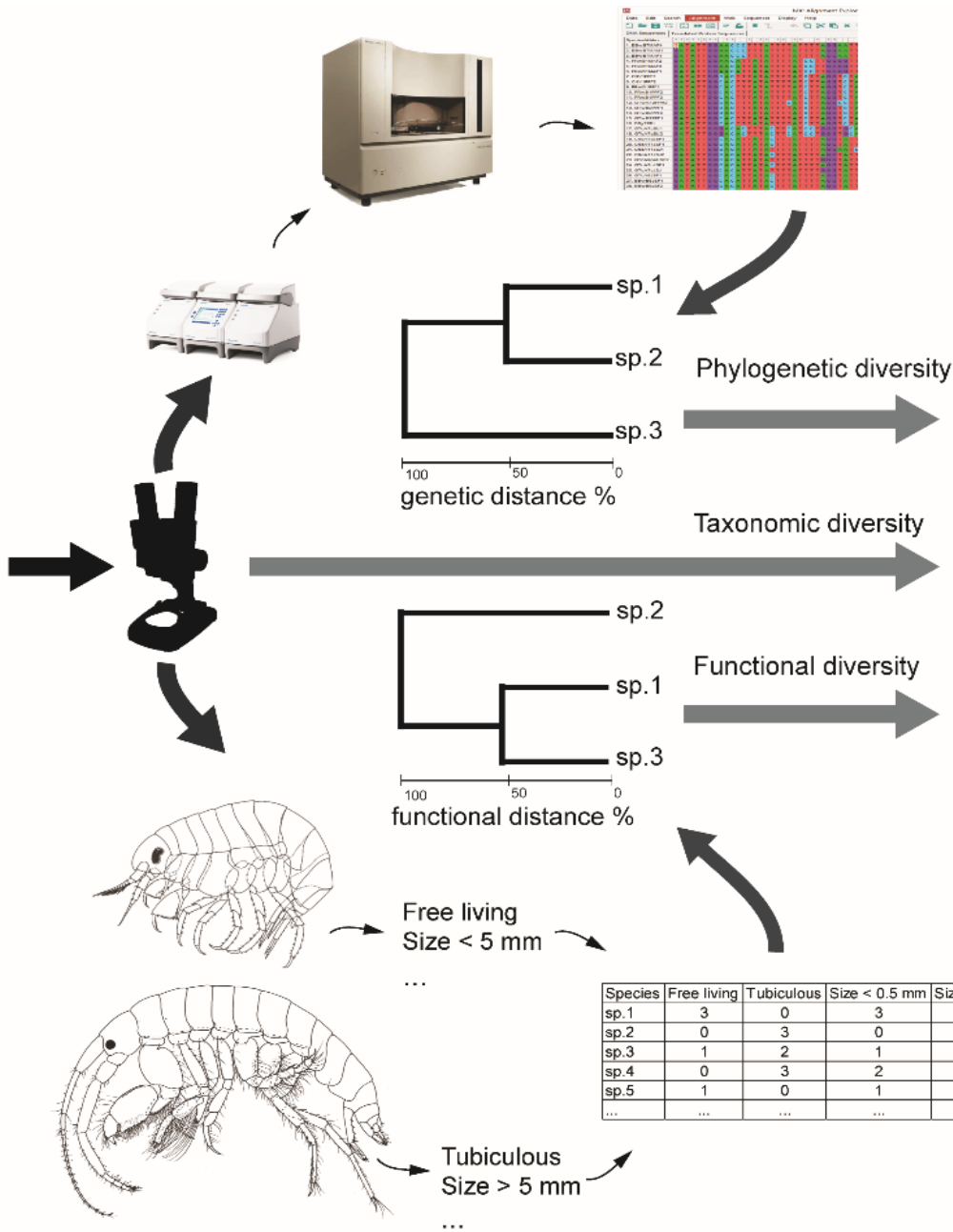
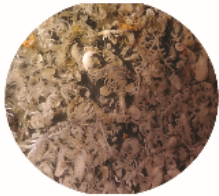
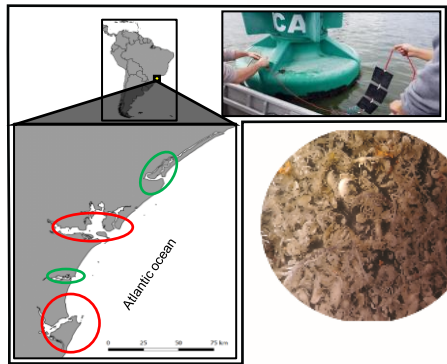
Densely coated male of *Paracaprella pusilla*



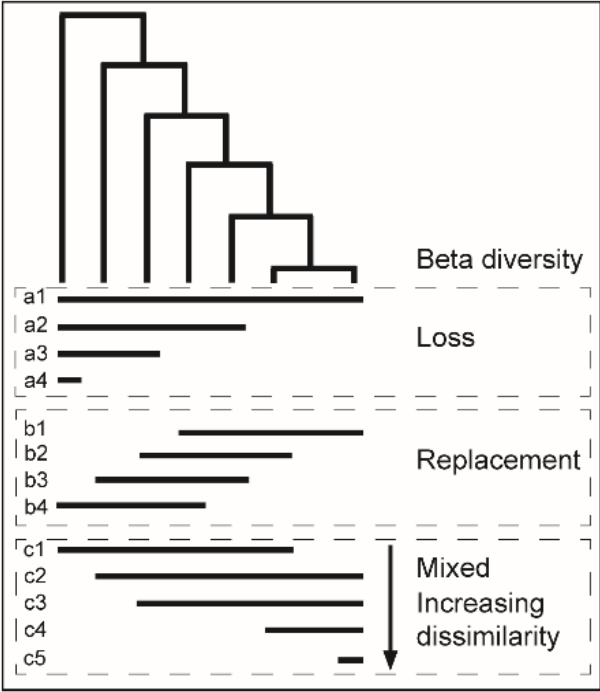
Dissected pereopods of *Paracaprella pusilla*
with epibionts

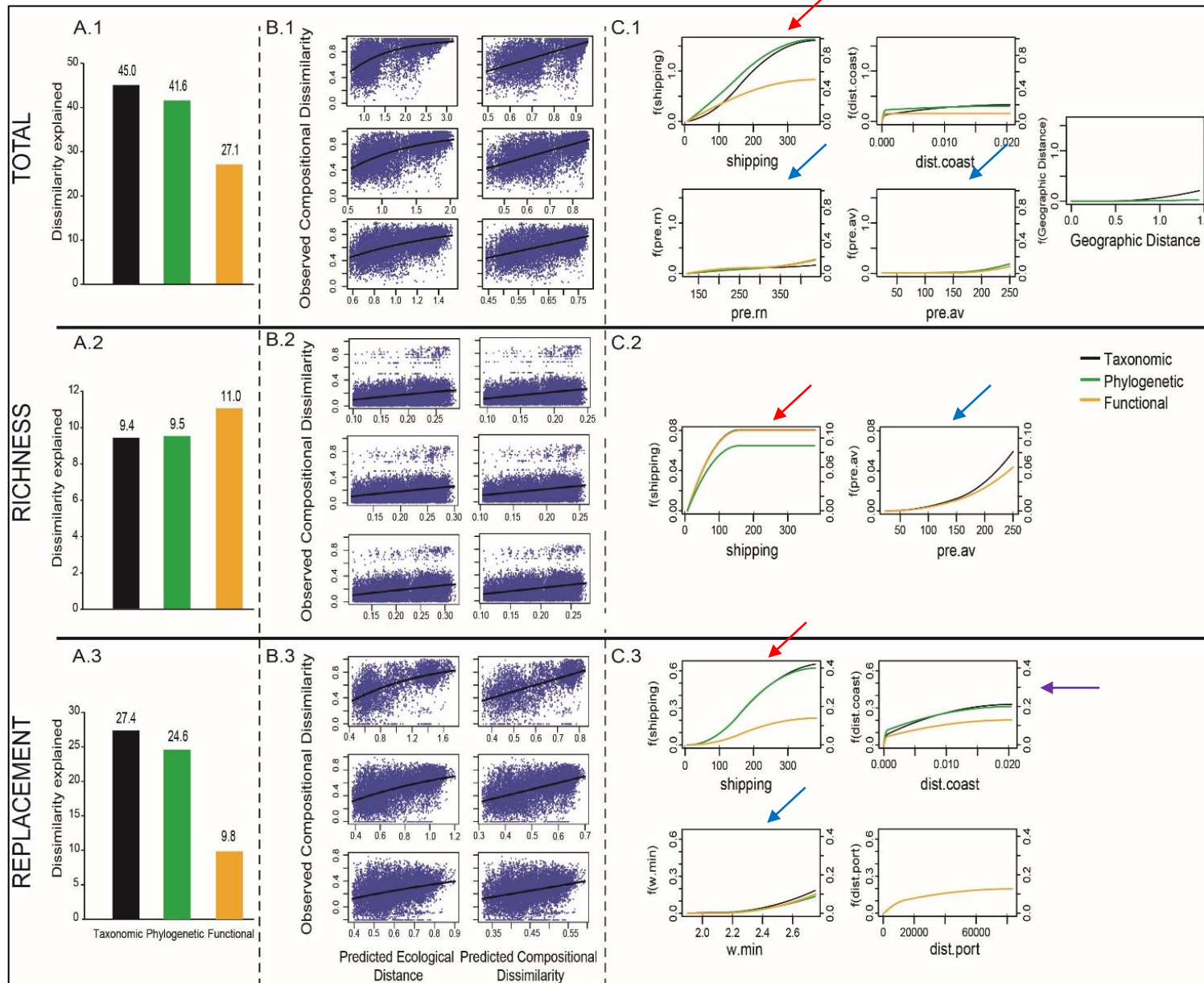


Facets of Biodiversity



Beta diversity





- The **beta-diversity** is heavily influenced by the **number of ships** visiting ports in estuaries
- **Seasonality** influences the similarity between estuaries
- **Stochastic colonization** increasing with distance

Generalised dissimilarity models for each level and type of beta-diversity and relative explanatory variables

Why the Fouling?

- **Status of species** (native, introduced or cryptogenic) **difficult** to assess.
- There is a huge **gap of knowledge**, and in **tropical** and **subtropical regions** this tends to **increase**.
- **Biogeographic** patterns **not clear** needing specific research.

Why Taiwan?

- The studies addressing amphipods usually report **new records** or **new species** and address only a **few families**.
- There are **no studies** on the **fouling**.
- Starting a **baseline** to address **present** and **future threats** is of outmost importance.
- **Fill the gaps** into the knowledge of amphipods at **taxonomical** and **molecular level** (only 49 sequences in BOLD).
- As relatively **young oceanic Island**, but **close** to the continent, Taiwan is also **biogeographically interesting**.

Thank you!



andrea.desiderato@biol.uni.lodz.pl