Life history traits of deep-water gorgonians in the Azores Archipelago

ATLAS 3rd General Assembly

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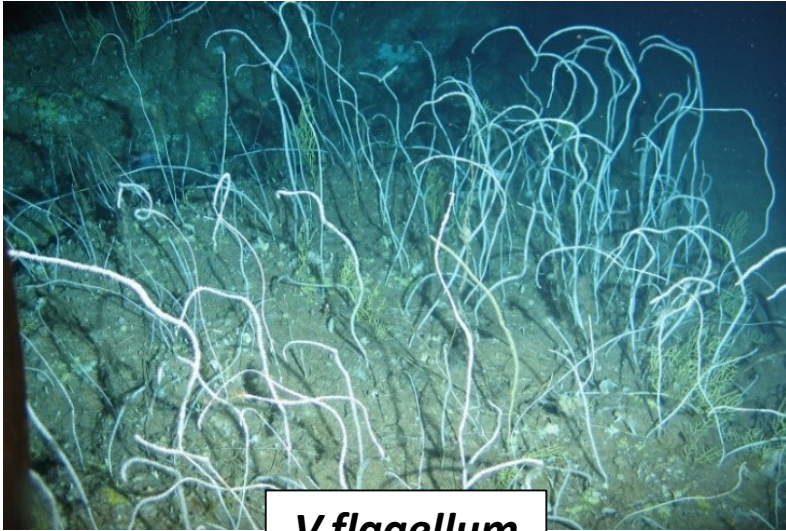IMAR-University of Azores; IEO – Instituto Espanol de Oceanografia
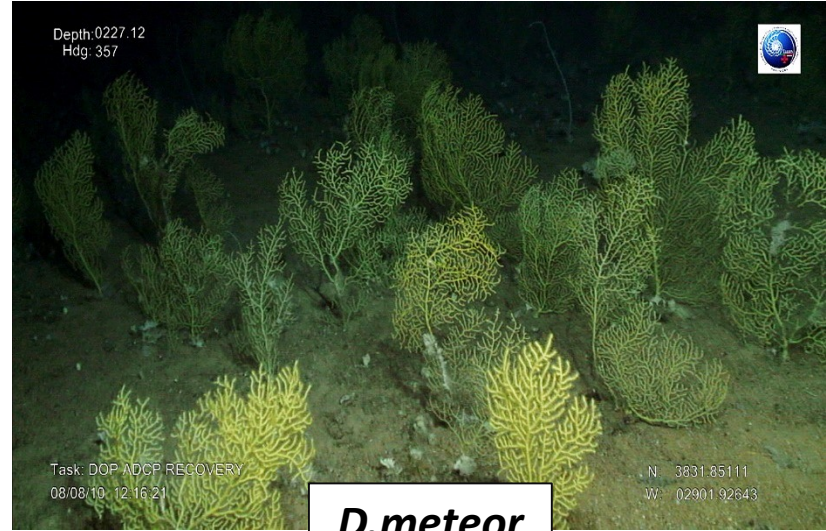
Why deep-sea gorgonians

- Azores: Hotspot of octocoral biodiversity

- Deep sea: Attention on reef-building species: less information on octocoral species
  - Some information on basic reproductive features
  - Very little information on reproductive seasonality and timing

Target species

V.flagellum

D.meteor

Basic Reproductive traits
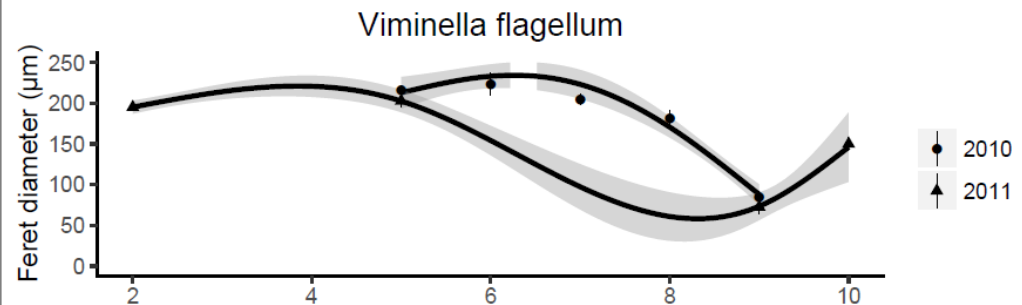
- **Gonochoric**
- **Broadcast spawners**

D.meteor
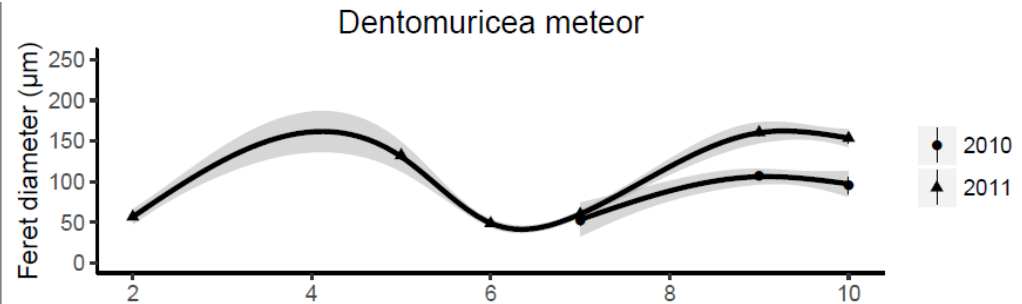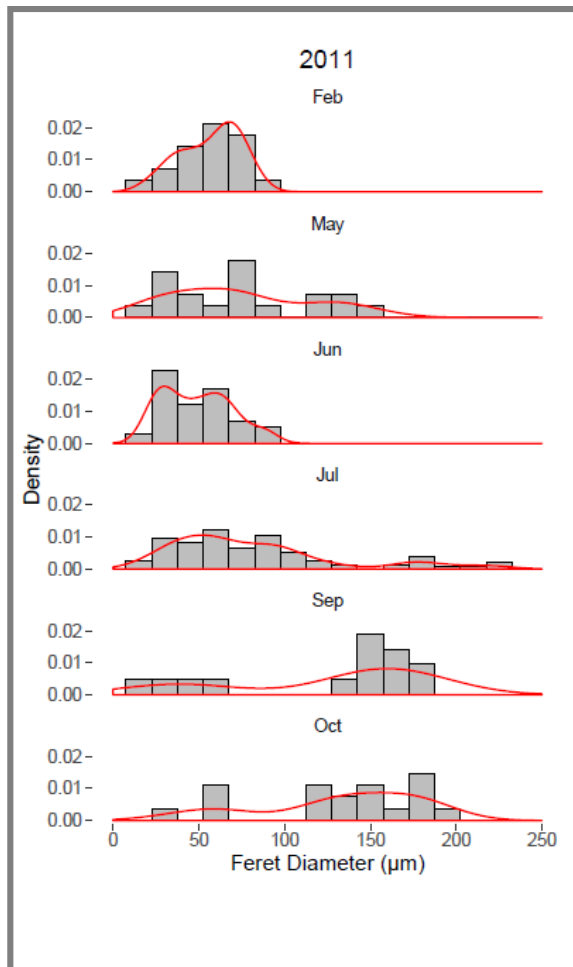

V.flagellum

Mature oocytes: 166.74±46.72
3.15±3.34 **mature oocytes per polyp**
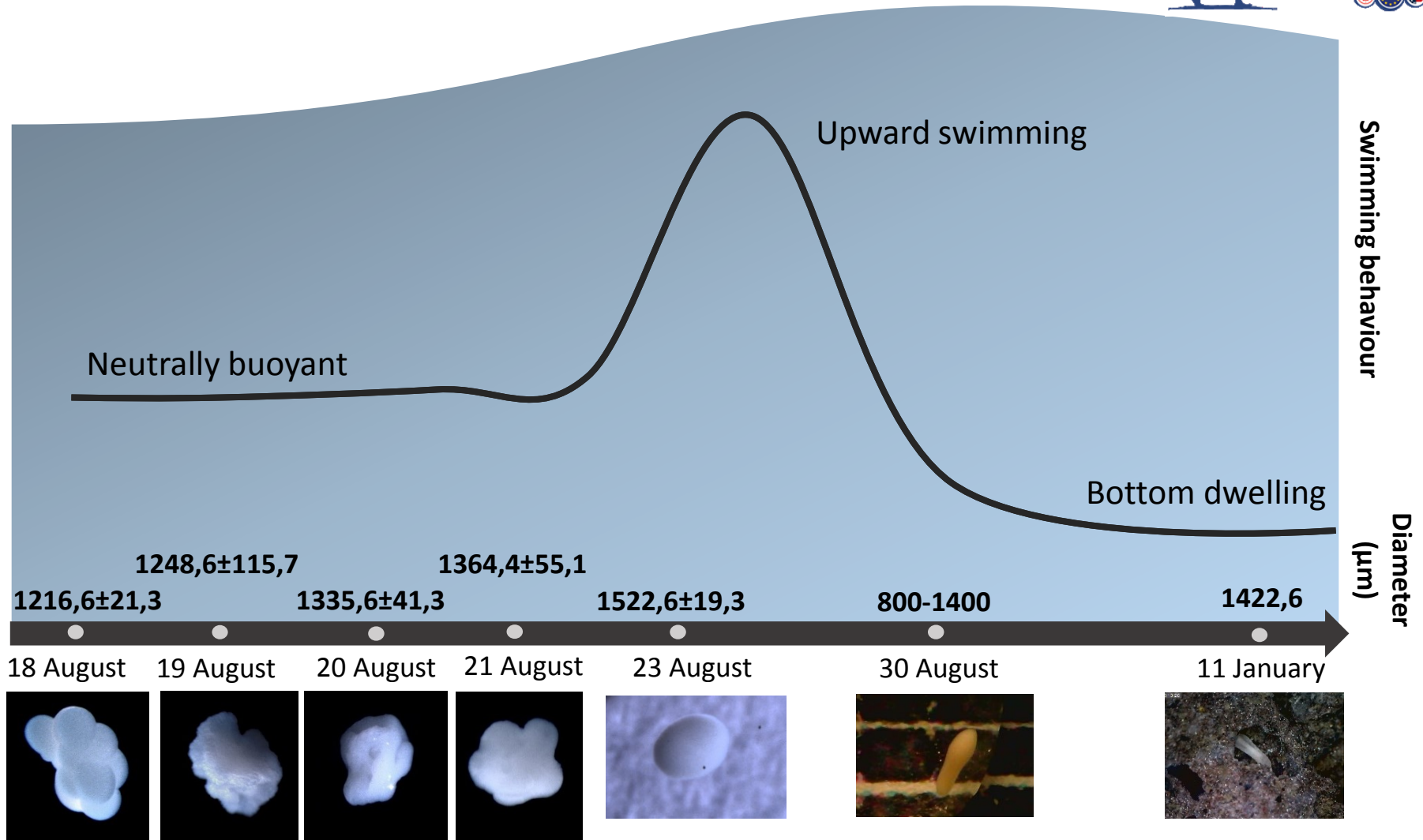**Sex ratio:** 7.6/1 (F/M)

Mature oocytes: 227.97±42.61
10.4±16.94 **mature oocytes per polyp**
Sex ratio: 3.2/1 (F/M)

Reproductive seasonality

Gametogenic cycle different for the two species

Larval biology

Upward swimming

Neutrally buoyant

Bottom dwelling

Swimming behaviour

Diameter (µm)

18 August	19 August	20 August	21 August	23 August	30 August	11 January
1216,6±21,3	1248,6±115,7	1335,6±41,3	1364,4±55,1	1522,6±19,3	800-1400	1422,6

Conclusions

- Although life history traits seem to be similar accross cold-water corals, important differences might exist in:
    - Reproductive traits
    - Larval biology and behaviour

- **Questions:**
    - How do differences in reproductive biology relate to larval biology and larval survival upon different stressors?
    - Can these differences be incorporated in models?
    - Can these differences explain differences in species dispersal and/or distribution?