



Sponge restoration aquaculture

Shelly Krueger

Sponge Restoration Aquaculture



Vase sponge propagules inside FWC-permitted nursery, Marathon, FL (Jennifer Stein)

03 / 08 / 25

Vase sponge propagule 2-years later

(Shelly Krueger)





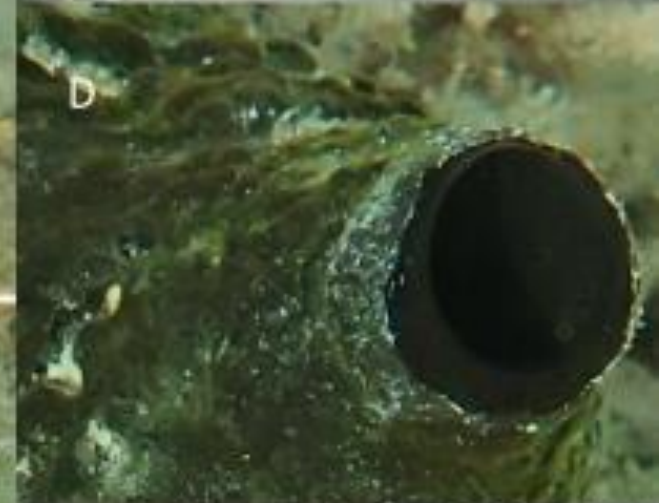
Vase sponge propagules 4-years later (Dr. Mark Butler)

Objective 1:

Determine spawning months for 2 species

Sheepswool Sponge
Hippospongia lachne

Loggerhead Sponge
Spheciospongia vesparium



Sheepswool Sponge *H. lachne*

Oogenesis & Spermatogenesis



Fig. 1. Sheepswool eggs and fertilized ciliated pre-larva, scale bar 400 μm

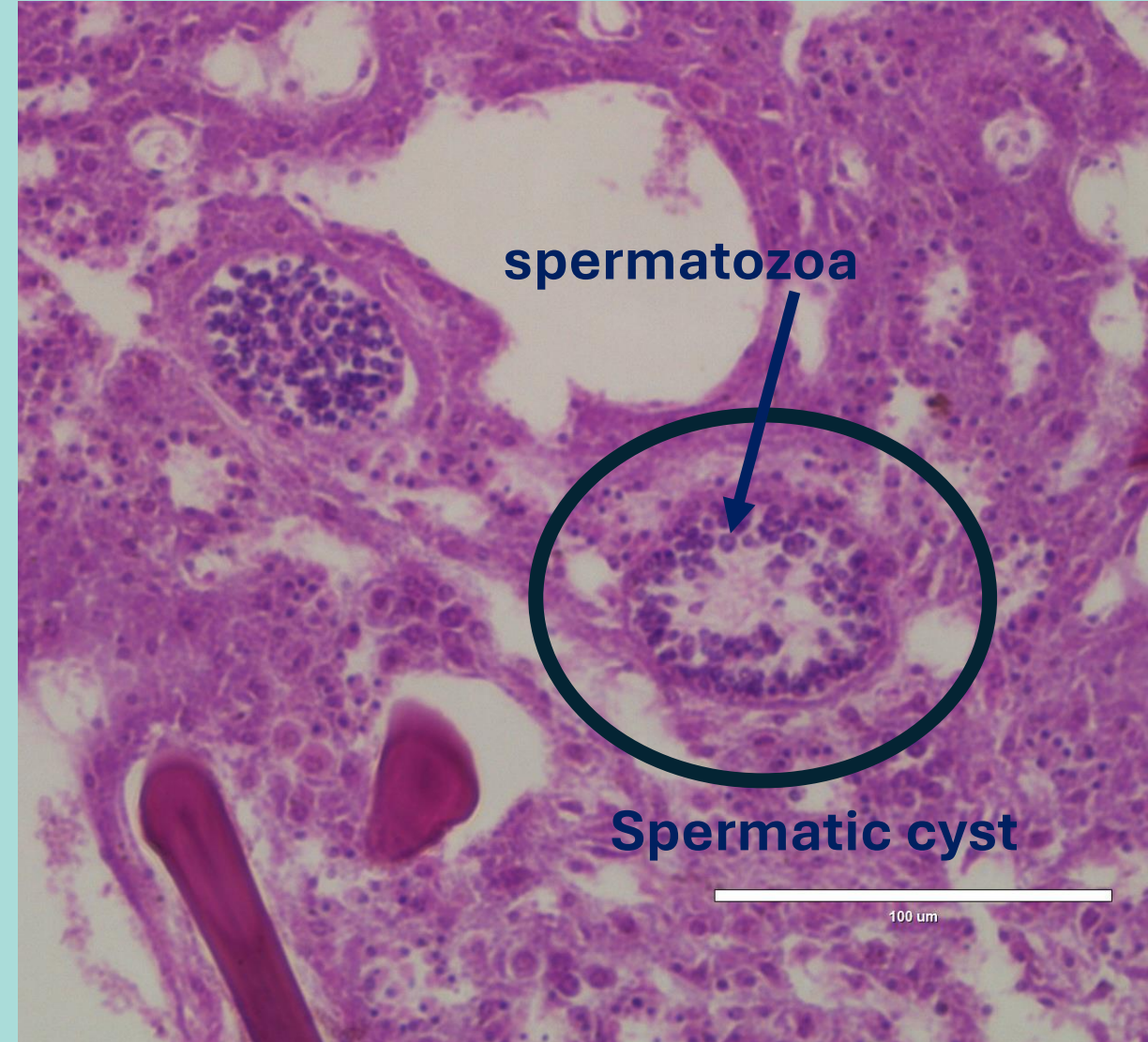
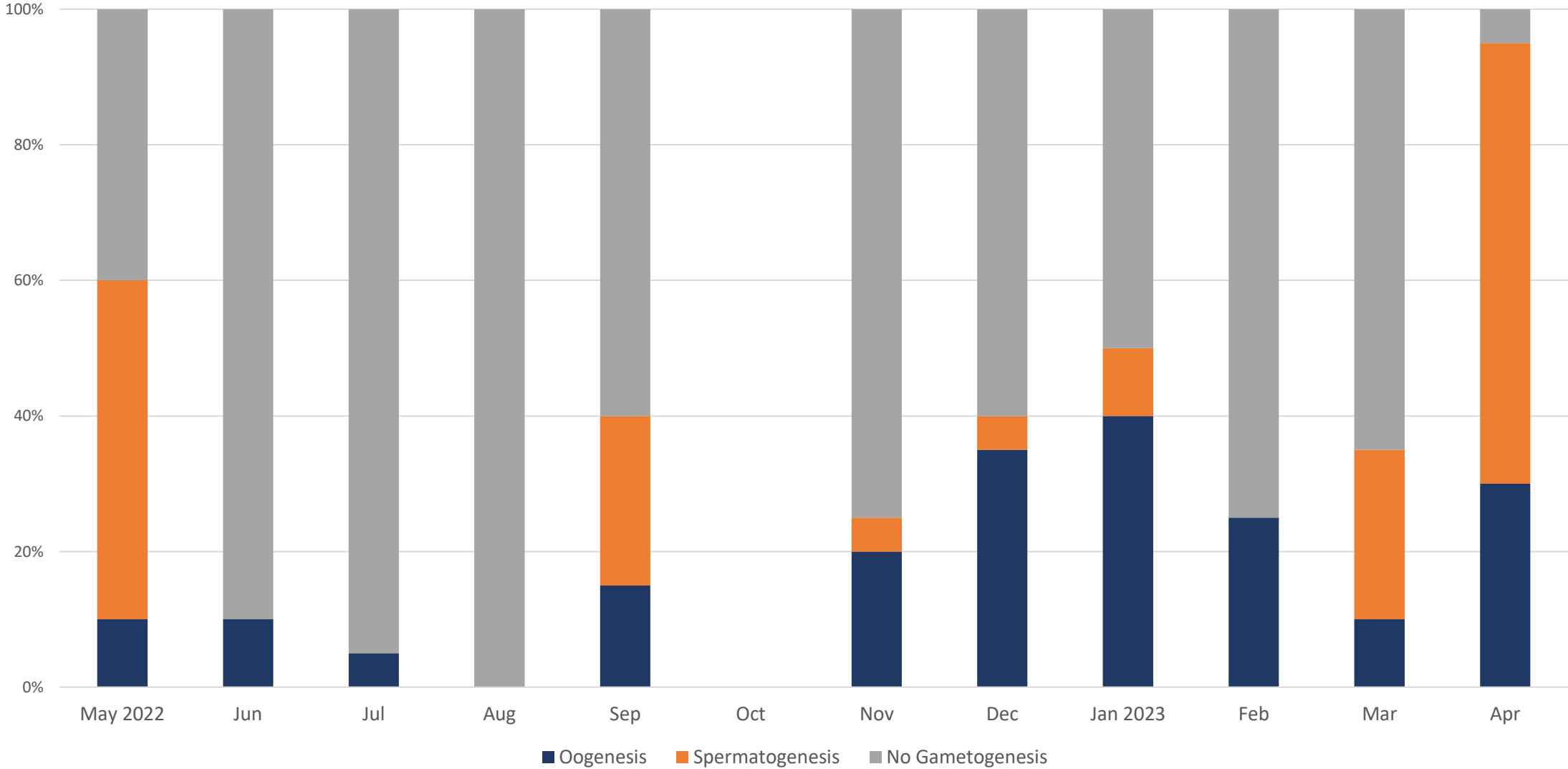


Fig 2. Sheepswool spermatogenic cysts, scale bar 100 μm (Shelly Krueger)

Sheepswool Sponge *H. lachne* percent gametogenesis by month (n=20/month)



Objective 2: Survey propagule gametogenesis in FWC-nursery

Sheepswool Sponge
Hippospongia lachne



Glove or Mountain Sponge
Spongia graminea

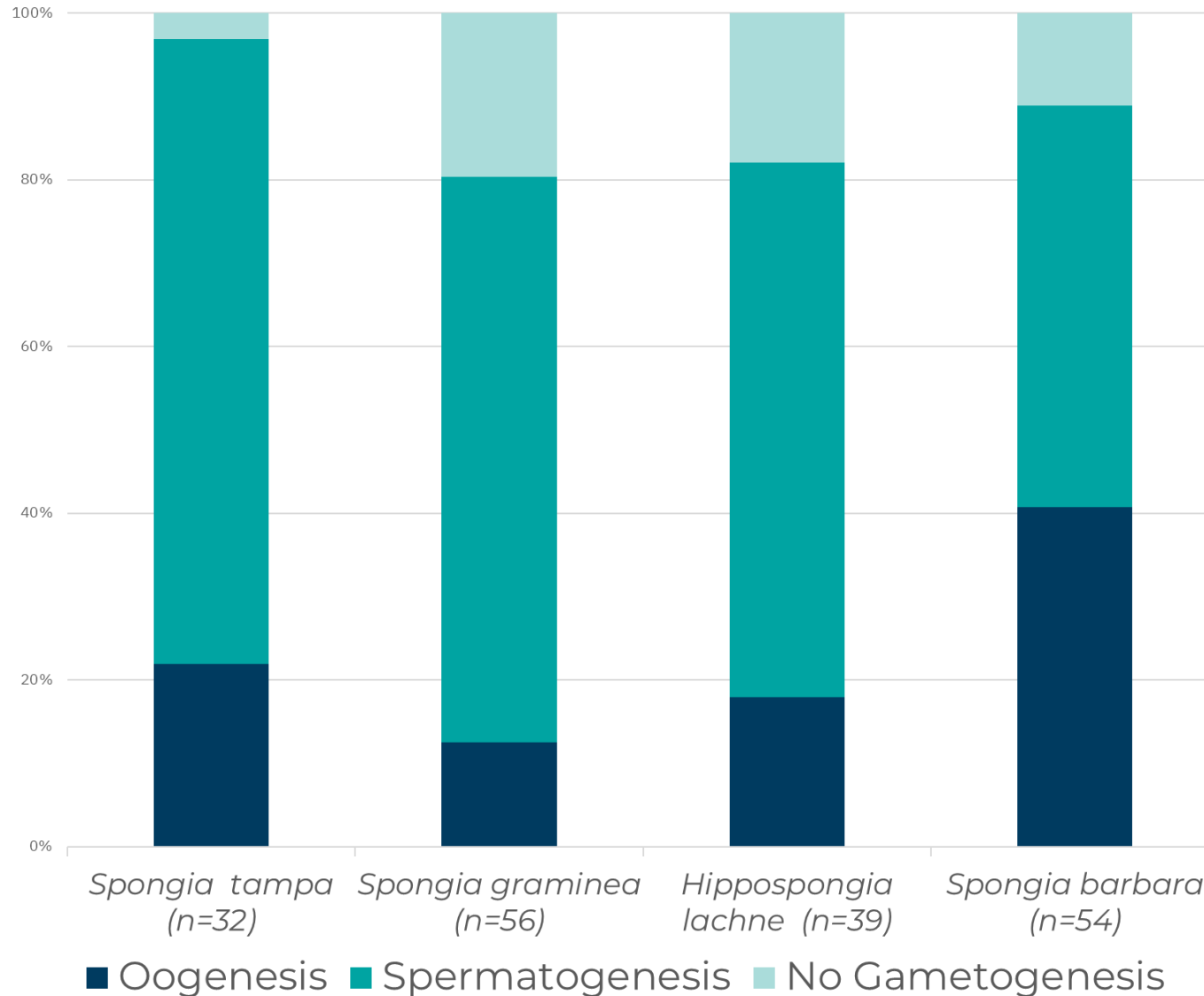
Key West Grass Sponge
Spongia tampa



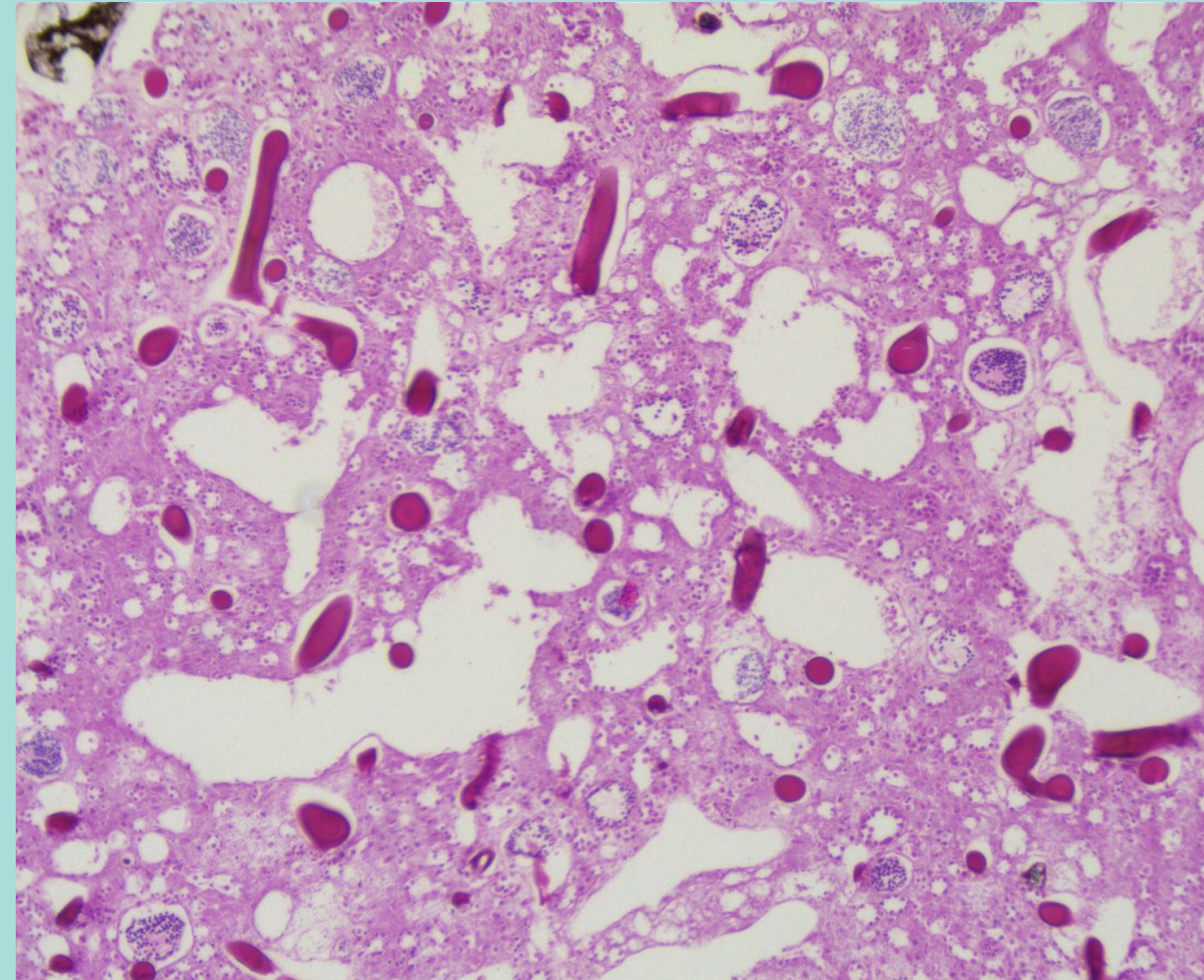
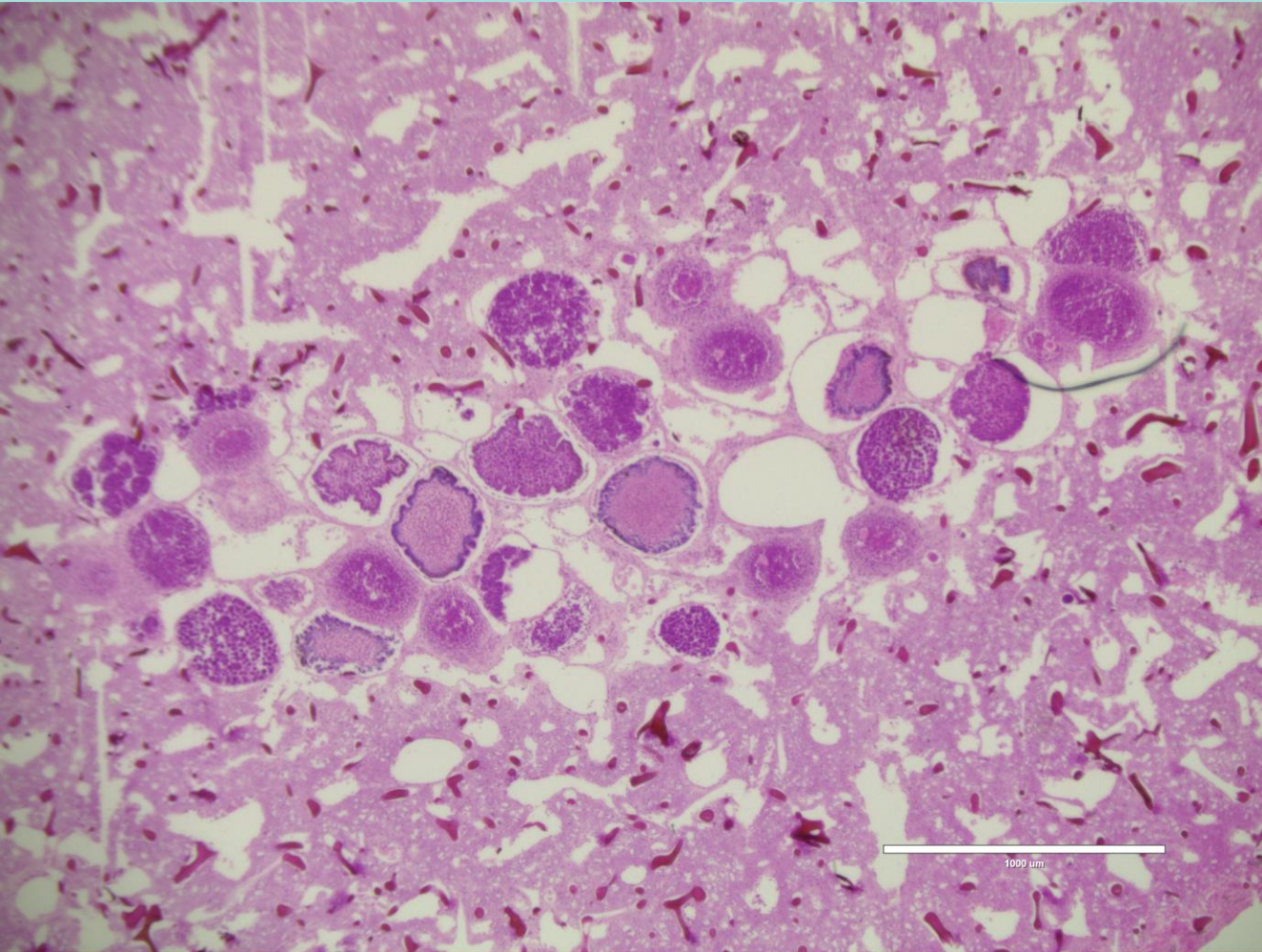
Yellow Sponge
Spongia barbara



Percent propagule gametogenesis in 4 Spongiid species (April-June)



Restored Sheepswool Sponges exhibited higher rates of fecundity & #gametes



Yellow sponge eggs and larva, scale bar 1,000 μm . Yellow sponge spermatic cysts, scale bar 400 μm (Shelly Krueger)

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