

FAMILY: SPARGANIACEAE

Genus: *Sparganium* (bur-reed)



1. PRECONDITIONING:

METHOD	TIME (hrs)	TEMP (°C)
soak	overnight	20-25

Morphology

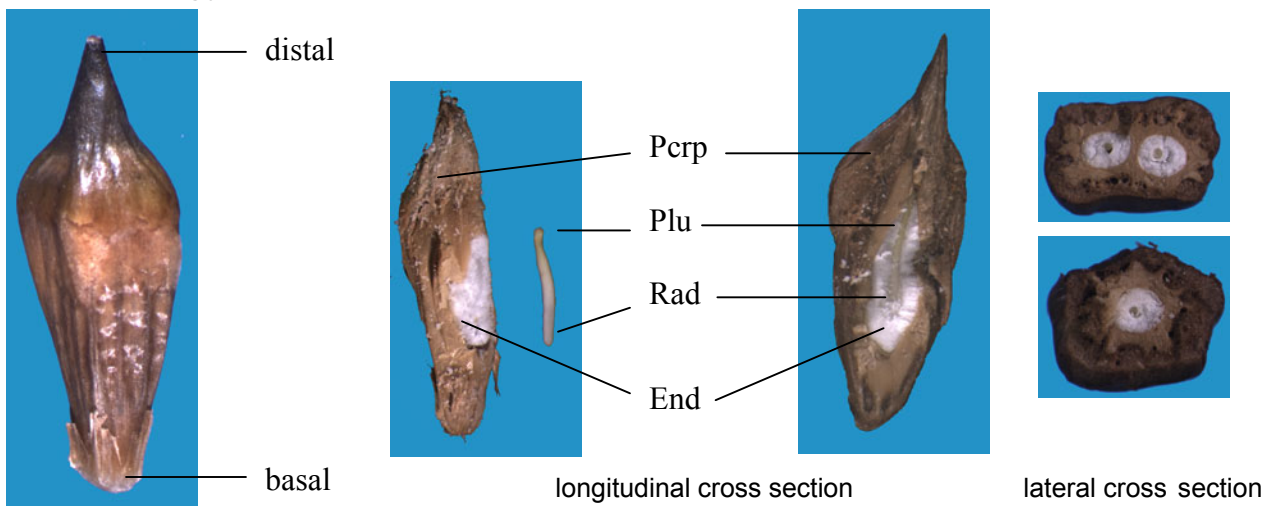


Fig 1 External

Fig 2 Embryo

Notes: Seed unit may contain one or two seeds.



2. PREPARATION AND STAINING:

METHOD	TZ Conc(%)	TIME (hrs)	TEMP (°C)
1. Cut longitudinal section to expose endosperm.	1.0	overnight	20-30
2. Laterally cut and remove distal end.	0.1	overnight	20-30

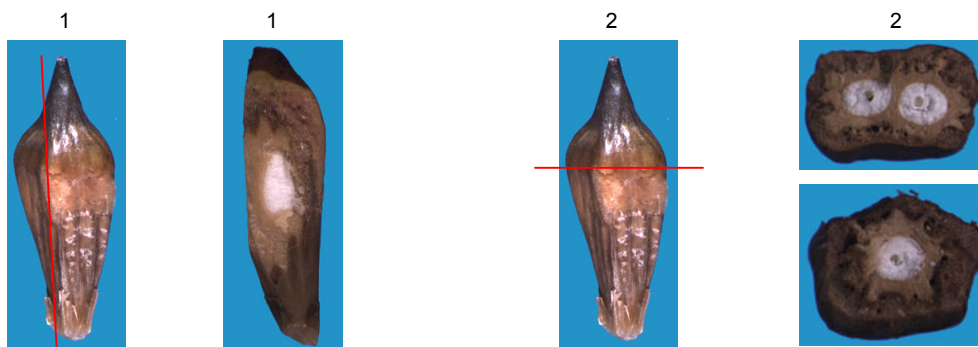


Fig 3 Preparation methods

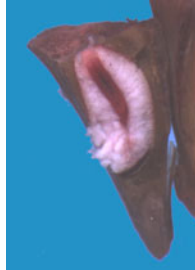
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Post Staining Notes: Remove embryo from seed unit.

Longitudinally cut seeds: cut another longitudinal section to expose the embryo.

Laterally cut seeds: Embryos will protrude slightly from the cut end. Grasp embryo with forceps and gently pull the embryo out from the top of laterally cut seed units.



longitudinal cut



lateral cut with protruding embryos prior to removal



3. EVALUATION:

VIABLE (NORMAL STAINING)

- entire embryo evenly stained
- endosperm will not stain

NON-VIABLE (ABNORMAL OR NO STAINING)

- any part of the plumule or radicle, unstained
- soft or flaccid embryo

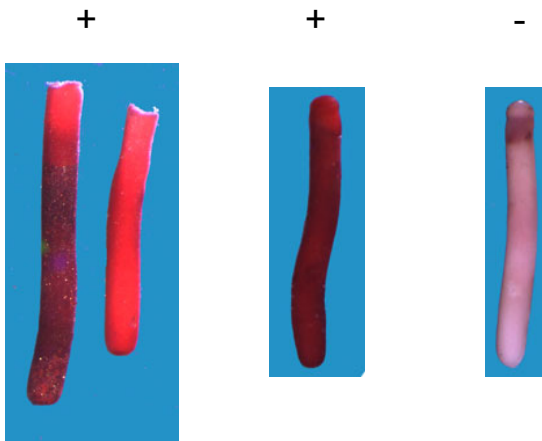


Fig 4 Seed stain evaluation

Notes: The embryos on the left were removed from laterally cut seed units. The cut is at the top of the photo. The embryos in the center and right photos are intact embryos removed from longitudinally cut seed units. In seed units with more than one embryo, the seed unit is viable if at least one embryo is normally stained.