Field separation of deergrasses *Trichophorum* - side 1

If with **ripe nuts** (and hence not the hybrid), **the two species can be reliably identified in the field – see key below** ⇒

The widespread, often abundant **hybrid** (side 2) **is completely sterile, and never ripens nuts**! Morphologically, it bridges the gap, and at each end of the spectrum, some samples may be less clear. It frequently outnumbers the parents.

⇒ **A: is your plant carrying ripe nuts?** Then it is one of the **species** - see comparison below.

⇒ **B: has the plant got 'bare tops' and no ripe fruits (July to Sept)?** Then it's either the **hybrid** (side **2**), ***or*** either species, aborted: use leaf-sheath opening, stem-width, (and ideally stem-section).

[In any cases of doubt, examination of stem cross-sections should always be the final arbiter – see website, URL overleaf. Gather vouchers (**with basal sheaths**), especially if the plant is thought to be *T. cespitosum s.s.*, in a new area.]

⇒ A: Separation of RIPE plants (i.e. species, not hybrid) in the field

Common Deergrass *T. germanicum*

- **typically larger in all its parts but** can mimic *T. cespitosum* if dwarfed
- **tussocks** often robust, tall, dense. (But can be short, and diffuse like *cespitosum*.)
- **stems** thicker - often up to **1 mm** (but beware: can be much less)
- **heads** usually with more nuts (often more than 4, but can be only 1–2)
- topmost **leaf-sheath opening** always strongly **oblique**, and therefore long, longer axis **2–4 mm,** (but measure at least four)
- ripe **nuts** brown, and often with a grey bloom
- in wet heath and acidic peat communities of various kinds; usually on thinner peats or peaty mineral soils; even flushed acid rock ledges
- **proliferous** plants quite frequent

Northern Deergrass *T. cespitosum*

- usually **strikingly slender, insubstantial**
- **tussocks** less tall and less dense; can be diffuse with scattered stems, and then inconspicuous
- **stems** thinner - *ca.* **0.45-0.70 mm**; can be flexuous, '**wispy**', at times
- **heads TINY, very** inconspicuous with **few** nuts (mostly 1–4)
- topmost **leaf-sheath opening** transverse, or to *ca.* 45°, and longer axis *ca.* **1 mm** across (but measure at least four); can look almost circular
- ripe **nuts** dark brown (look blackish in the field) and usually shiny
- two very different habitats: i) ± **mineral-rich** seepage communities; ii) runnels and sphagnum lawns on **deep peat mires**
- **never** proliferous

**** … is completely sterile - *no nuts!* ****

In the period July to September, when plants of either species typically have ripening or ripe nuts and retainted glumes, populations of the hybrid are obvious in having '**bare tops**' - the aborted fruits and glumes are shed. White bristles and filaments may remain.

However, plants of either species **often fail to ripen fruits**. Even whole populations can abort. If this is suspected, then use sheath-opening angle and length, stem-width, or (better) resort to stem cross-section. (The glumes tend to be retained for longer in aborted examples of *T. germanicum*.)

Hybrid Deergrass
T. × foersteri

- **tussocks** vary much in size and vigour, depending upon habitat: can be robust, tall, dense when with *T. germanicum,* or small and weak in calcareous habitats with *T. cespitosum s.s.*
- **heads** soon abort (during July) and drop fruits and glumes leaving **'bare tops'** (note aborted spikelets of the *species* often retain glumes longer)
- **nuts** never ripen - whitish or greenish and never filled out, although can elongate before being shed
- **best character in the field:** topmost **leaf-sheath opening** oblique, between the parents, typically *ca.* **1.4-1.6** mm across (but measure at least four)
- **stem-widths** vary: typically *ca.* 0.65-0.85 mm (*cespitosum* often narrower; *germanicum* often wider)
- in **acidic** peat communities of various kinds, usually wetter than the *germanicum* parent, and also accompanies the *cespitosum* parent in both its mineral-seepage and its peat-mire habitats; can **greatly outnumber** both
- **proliferous** plants quite frequent (as in *gemanicum* but not *cespitosum*)

Stem cross-section is diagnostic in almost all cases.

Please also visit

http://www.edencroft2.co.uk

for much more information. Please also comment with your experiences.

Jeremy Roberts, April 2018