A new smut fungus, *Sporisorium centrale* sp. nov., on *Themeda* from Australia

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*Sporisorium centrale* sp. nov. (*Ustilaginaceae*, *Ustilaginomycetes*) is described and illustrated from *Themeda triandra* collected in the Northern Territory, Australia. It is compared with *Sporisorium punctatum*.

**Key words:** *Sporisorium punctatum*, taxonomy, *Ustilaginomycetes*.

**Introduction**

The smut fungi on *Themeda* were revised by Vánky (1994) who recognised 18 species in three genera and provided a key. Since then, *Sporisorium exsertiformum* Vánky (1995) and *S. themedae-cymbariae* Vánky (1997) have been described on *Themeda*. Examination of a smut fungus collected from central Australia in 1933 revealed that it was similar to *S. punctatum* (L. Ling) Vánky (1994) but sufficiently different to establish a new species, which is described and illustrated as follows.

*Sporisorium centrale* R.G. Shivas & K. Vánky, *sp. nov.*

Typus in matrice *Themeda triandra* Forssk., Australia, Northern Territory, 29.IV.1933 (BRIP 26820). Isotypi in PERTH 831034, HUV 19722.

*Sori* spiculas omnes unius racemi occupantes, (aristae numquam visibles), cylindrici, 1 × 8-12 mm, glumis plerumque celati, peridio cinerascenti usque brunneo tecti, columella simplex, massa sporarum nigra, pulverea. *Sporae* maturae singulae, globosae, subglobosae, ovoideae usque subpolyedrice irregulares, 7.5-9 × 8-11(-15) μm, rufobrunneae; pariete aequaliter, ca. 1.0 μm crasso, moderate dense, subttiliter punctato. Cellulae steriles non observatae.

*Sori* in all of the spikelets of a raceme (awns never seen), cylindrical, 1 × 8-12 mm, mostly concealed by the glumes, covered by a thin grey to light brown peridium, columella one, stout, simple, spore mass black, powdery.

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Spores when mature single, globose, subglobose, ovoid to subpolyhedrally irregular, 7.5-9 x 8-11(-15) μm, reddish-brown; wall even, *ca.* 1.0 μm thick, moderately densely, finely punctate. Sterile cells not seen.

Known only from the type collection in Australia.

**Notes:** *Sporisorium centrale* closely resembles *S. punctatum* in sorus and spore morphology. One difference between these two species is that under Nomarski interference light microscopy (LM) the spore wall of *S. centrale* is finely punctate (Fig. 2), whereas that of *S. punctatum* (BPI 177245!) is finely punctate-verruculose (Fig. 6). Scanning electron microscopy (SEM) showed that the spore wall of *S. centrale* was covered only in coarse verrucae (Fig. 3).
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Figs. 5-9. 


The spore wall of *S. punctatum* comprised two types of ornamentation, namely moderate densely, coarse verrucae interspersed with densely, minute verrucae (Figs. 8, 9).

*Sporisorium centrale* appears to infect all spikelets in a raceme (Fig. 1), unlike racemes infected with *S. punctatum* that occasionally have awns, indicating uninfected spikelets (Fig. 5). The spores of *S. centrale* are reddish-brown, whereas those of *S. punctatum* are light brown. The peridium of *S. centrale* is much thinner than the peridium of *S. punctatum*. 
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References


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