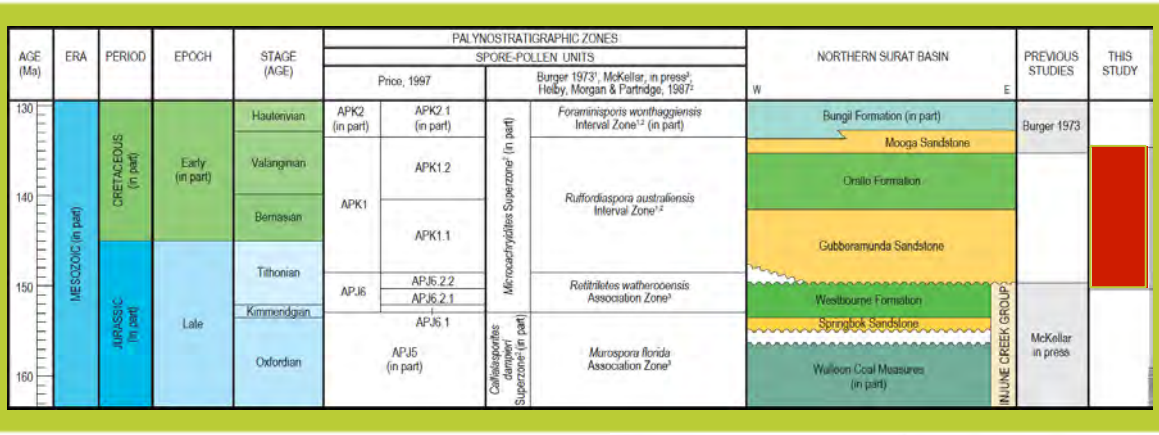
Palynology of the Jurassic–Cretaceous transition, northern Surat Basin

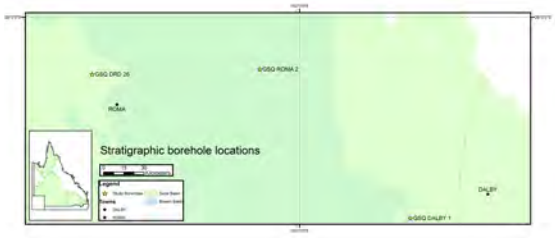
Jennifer Cooling, UQ School of Earth Sciences and Geological Survey of Queensland, DNRM
PhD student supervised by Professor Joan Esterle and Dr John McKellar

Late Jurassic – Early Cretaceous lithostratigraphy and biostratigraphy set against previous and current palynological studies (timescale after Gradstein et al., 2012)

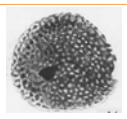
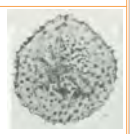


What's being done?

- The palynomorphs in the rocks of the upper Westbourne Formation – lower Mooga Sandstone from 3 stratigraphic boreholes are being documented.
- Bentonite samples from the Orallo Formation are at Boise State University's geochronology laboratory undergoing high-precision U-Pb, CA-IDTIMS dating of zircons.



Index fossils

Spore-Pollen Zone	*Murospora florida* Association Zone/APJ5	*Retitriletes watherooensis* Association Zone/APJ6	APJ6.2.1	APJ6.2.2	*Ruffordiaspora australiensis* Interval Zone/ APK1	APK1.2	*Foraminisporis wonthaggiensis* Interval Zone/ APK2
Index fossil (used to define base of zone)	*Murospora florida*	*Retitriletes watherooensis*	*Neoraistrickia equalis*	*Foraminisporis daliyi*	*Ruffordiaspora australiensis/ Ruffordiaspora spp.*	*Cyclosporites hughesi*	*Foraminisporis wonthaggiensis*
							

Black and white images taken from Sajjadi & Playford, 2002 and Burger, 1980


Aequitriradites hispidus


Botrycoccus sp.

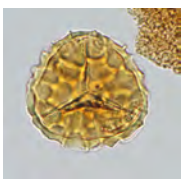
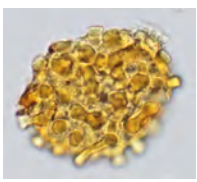
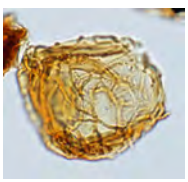

Ischyosporites volkheimeri

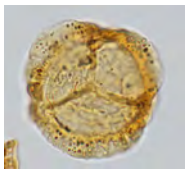
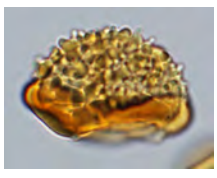
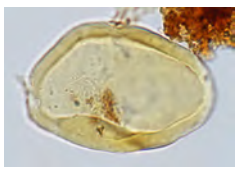

Sulcosaccispora lata


Nevesisporites vallatus


Callialasporites segmentatus



Some potential new species?