



Fossil Onagraceae flower and insects with *in situ* or adhered pollen from the Eocene of Eckfeld, Germany



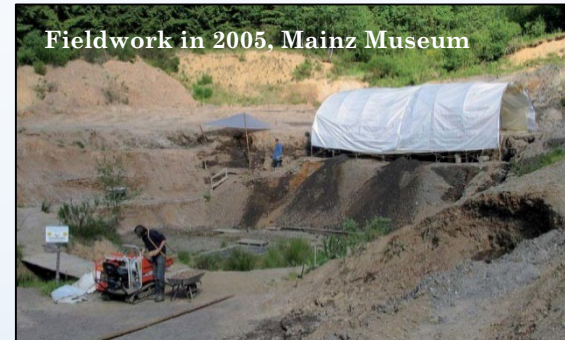
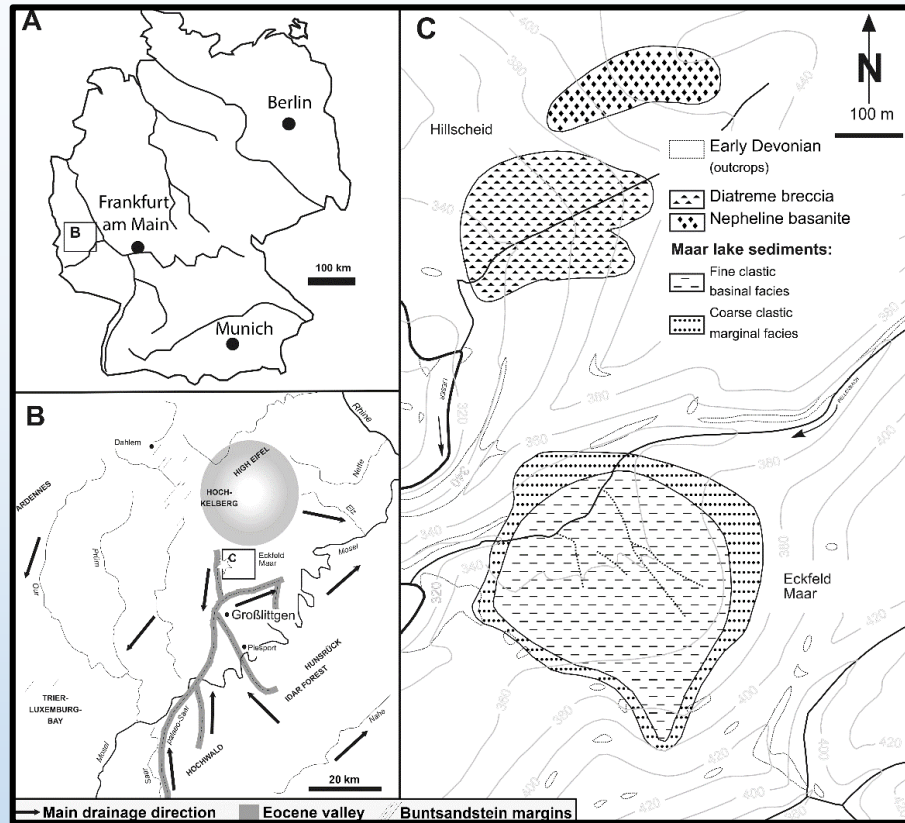
Authors: Christian Geier, Johannes M. Bouchal, Silvia Ulrich, Torsten Wappler, Friðgeir Grímsson

Speaker: Christian Geier

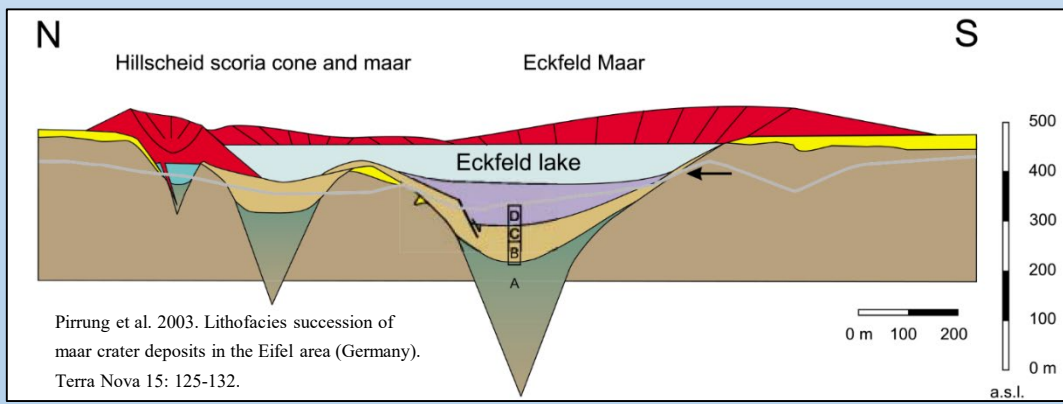
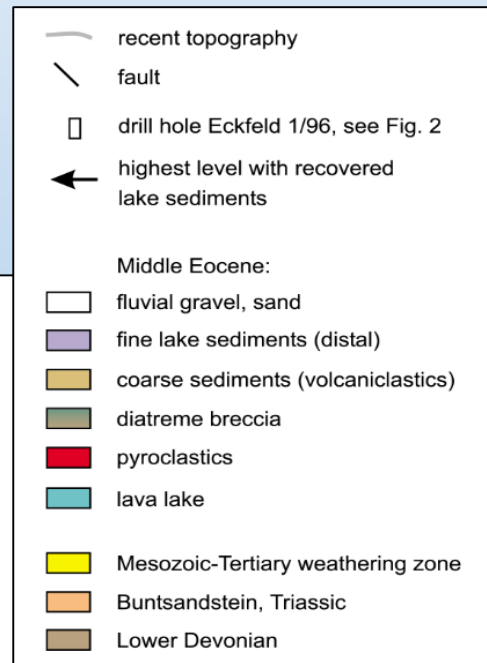
Contacts: Christian Geier and Friðgeir Grímsson (PI)
University of Vienna
Department of Botany and Biodiversity Research
Rennweg 14
1030 Vienna, Austria



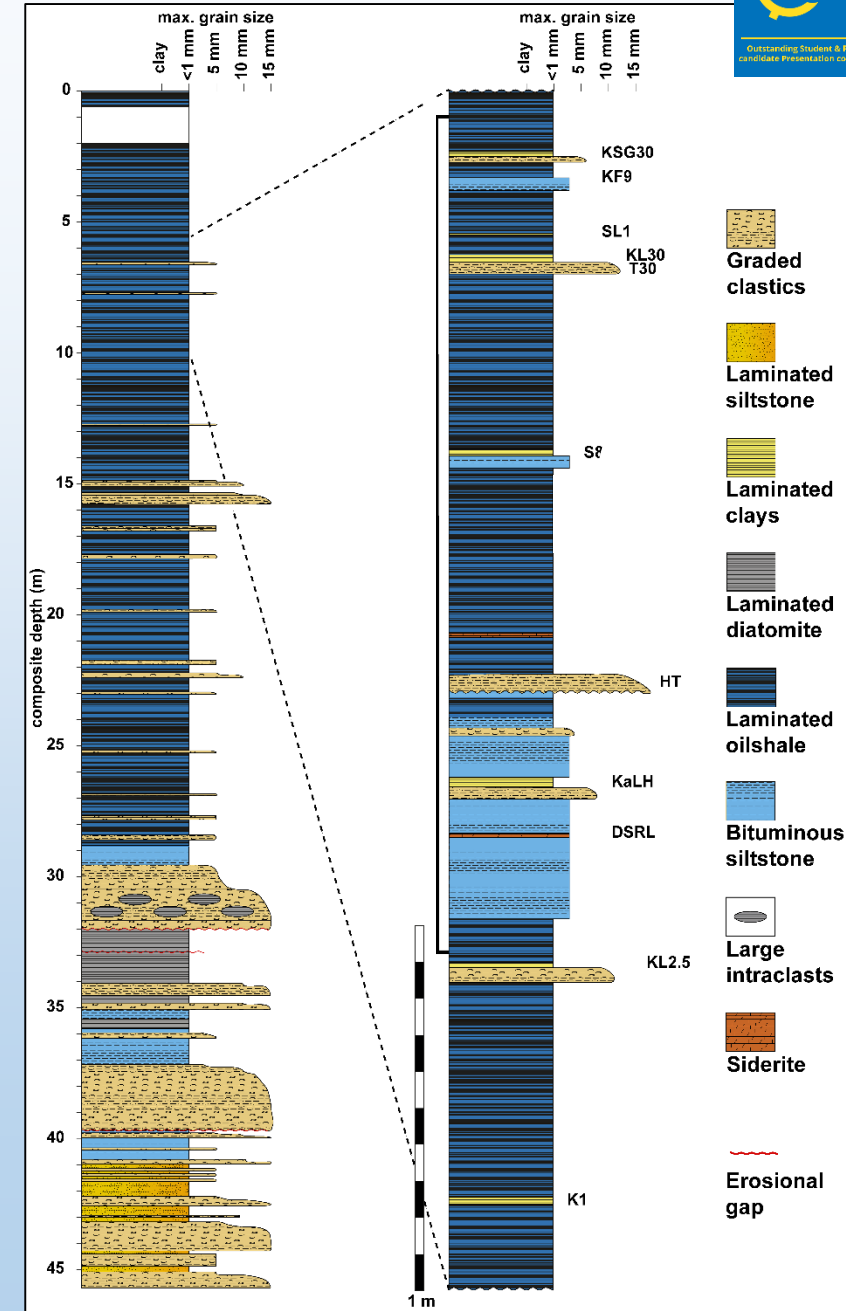
Eckfeld (c. 44 Ma) middle Eocene (middle Lutetian), Germany



Fieldwork in 2005, Mainz Museum
Frankenhäuser et al. 2009. Das Eckfeld Maar in der Vulkaneifel – Fenster in einem küstenfernen Lebensraum vor 44 Millionen Jahren. Mainzer naturwiss. Archiv 47: 263-324.



Pirung et al. 2003. Lithofacies succession of maar crater deposits in the Eifel area (Germany). Terra Nova 15: 125-132.

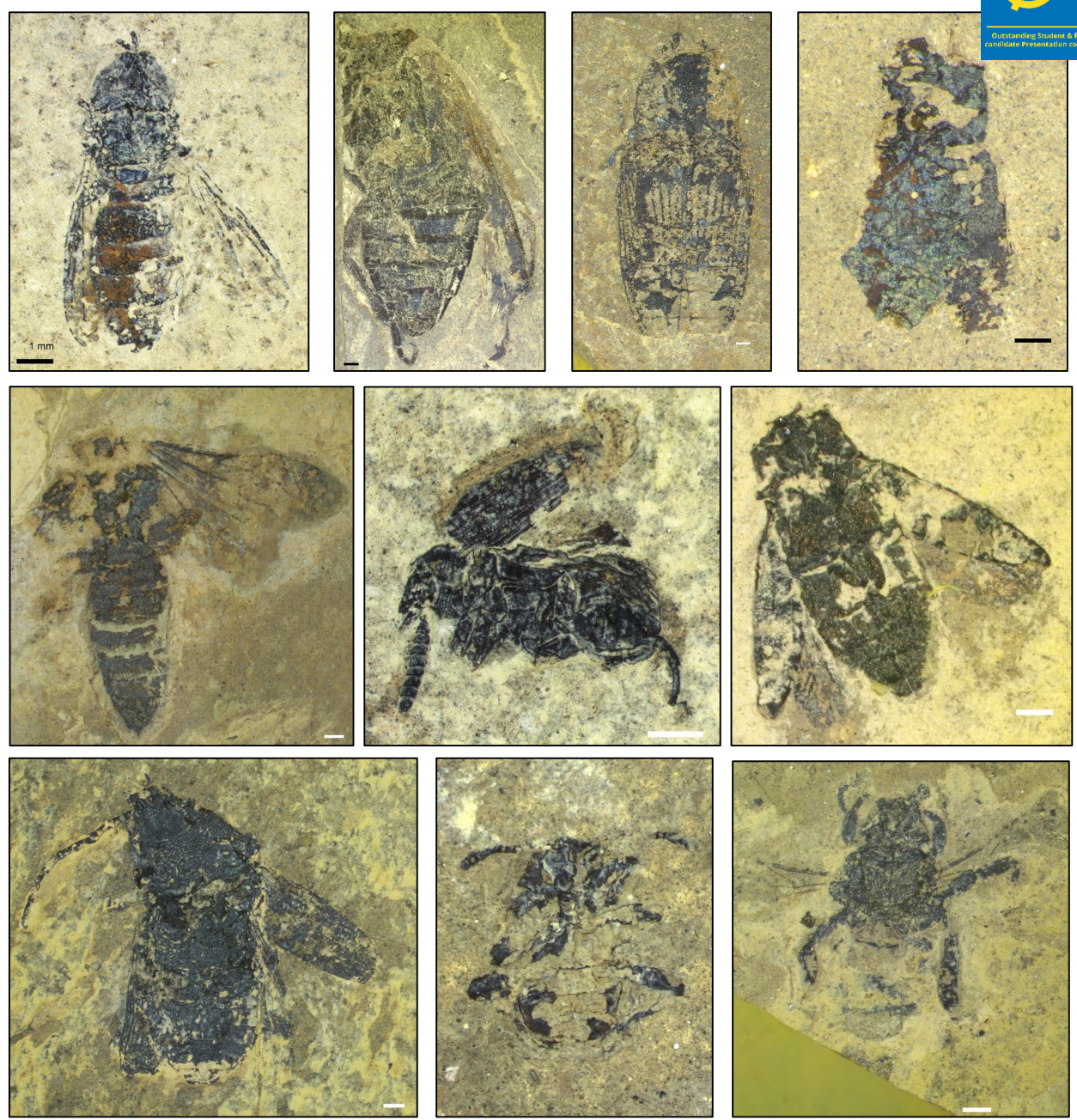




Fossil Flowers Eckfeld

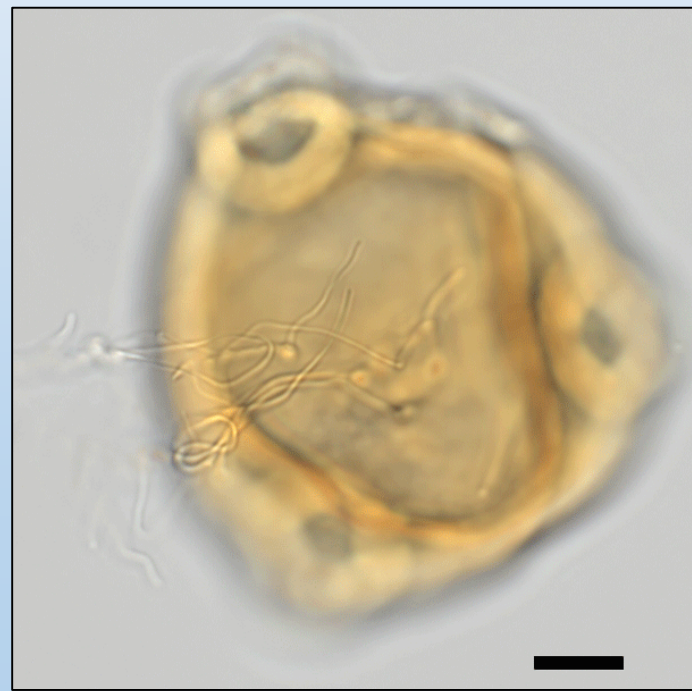
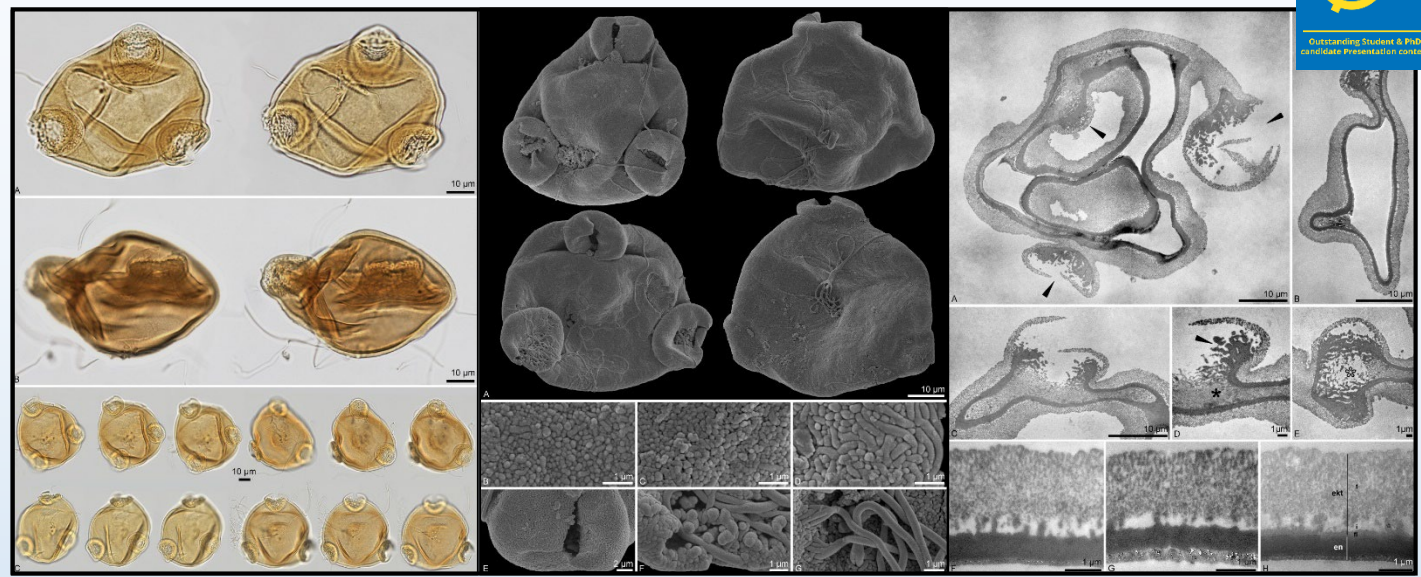
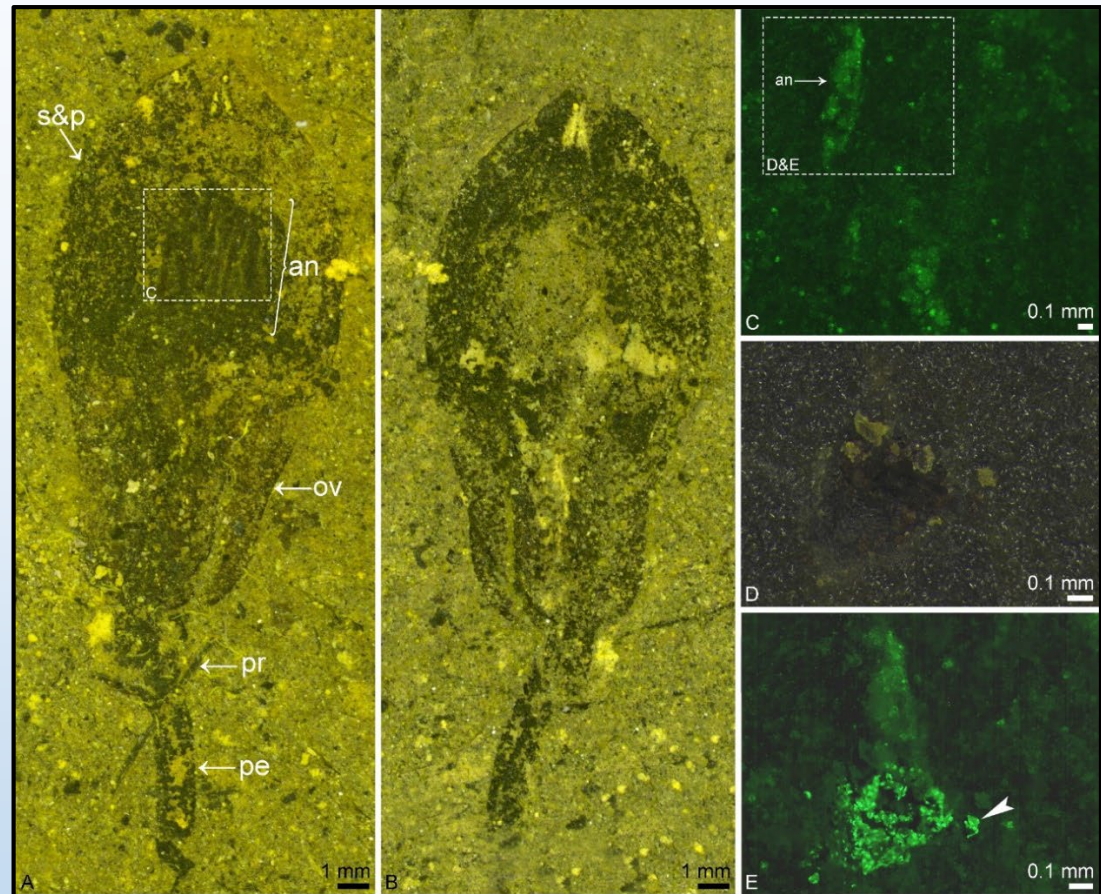


Fossil Insects Eckfeld





Ludwigia flower with *in situ* pollen

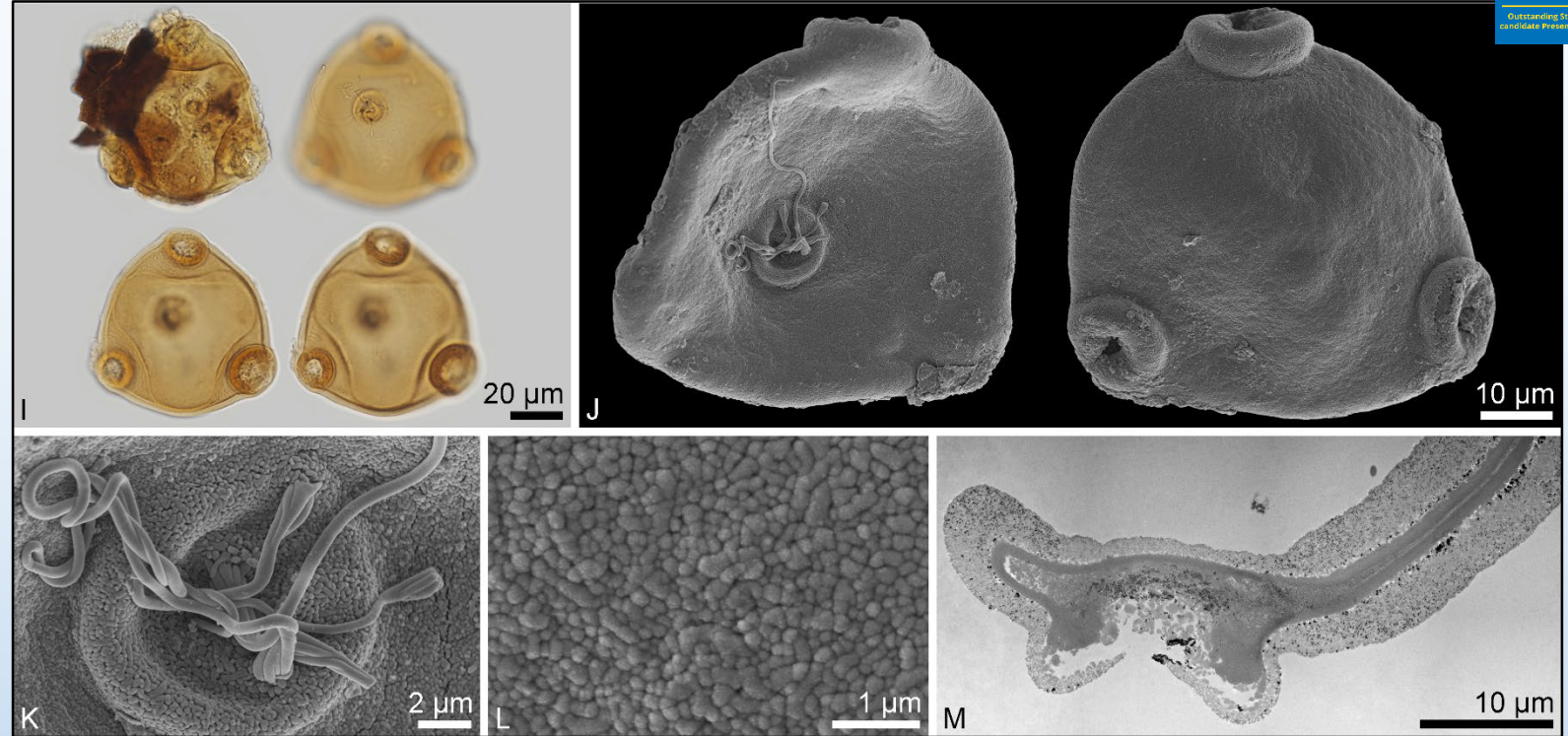
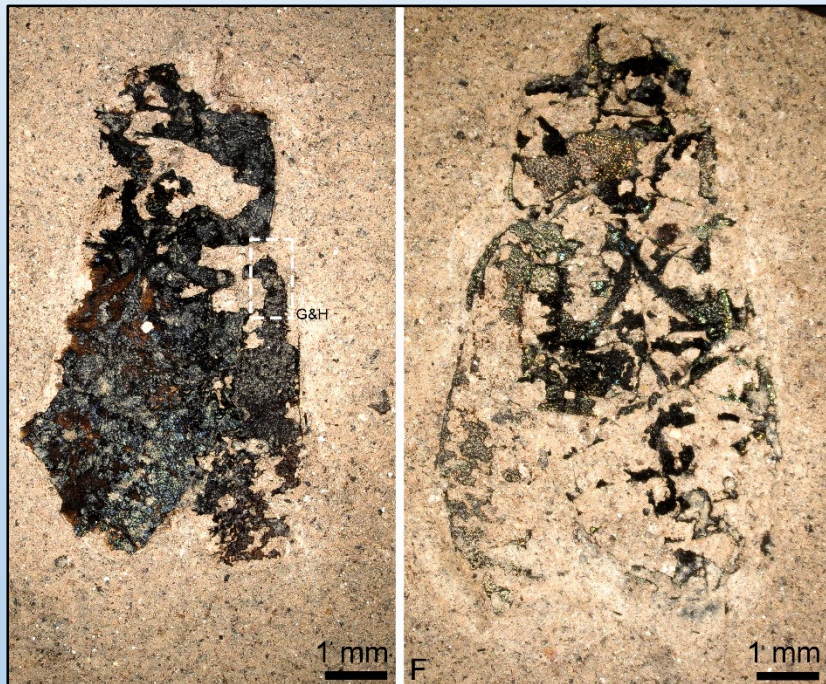
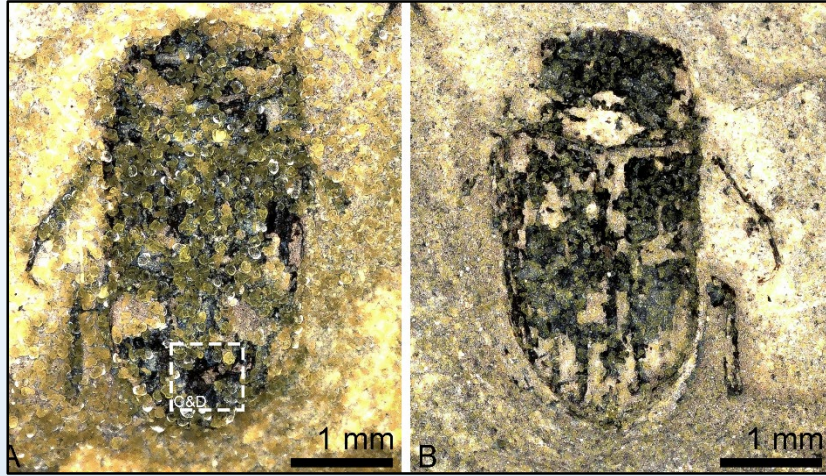


Onagraceae
Ludwigia





Insects with adhered *Ludwigia* pollen



Conclusions:

- Eocene flower visitors of *Ludwigia* were beetles
- Today's pollinators of *Ludwigia* are Hymenoptera
- There has been a shift in primary pollinators





We thank



and all associated colleagues who facilitated in our work on the Eckfeld material.

