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A Glimpse of the Syn- and Post-Glacial Biosphere Recorded in the Late Neoproterozoic Pocatello and Perry Maple Canyon Formations, Southeastern Idaho and Northern Utah, USA

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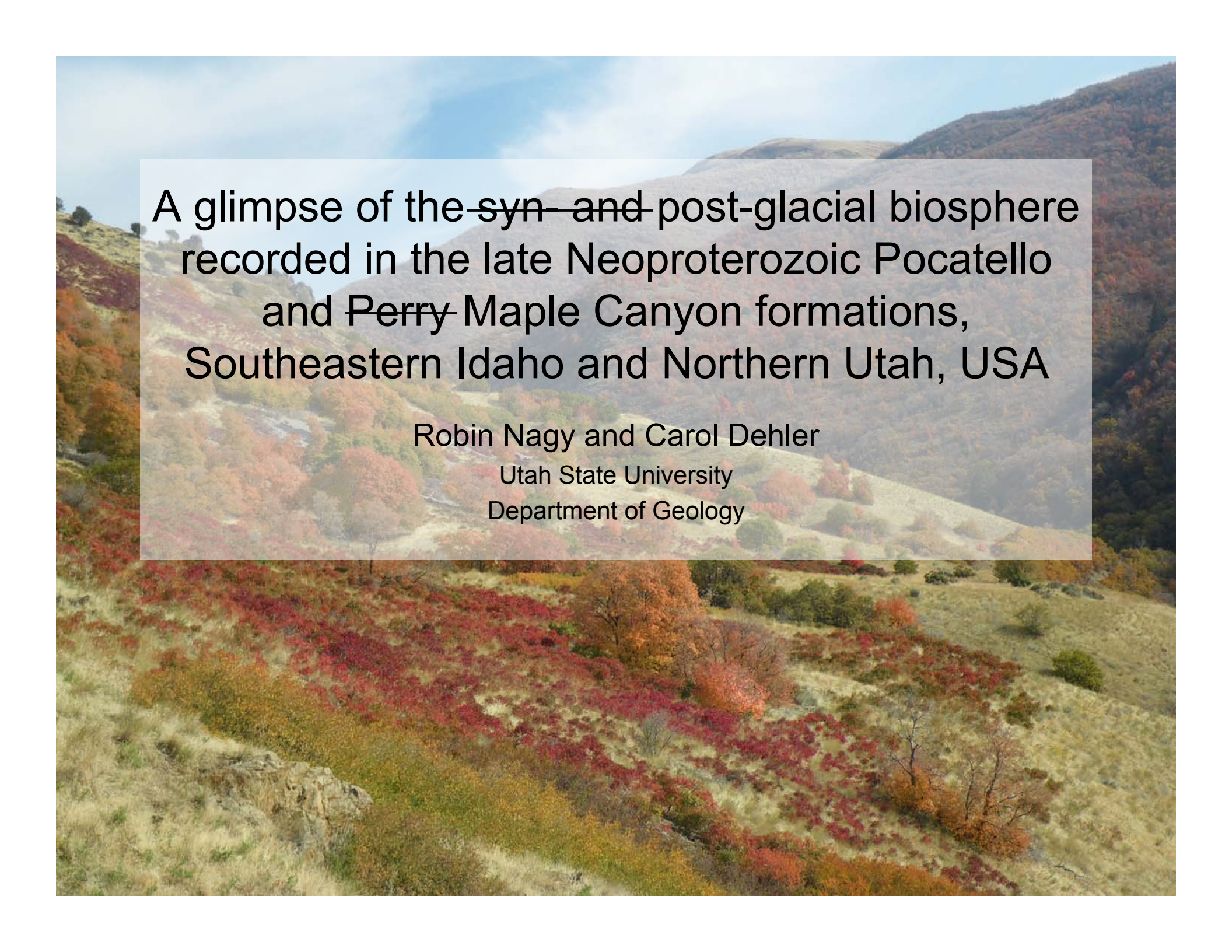
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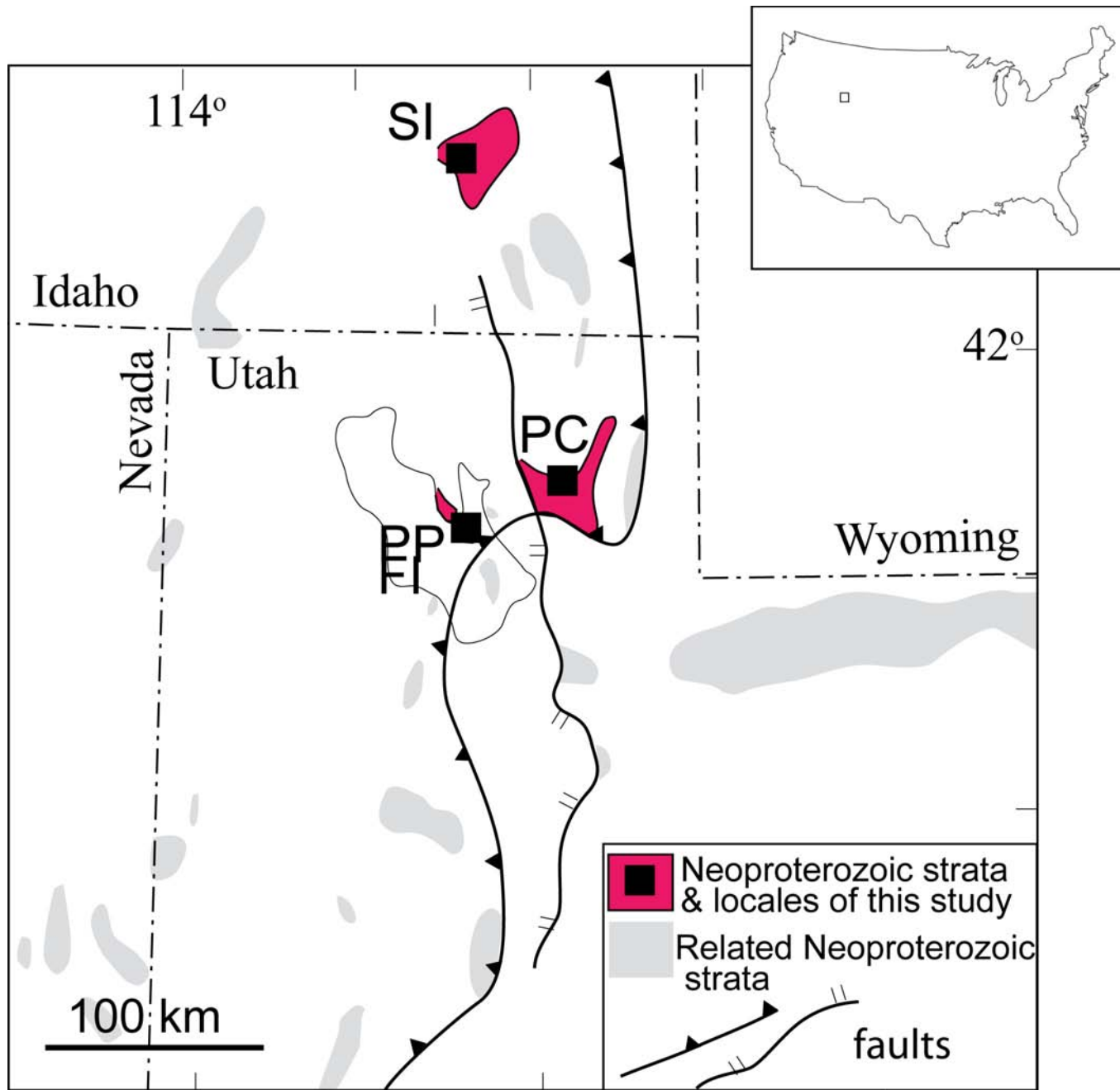
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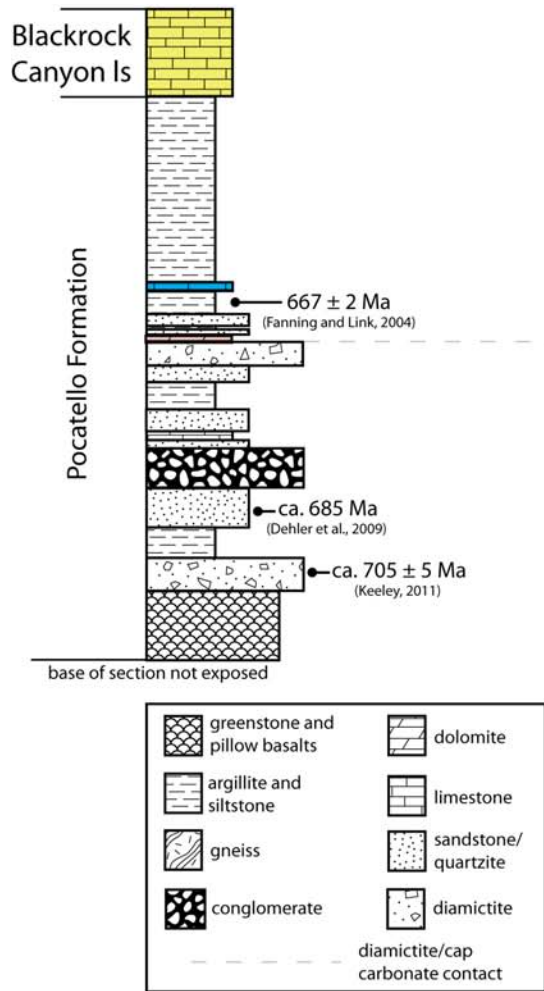
A glimpse of the ~~syn-~~ and post-glacial biosphere
recorded in the late Neoproterozoic Pocatello
and ~~Perry~~ Maple Canyon formations,
Southeastern Idaho and Northern Utah, USA

Robin Nagy and Carol Dehler
Utah State University
Department of Geology

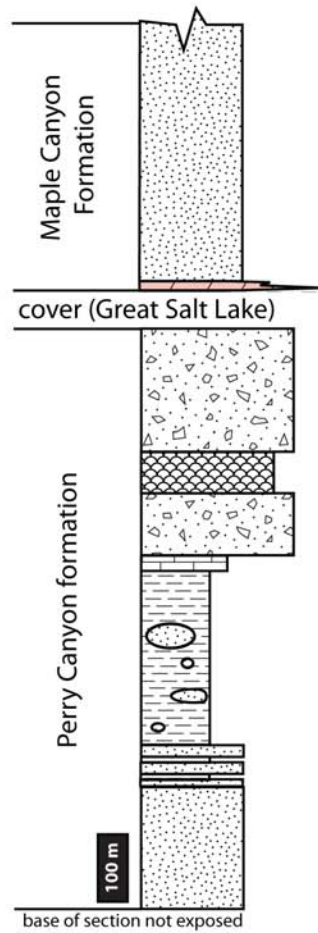


Modified from Yonkee et al., in press

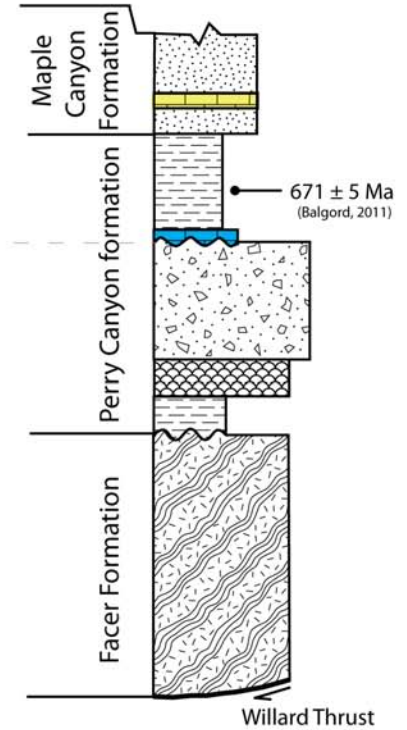
Southeastern Idaho



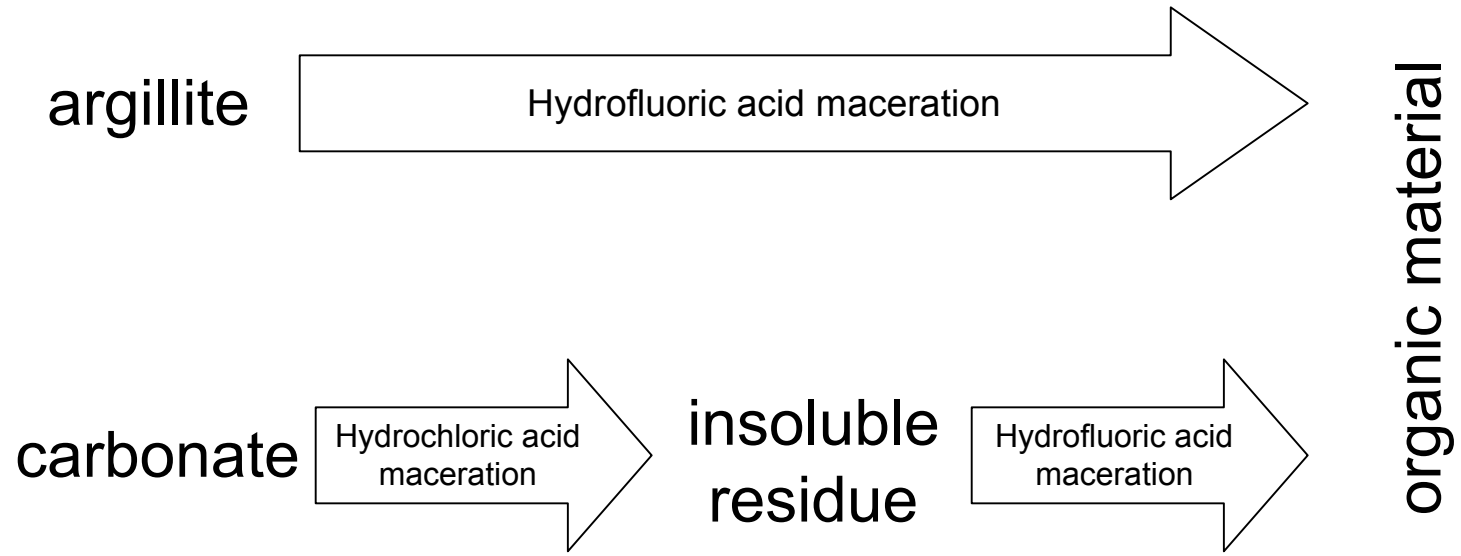
Fremont Island Promontory Point, Northern Utah



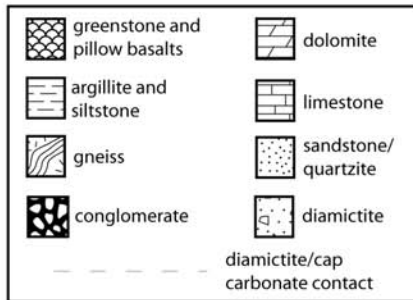
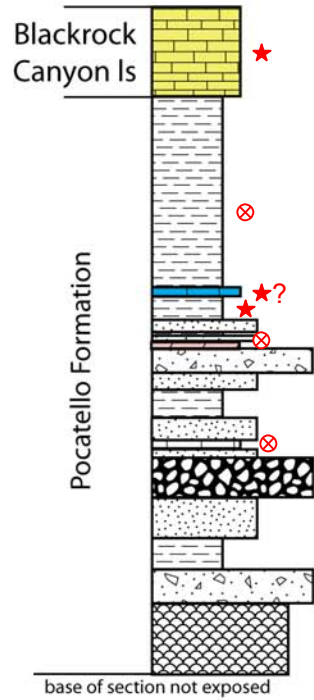
Perry Canyon, Northern Utah



Modified from Link, 1983; Balgord, 2011; and Dehler et al., 2011

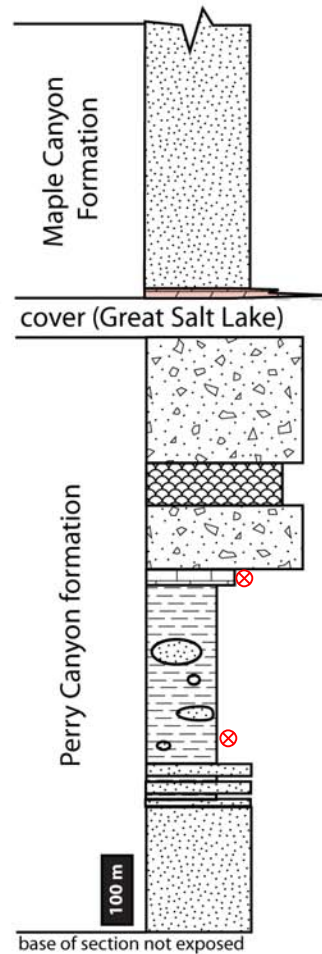


Southeastern Idaho

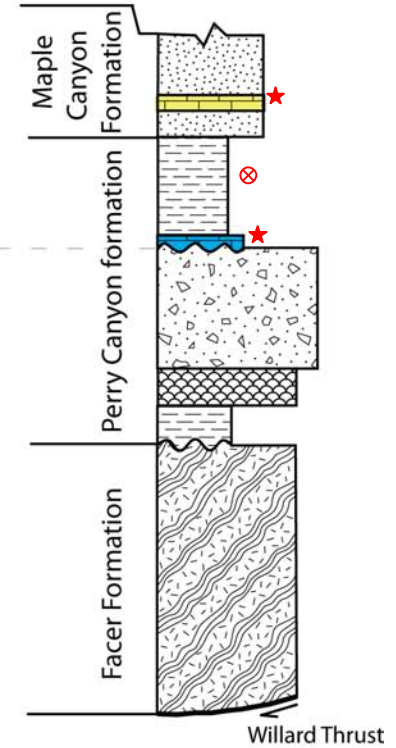


Modified from Link, 1983; Balgord, 2011; and Dehler et al., 2011

Fremont Island Promontory Point, Northern Utah

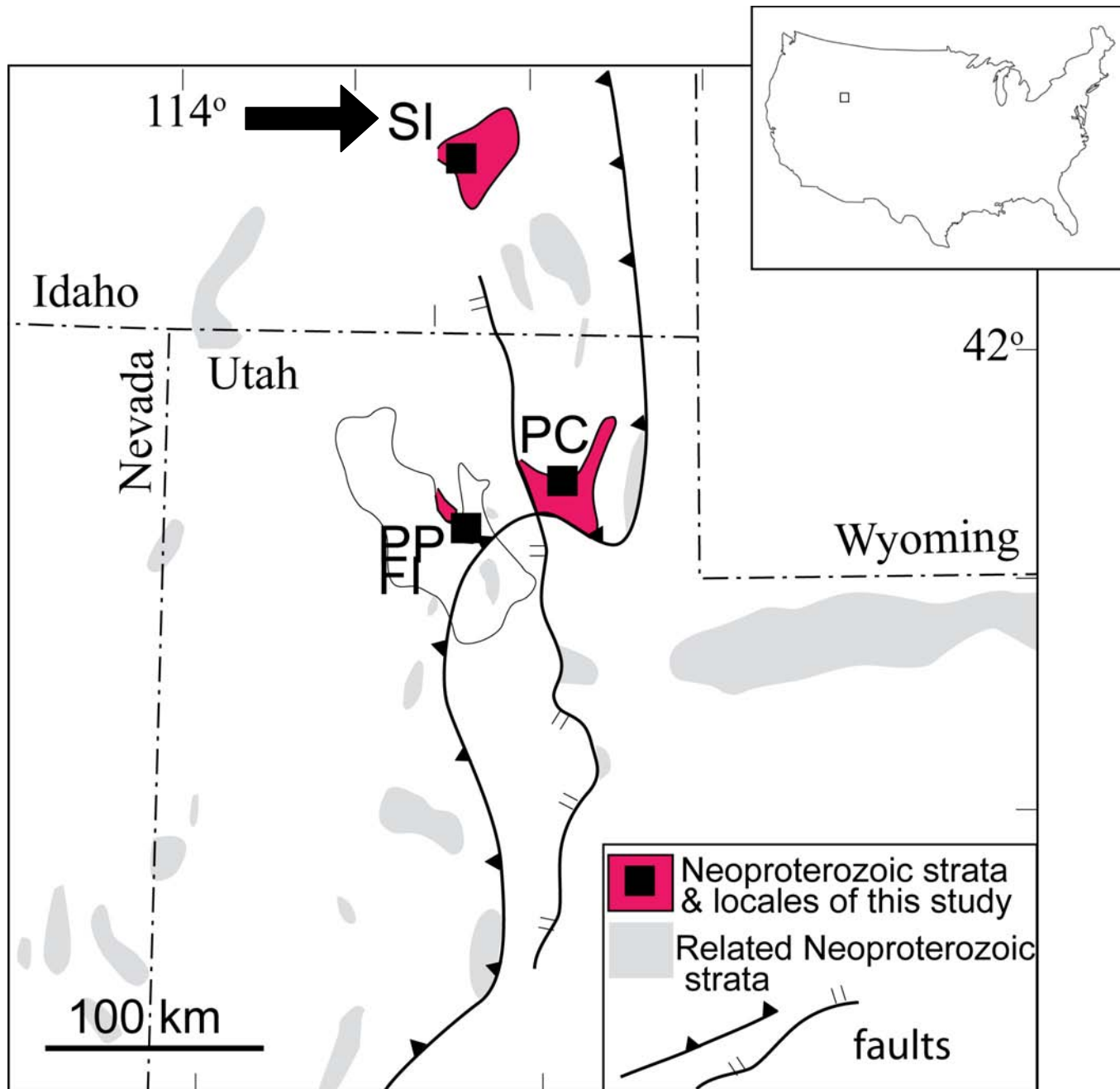


Perry Canyon, Northern Utah



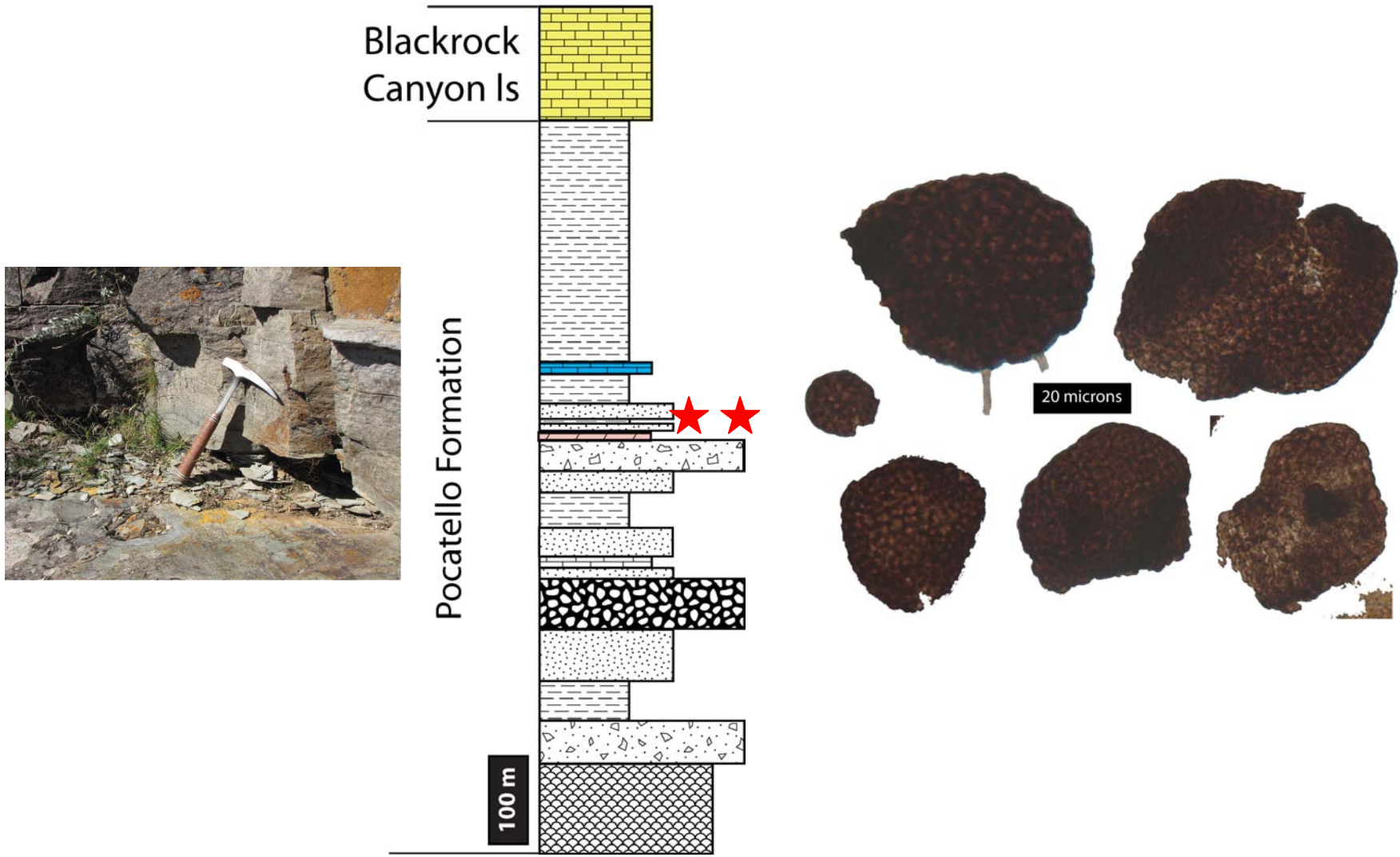
★ fossiliferous sample

⊗ barren sample

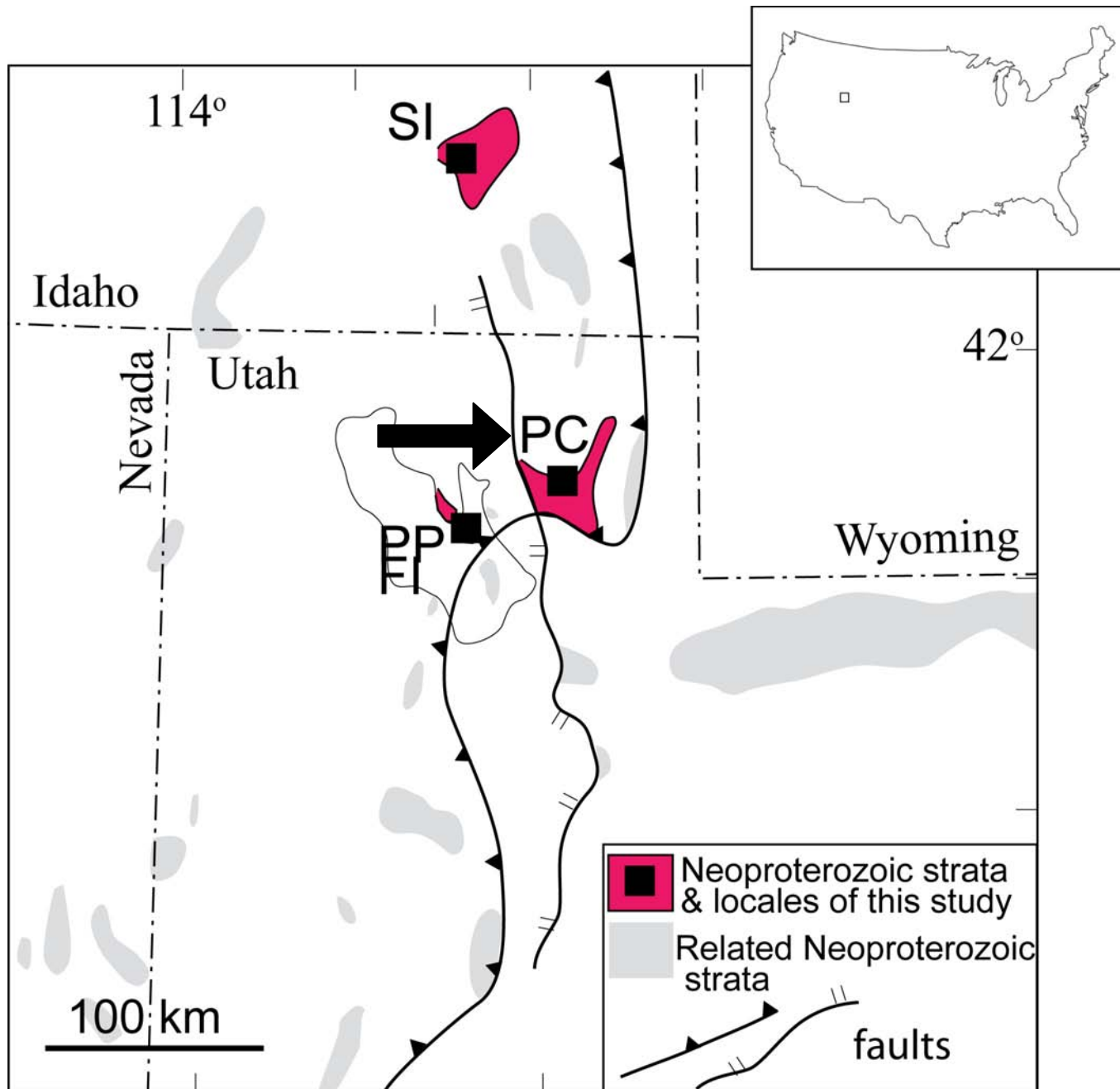


Modified from Yonkee et al., in press

Southern Idaho - “green argillite” (Pocatello Fm.)

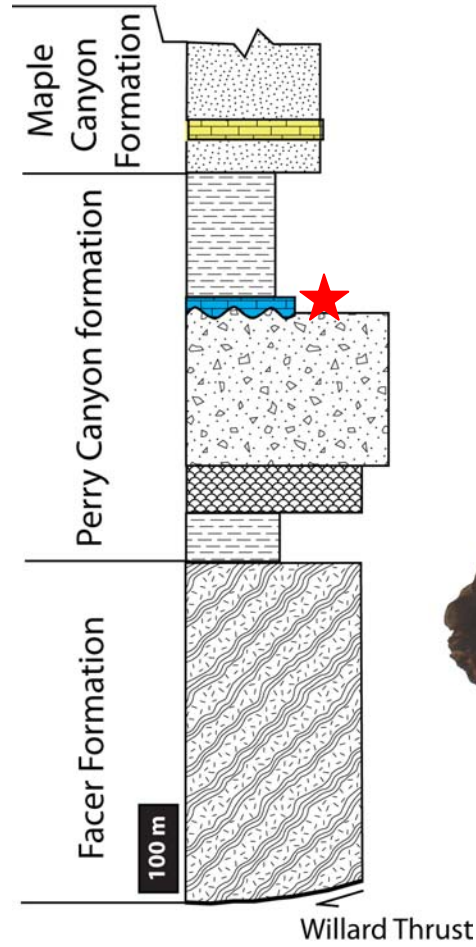


Modified from Link, 1983 and Dehler et al., 2011



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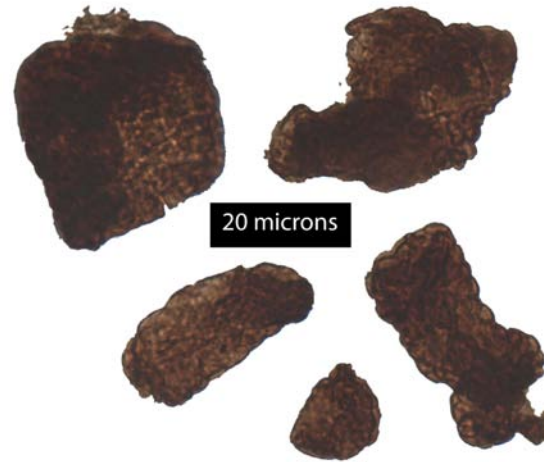
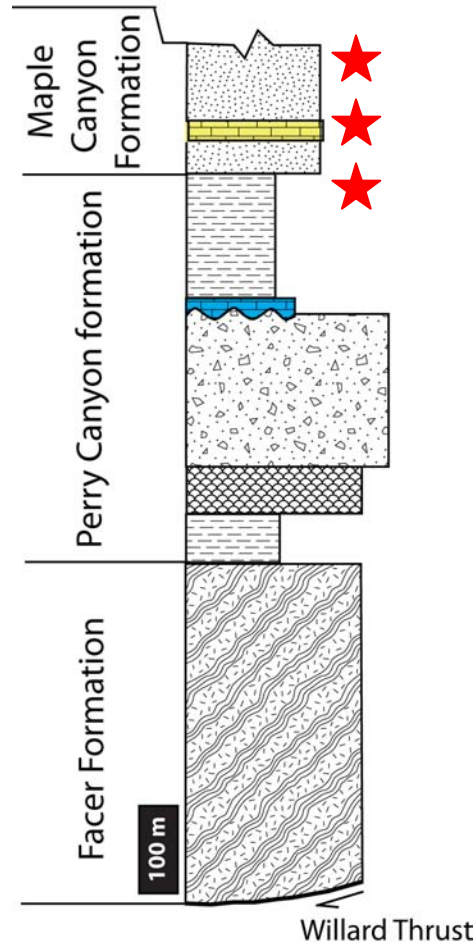
Perry Canyon - "blue limestone" (Maple Canyon Fm.)



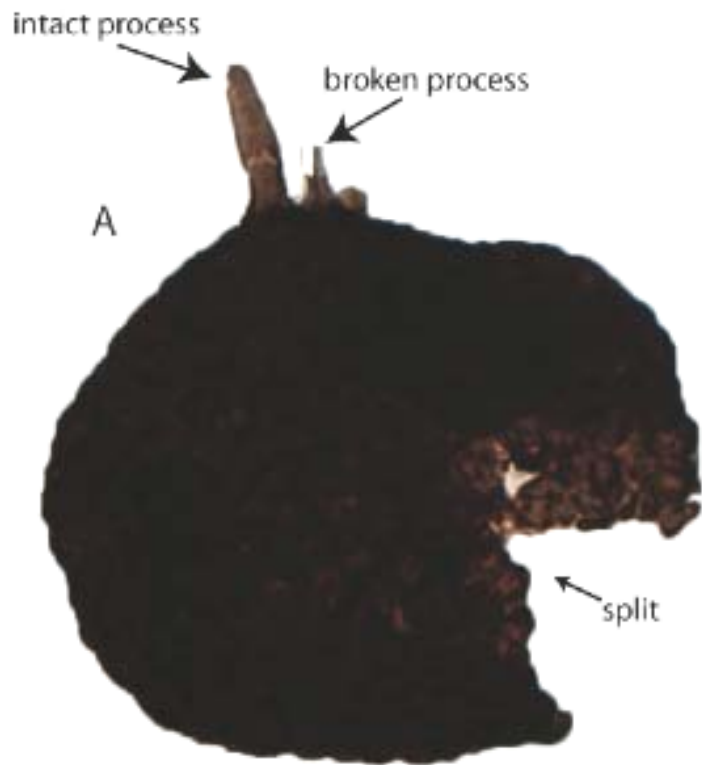
Modified from Balgord, 2011



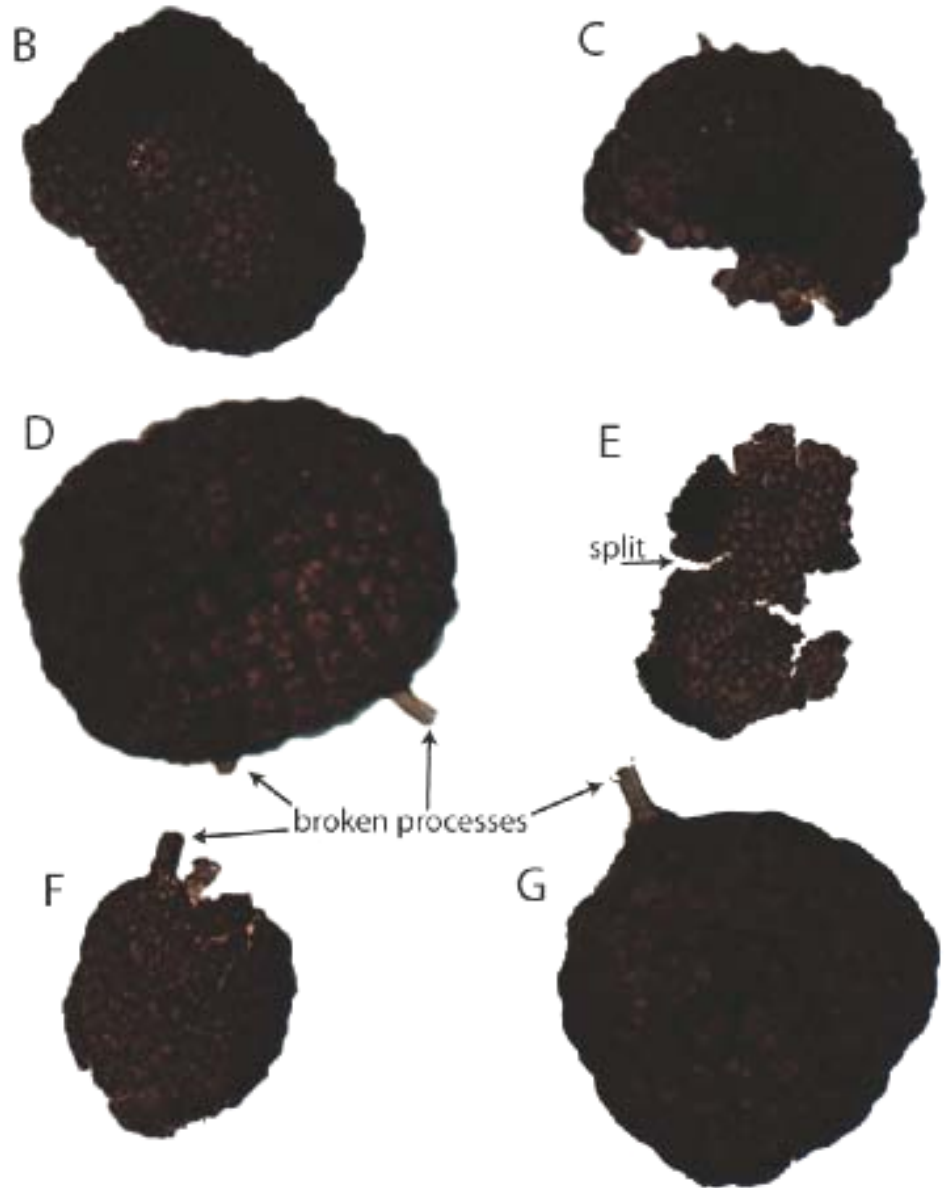
Perry Canyon - "mouth section" (Maple Canyon Fm.)



Modified from Balgord, 2011



Scale bar is 10 μm for A
and 5 μm for B-G.



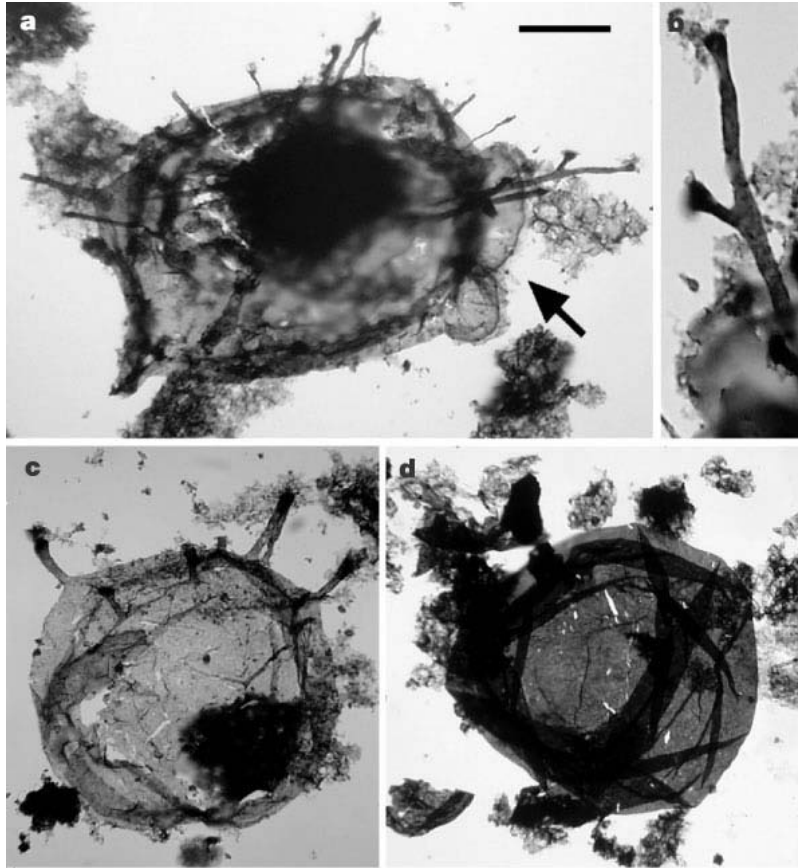
Conclusions:

- Organic material from late Cryogenian to early Ediacaran argillite *and* carbonate
- Low diversity assemblage from post-glacial strata in western US
- Asymmetrically distributed processes likely indicate actively metabolizing eukaryotes
- How does this compare with other fossil assemblages from the late Neoproterozoic?

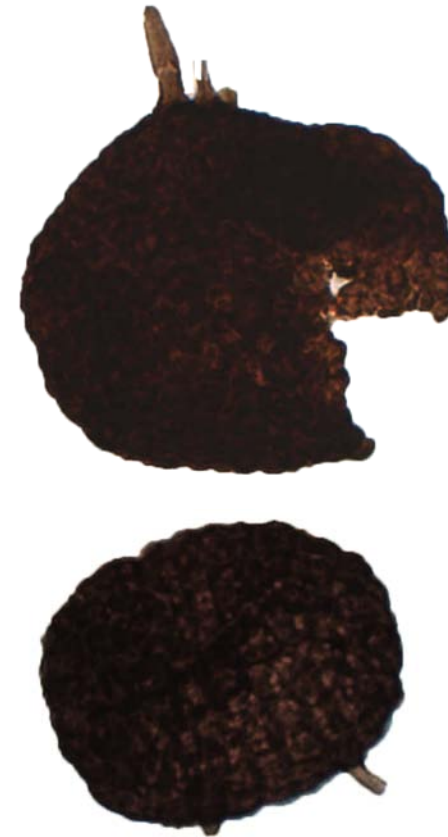
Acknowledgements:

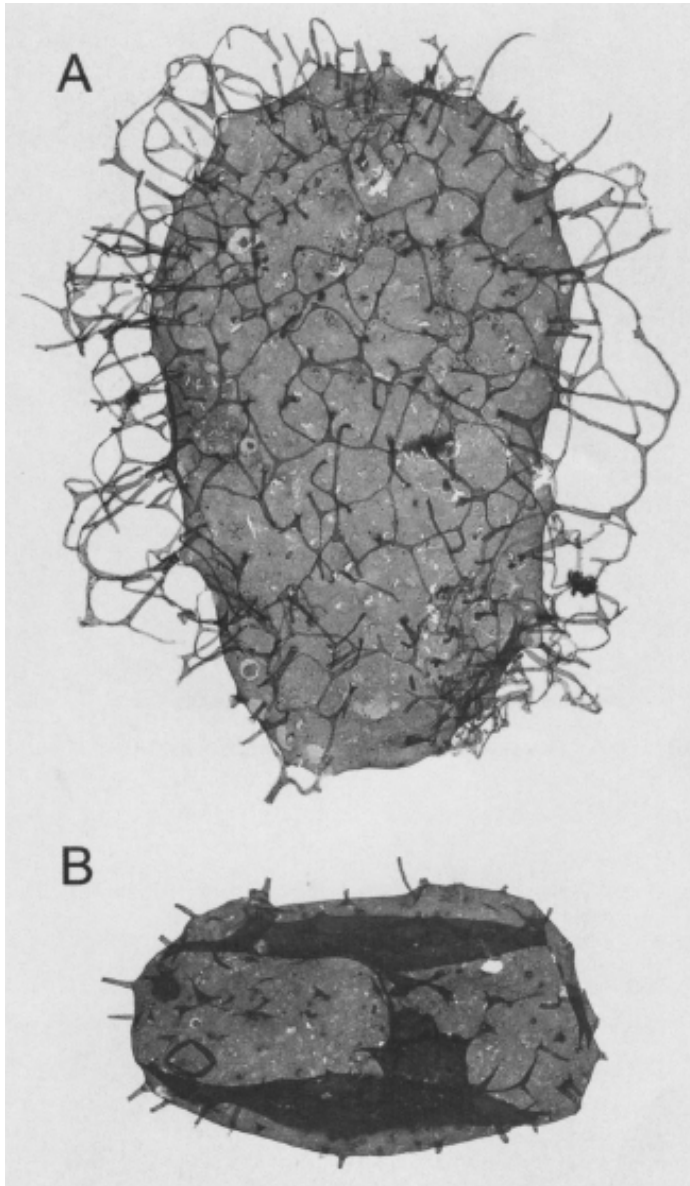
- Susannah Porter and Stan Awramik
- Paul Link and Adolph Yonkee
- Dawn Hayes
- Gerald Waanders
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NSF EAR 0819759
- GSA, USNC/GS, AGI, and Shell, Inc.

Tappania plana
Javaux et al., 2001



Material from
this study





Tappania sp. interpreted as fungi (Butterfield, 2005)



Material from this study