7-7 - LATE TRIASSIC CONODONTS FROM NEW YORK CANYON, NEVADA, AND THEIR RELEVANCE TO THE POSITION OF THE NORIAN-RHAETIAN BOUNDARY

Sunday, 15 October 2023

9:50 AM - 10:05 AM

- *303 (3, David L Lawrence Convention Center)*

Abstract

Sections of the Gabbs Formation exposed near New York Canyon, Nevada, have long been recognized as important sites for Late Triassic and Early Jurassic stratigraphy, and the Norian-Rhaetian parts of these sections continue to be important for defining this boundary (NRB). The two candidate sections for the base of the Rhaetian are in Tethys; both sections utilize the first occurrence of the conodont species *Misikella posthernsteini* as a proxy for the boundary. Although not a candidate section, data from New York Canyon will help to determine the most suitable position for the NRB, especially in Panthalassa.

Previous reports of conodonts from New York Canyon recognized a fauna with *Mockina englandi, Mo. bidentata* and morphotypes of *Mo. mosheri* in the Nun Mine Member, below isolated occurrences of *Zieglericonus rhaeticum* and *Mi. posthernsteini* in the Mount Hyatt and Muller Canyon members. The first occurrence of *Mi. posthernsteini* in the section occurs well above the first occurrence of Rhaetian ammonoids (*Paracochloceras amoenum*) and together with late Rhaetian radiolarians. It is also above excursions in Sr- and C-isotopes, both of which correlate with Tethyan NRB excursions. Therefore, the NRB has previously been placed much lower in North America than Tethys, at the first occurrences of the radiolarian *Proparvicingula moniliformis* and the conodont *Mo. mosheri* morphotype C.

To help reconcile the biochronological and geochemical data from New York Canyon, new conodont samples have been collected from the Nun Mine and Mt Hyatt members at the New York Canyon Road and Luning Draw sections. These samples contain: *Mo. englandi, Mo. bidentata,* and *Mo. mosheri* morphotypes B and C, all previously reported from New York Canyon, although this is the first record of *Mo. mosheri* morphotype C from the Nun Mine Member; *Parvigondolella* spp. B and C, from much lower in the Nun Mine Member than previously reported; and *Pa. andrusovi*, which has not previously been recorded from North America. Overall, this fauna represents the *Mo. bidentata* and *Mo. mosheri* zones of North America, equivalent to the Sevatian *Mo. bidentata* and *Pa. andrusovi* zones of Tethys. This would be consistent with a higher placement of the NRB at New York Canyon;

however, if the NRB is to be recognized at the first occurrence of *Mo. mosheri* morphotype C, then the boundary must be lower than previously thought, within the Nun Mine Member.

Geological Society of America Abstracts with Programs.

Vol. 55, No. 6

, 2023
doi: 10.1130/abs/2023AM-393565

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