

Upper Triassic Shallow-Water Corals from Wrangellia and the Alexander Terrane  
(Southern Alaska) and their Paleobiogeographic Implications

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Taxonomic identification of Upper Triassic (Norian to Rhaetian) silicified shallow-water corals were used to analyze paleobiogeographic signatures and to test Carboniferous amalgamation of Wrangellia and the Alexander terrane, Alaska and Vancouver Island Canada. Analysis suggests similar coral faunas between southern Wrangellia (Vancouver Island) and Peru (Pucará Group). Dissimilar coral faunas were found between northern and southern Wrangellia, the Alexander with the Wallowa terrane and northern and southern Wrangellia and the Wallowa terrane with Peru. Phylogenetic trees showed groupings consistent within localities from the Alexander terrane, and southern Wrangellia. Southern Wrangellian localities are distantly grouped with fauna from Peru, northern Wrangellia and the Wallowa terrane. Therefore, paleobiogeographic analysis does not support amalgamation between Wrangellia and the Alexander terrane during the Triassic.

Systematic identification of forty-six species (6 new) were generated from 458 coral specimens collected at twelve principle localities from the Norian to Rhaetian limestone units of Keku Strait (Alexander terrane), Gravina Island (Alexander terrane), Wrangell Mountains (Wrangellia), Alaska and Vancouver Island (Wrangellia), Canada. Twenty-six species were recognized from 8 Alexander terrane localities and thirty-two species from four localities within Wrangellia. Nineteen (of twenty-six) species from the Alexander terrane were not previously recognized, including: *Astraeomorpha confusa* (Winkler), *Crassistella parvula* (Melnikova), *Distichomeandra minor* (Frech), *Distichophyllia norica* (Frech), *Elysastraea fischeri* Laube, *Kompsasteria oligocystis* (Frech), *Margarosmia* cf. *M. richthofeni* Volz, *Meandrostylis grandiseptus* Stanley and Whalen, “*Montlivaltia*” *marmorea* Frech, *Pamiroseris meriani* (Stoppani), *Retiophyllia* cf. *R. frechi* Roniewicz, *Retiophyllia norica* (Frech), *Retiophyllia robusta* Roniewicz, *Thamnasteriomorpha frechi* (Volz). Likewise, nineteen (of thirty-three) species from Wrangellia were not previously mentioned including: *Chondrocoenia paradoxa* (Melnikova), *Crassistella juvavica* (Frech), *Distichomeandra austriaca* (Frech), *Elysastraea fischeri* Laube, *Elysastraea minor* (Vinassa de Regny), *Kuhnastraea decussata* (Reuss), *Margarastraea klipsteini* Frech, *Margarosmia* cf. *M. charlyana* (Frech), *Pamiroseris meriani* (Stoppani), *Parastraeomorpha similis* Roniewicz, *Recticostastraea wallowaensis* Stanley and Whalen, *Retiophyllia caespitosa* (Reuss), *Retiophyllia norica* (Frech), *Retiophyllia alfurica* (Wilckens), and *Rhabdophyllia tenuicosta* Milne-Edwards and Reuss. New species from both terranes are consistent with morphological characters from the genera: *Gablonzeria* Cuif, *Margarastraea* Frech, *Pinacophyllum* Frech, *Retiophyllia* Cuif, and *Stylophyllum* Reuss.