

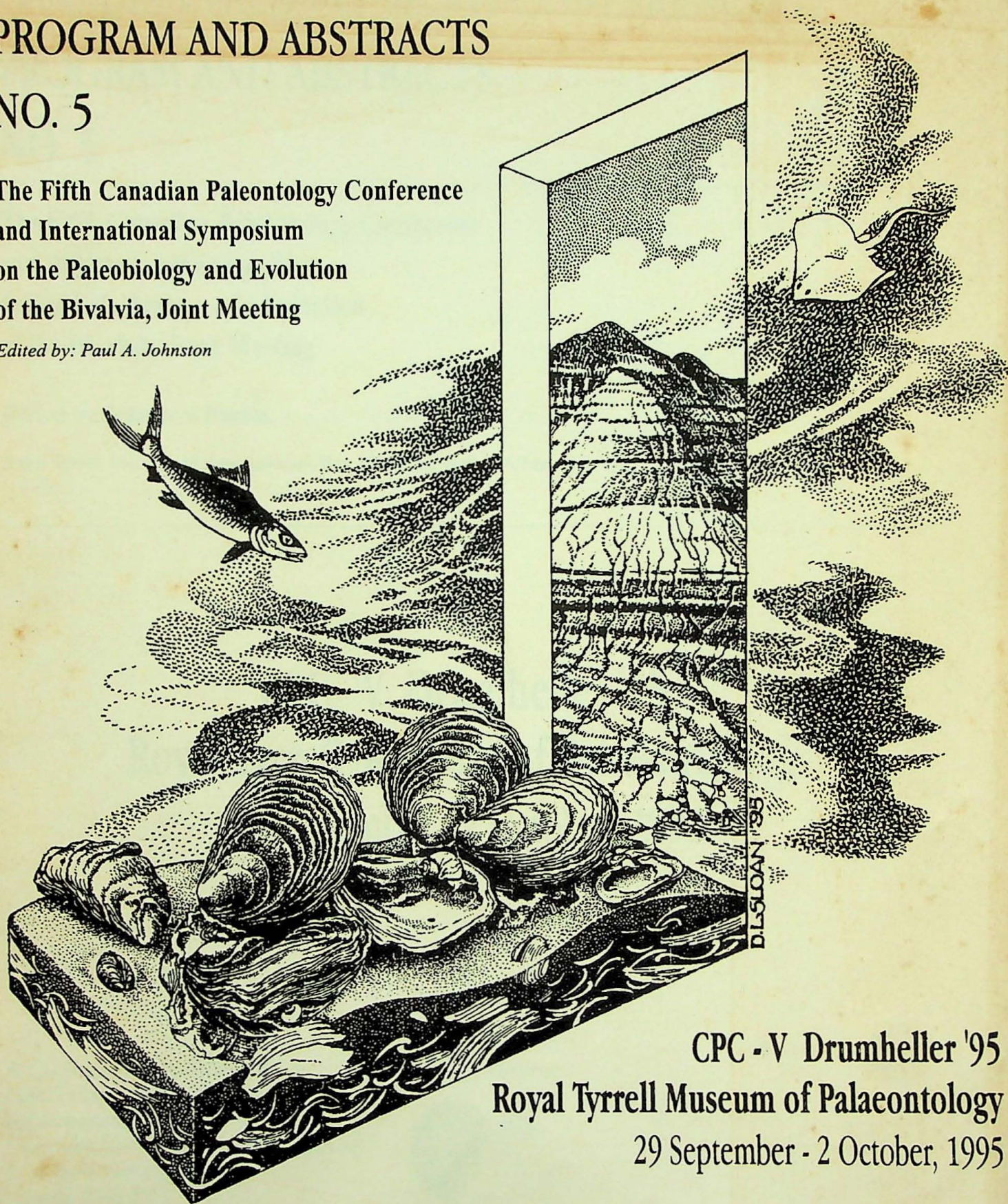
# CANADIAN PALEONTOLOGY CONFERENCE

## PROGRAM AND ABSTRACTS

NO. 5

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and International Symposium  
on the Paleobiology and Evolution  
of the Bivalvia, Joint Meeting

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### **LIFE MODE OF SOME BRAZILIAN LATE PALEOZOIC ANOMALODESMATA\***

The life-position of three Late Paleozoic anomalodesmatan pelecypods was recognized in carbonate and siliciclastic rocks from Brazil. The *in situ* position was compared with previous interpretations based on functional anatomy. Shelf-lagoonal carbonate facies of the Piauí Fm. (Morrowan-Atokan, Parnaíba Basin) shows *Wilkingia terminalis*, an immobile infaunal filter-feeding pelecypod, occurring preferentially associated with small bioclastic clumps and inclined 26° - 40° to bedding. Sections of oriented samples show clump concentration around the ventral margin of the shells. The strong reduction of the anterior portion, the anisomyarian musculature, and the relatively large scar of the anterior (pedal/byssal?) retractor muscle in *W. terminalis* suggest an endobyssate life mode. In the same carbonates, the byssate, semi-infaunal *Pteronites* sp. occurs also associated with bioclastic clumps, and with the long axes of shells oriented *ca.* 90° to bedding. Evidence of diagenetic deformation is lacking in both cases. *Allorisma barringtoni* and *Vacunella cf. V. etheridgei* from the Rio do Sul Formation (Early Permian, Paraná Basin) occur in shallow marine fine siltstone with long axes inclined *ca.* 40°-50° to the bedding. Specimens have been deformed by sediment compaction and therefore the angle between long axes and bedding has been probably reduced. An one inch long tube preserved above the siphonal gape at the dorsal posterior angle of *A. barringtoni* corresponds to the former position of the siphon and reflects a minimum burial depth for the species. Except in the case of *W. terminalis* features described confirm previous interpretations based on functional anatomy.

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### **LOWER PALEOZOIC SEAWATER HISTORY, EVENTS, AND CHEMOSTRATIGRAPHY INTERPRETED FROM Sr ISOTOPE RATIOS IN CONODONTS**

The evolution of the Earth's seawater, which has been such an important factor in the evolution of life, can be tracked using Sr isotopes as a proxy indicator. Strontium is introduced into the world's oceans from two sources: via rivers draining continents and through venting of the earth's interior at mid-oceanic ridges. Changes in the flux of these two sources through time can be determined through measurement of the <sup>87</sup>Sr/ <sup>86</sup>Sr ratio. Such ratios can be derived from, for example, unaltered carbonate, skeletal carbonate, and biogenic apatite.