

THE *LEANCHOILIA-OTTOIA* FAUNA FROM THE MIDDLE CAMBRIAN
BURGESS SHALE OF BRITISH COLUMBIA.

COLLINS, Desmond, Royal Ontario Museum, 100 Queen's Park,
Toronto, Ontario M5S 2C6, CANADA

The *Leanchoilia-Ottoia* fauna from the Raymond quarry level of the Burgess Shale is different in both content and average size to the classic *Marrella-Burgessia* fauna excavated by Walcott from the Phyllopod bed just 20 m below. The animals most common in the fauna, *Leanchoilia*, *Ottoia*, *Sidneyia* and *Vauxia*, are typically 5 to 10 cm in length, whereas Phyllopod bed animals such as *Marrella* and *Burgessia* which make up half of this fauna are only 1 to 2 cm in length. This distinct difference also applies to the major predators, where large *Anomalocaris* and *Hurdia* dominate the *Leanchoilia-Ottoia* fauna compared to the smaller *Laggania* in the Phyllopod bed fauna.

Along with the different forms, there are elements common to both faunas, such as *Choia*, *Helmetia*, *Olenoides*, *Ottoia*, *Sidneyia*, *Tuzoia*, *Vauxia* and *Waptia*. New discoveries include a large jellyfish, a ctenophore, a "sea moth", a benthic sea-cucumber, *Isoxys* with eyes and appendages, tubular burrows containing commensal worms and the barnacle, *Priscansermarinus*, previously found in talus.

The environment of burial of the two faunas also differs. Most of the Phyllopod bed animals occur within 3 to 6 cm thick bands, indicating transport from elsewhere. In contrast, many of the *Leanchoilia-Ottoia* animals were buried in life position on the bedding planes, including sessile forms such as the sponge, *Chancelloria*, rooted in the bedding surface and bent over in parallel.