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

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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.