

Abstract

A new Burgess Shale–type assemblage, from the Stephen Formation of the southern Canadian Rocky Mountains, is described herein. It occurs near Stanley Glacier in Kootenay National Park, 40 km southeast of the type area near Field, British Columbia. While at least a dozen Burgess Shale localities are known from the “thick” Stephen Formation, the Stanley Glacier locality represents the first discovery of Burgess Shale–type fossils from the “thin” Stephen Formation. The Cathedral Escarpment, an important regional paleotopographic feature, has been considered important to the paleoecologic setting and the preservation of the Burgess Shale biota. However, the Stanley Glacier assemblage was preserved in a distal ramp setting in a region where no evidence of an escarpment is present. The low-diversity assemblage contains eight new soft-bodied taxa, including the anomalocaridid *Stanleycaris hirpex* n. gen., n. sp. (new genus, new species). Nektonic or nektobenthic predators represent the most diverse group, whereas in relative abundance, the assemblage is dominated by typical Cambrian shelly benthic taxa. The low diversity of both the benthic taxa and the ichnofauna, which includes diminutive trace fossils associated with carapaces of soft-bodied arthropods, suggests a paleoenvironment with restrictive conditions. The Stanley Glacier assemblage expands the temporal and geographic range of the Burgess Shale biota in the southern Canadian Rockies, and suggests that Burgess Shale–type assemblages may be common in the “thin” Stephen Formation, which is regionally widespread.

GeoRef Subject

biogeography Burgess Shale Cambrian Canada Middle Cambrian British Columbia clastic rocks Paleozoic Rocky Mountains problematic fossils paleoecology Western Canada sedimentary rocks Arthropoda eukaryotes Invertebrata shale ichnofossils North

You do not currently have access to this article.

[GSA Member Sign In](#)



[Shibboleth Sign In](#)

[OpenAthens Sign In](#)

[Institutional Sign In](#)

[GSW Registered User Sign In](#)

[Librarian Administrator Sign In](#)

[Buy This Article](#)

Email alerts

[New issue alert](#)

[Early publications alert](#)

[Article activity alert](#)

[Index Terms/Descriptors](#)

Arthropoda assemblages benthic taxa biogeography biostratigraphy

biota British Columbia Burgess Shale Cambrian Canada

Canadian Rocky Mountains clastic rocks correlation eukaryotes

fossilization ichnofossils Invertebrata Lagerstätten

marine environment Middle Cambrian morphology new taxa

North America paleoecology Paleozoic problematic fossils

Rocky Mountains sedimentary rocks shale shells taphonomy

taxonomy Western Canada Stephen Formation Anomalocarididae

Kootenay National Park Field British Columbia

Latitude & Longitude

N51°00'00" - N51°38'60", W116°52'60" - W115°30'00"

[View Full GeoRef Record](#)

POWERED BY 

Citing articles via

Web Of Science (37)

Google Scholar

CrossRef

Related Articles

FIRST REPORT OF *SPHENOTHALLUSHALL*, 1847 IN THE MIDDLE CAMBRIAN

Journal of Paleontology

The Middle Cambrian Burgess Shale and its relationship to the Stephen Formation in the southern Canadian Rocky Mountains

Canadian Journal of Earth Sciences

In situ benthos and paleo-oxygenation in the Middle Cambrian Burgess Shale, British Columbia, Canada

Geology

Mid-Cambrian (Marjuman) trilobites from the Pika Formation, southern Canadian Rocky Mountains, Alberta

Canadian Journal of Earth Sciences

[View More](#)

Related Book Content

[Ordovician of the Siberian Platform](#)

[The Ordovician Earth System](#)

[Lower to Middle Cambrian of the southern Canadian Rockies](#)

[Geologic Field Trips of the Canadian Rockies: 2017 Meeting of the GSA Rocky Mountain Section](#)

[Biota and palaeoenvironment of a high middle-latitude Late Triassic peat-forming ecosystem from Hopen, Svalbard archipelago](#)

[Mesozoic Biotas of Scandinavia and its Arctic Territories](#)

[The Pliensbachian–Toarcian \(Early Jurassic\) extinction: A North American perspective](#)

[Volcanism, Impacts, and Mass Extinctions: Causes and Effects](#)

[View More](#)

[Archive](#)

[Early Publication](#)

[About the Journal](#)

[Geology Science Editors](#)

[Instructions for Authors](#)

[Permissions](#)

[About the Society](#)

[Events](#)

[Join the Society](#)

[Publisher Bookstore](#)

[Publisher Homepage](#)

[Contact the Society](#)

[Open Access Policy](#)



Online ISSN 1943-2682 Print ISSN 0091-7613

Copyright © 2018 Geological Society of America

Explore

[Journals](#)

[Books](#)

[GeoRef](#)

[OpenGeoSci](#)

Connect

[Facebook](#)

[Twitter](#)

[YouTube](#)

Resources

[Information for Librarians](#)

[Information for Publishers](#)

[Manage Account](#)

[Manage Email Alerts](#)

[Help](#)

[Get Adobe Reader](#)

About

[Contact Us](#)

[GeoScienceWorld](#)

[Journals](#)

[eBook Collections](#)

[GeoRef](#)

[Subscribe](#)



1750 Tysons Boulevard, Suite 1500

McLean, Va 22102

Telephone: 1-800-341-1851

Copyright © 2018 GeoScienceWorld