Searching for Bellwethers in Changing Arctic Environments: Some Cautionary Notes

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Mytilus, Laminaria, Barrow, 1990s
RV *Ivik, Astarte*, hitchikers from 100 metres, Eluitkak Pass, 1949
Predators and predation: *Macoma* with naticid drill hole, Naticid (*Polinices*, sp), and *Neptunea*; sea star *Crossaster*, and predatory gastropod at Stefansson Sound Boulder Patch.
Intertidal *Mytilus trossulus* beds, Prince William Sound
Beaufort Sea

Chukchi Sea

ALASKA

CANADA

Arctic Circle

162 ° W

141 ° W

200 km

Sampling, no *Mytilus* found

(+) Valves, fossils

Collected Live
Alaska’s Share of Arctic Cretaceous Dinosaur Resources 2003
# Number of Genera

<table>
<thead>
<tr>
<th></th>
<th>Prince Creek</th>
<th>Judith River</th>
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<tbody>
<tr>
<td></td>
<td>AK</td>
<td>MT/AB</td>
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<tr>
<td>Theropods</td>
<td>4</td>
<td>8*</td>
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<td>Hadrosaurs</td>
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<td>7</td>
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<tr>
<td>Ceratopsians</td>
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<td>Ankylosaurs</td>
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<td>3</td>
</tr>
<tr>
<td>Pachycephalosaurus</td>
<td>1</td>
<td>4</td>
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</tbody>
</table>

*includes Ornithomimidae
“Just-so Stories”
From Coastal Sea Ice Studies
Lead, seen from above the edge of landfast ice, SW of Barrow on 8\textsuperscript{th} March 2000. Streamers of rapidly growing ice crystals are being blown out across the open lead by strong ENE winds at air temperatures approx. –30\textdegree C. Photo, A. Graves.
Chukchi Sea Regimes

Beaufort Sea, Polar Pack Ice

General Ice Drift to W

Shorefast Ice

Chukchi Sea

Open Lead, Uñiq

Area of Oblique Detail a) and b)

Elson Lagoon
Point Barrow
Peard Bay
Wainwright
Barrow
Canyon Hanna
Shoal, Polynya

Icy Cape

Beaufort Sea Model from Reimnitz et al. (1978).