

Marine Macroinvertebrates of Alaska — Annotated Checklist

David T. Drumm^{1,2} and James W. Orr²

¹School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA;

²Resource Assessment and Conservation Engineering Division, Alaska Fisheries Science Center, National Marine Fisheries Service, NOAA, Seattle, WA

Objectives

- 1) To produce a comprehensive annotated checklist of Alaskan marine macroinvertebrates.
- 2) Examine the identifications of invertebrates in the AFSC bottom-trawl survey database and establish a confidence level for each taxon identified in the catch for each survey year.

Purpose

A comprehensive species list of marine invertebrates of Alaska is currently lacking. The checklist of Austin (1985) treated the marine invertebrates of Southern Alaska to California and since then many new species have been described, many range extensions have been discovered, and considerable changes in higher-level systematics have been made. This list will be an important first step in establishing a baseline for understanding a major but under-studied component of the Alaskan marine ecosystem and will provide a foundation for further species-specific research focused on changes in invertebrate distribution, abundance, and biology, to be integrated into large-scale studies of ecosystems. It will also allow an evaluation of the historical AFSC bottom-trawl survey database for levels of confidence in invertebrate identifications over the duration of the survey time series.

Content and Area Coverage

The checklist will include the currently accepted scientific name and its significant synonyms, common names, type localities, geographic and depth distributions, a general statement of abundance (e.g., rare, uncommon, common), significance for fish habitat, and general remarks. The area covered will include all of Alaska: Arctic Alaska (Beaufort and eastern Chukchi seas), eastern Bering Sea Shelf, western Aleutian Islands east through the Gulf of Alaska to Southeast Alaska at the Dixon Entrance.

Progress to Date

The checklist currently contains the following completed taxa (Table 1).

We have also discovered northern range extensions of several caridean shrimps such as the oplophorid *Systellaspis braueri paucispinosa* (Fig. 1). The northward range expansion of boreal species into Arctic waters is expected to happen as a result of the warming climate (Vermeij and Roopnarine, 2008), so it is imperative to have accurate baseline information for comparison to future changes to marine biodiversity.

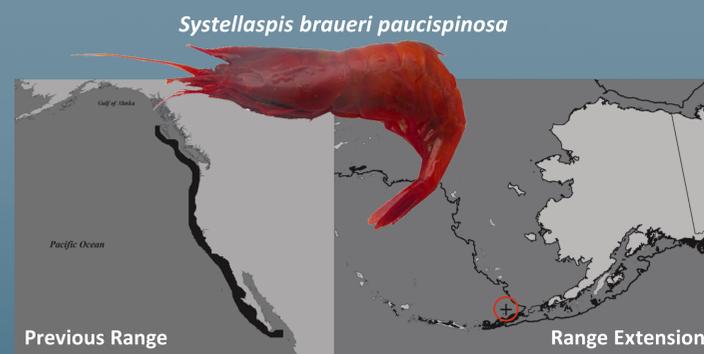


Figure 1

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Table 1. Number of species found in Alaskan waters.

Taxa	Austin's (1985) checklist	This Checklist
Hydrozoa	137	156
Polychaeta	231	375
Aplacophora	5	11
Polyplacophora	45	54
Bivalvia	195	205
Scaphopoda	10	10
Cephalopoda	27	32
Pycnogonida	17	60
Mysida	30	41
Lophogastrida	3	5
Amphipoda	144	308
Isopoda	38	63
Cumacea	18	25
Tanaidacea	24	37
Euphausiacea	13	12
Decapoda	155	195
Brachiopoda	7	7
Bryozoa	89	233
Crinoidea	4	7
Holothuroidea	29	39
Echinoidea	19	24
Asteroidea	66	127
Ophiuroidea	35	66
Tunicata	29	42



Literature cited

Austin, W.C. 1985. An annotated checklist of marine invertebrates in the cold temperate northeast Pacific. Khoyatan Marine Laboratory, Cowichan Bay, British Columbia.

Vermeij, G.J., and P.D. Roopnarine. 2008. The coming Arctic invasion. *Science* 321:780-781.

