

Report Date: 15 April 2009

Metadata Data Set Name: Arctic Marine Fish Museum Specimens, Second Edition

Identification Information

Citation : Mecklenburg, C. W. and T. A. Mecklenburg. 15 April 2009. Arctic marine fish museum specimens, second edition. Database submitted to ArcOD, Institute of Marine Science, University of Alaska Fairbanks by Point Stephens Research, P.O. Box 210307, Auke Bay, Alaska 99821 USA.

Description

Abstract:

This data set contains 9,327 records: the results of an evaluation of Arctic marine fish specimens in museums in order to establish a database of reliable records of occurrence. One use of the database is to assist in the determination of historical and current distributions of species. Misidentifications of specimens in historical collections are common, and prevent accurate determination of species distributions. During several visits to museums holding collections of western Arctic fishes, we examined specimens with questionable identifications, such as specimens collected from localities outside the species' published geographic ranges. We also examined a more or less random sample of specimens of each species from each cruise or other collection activity. Identifications were changed to correct misidentifications and to bring the taxonomic nomenclature up to date (such as changing an old name or junior synonym to the current name or senior synonym). For some collections we also proofed locality data given in museum records against cruise records and published station data; and added data which are not included in the museums' catalogs or posted online. As well as the specimens from historical cruises, archived specimens from recent cruises (2004-2008) to the Chukchi and Beaufort seas are included in the database.

Each database record, designated by a unique museum catalog number, contains data on one "lot." A lot can contain 1 to 200 or more specimens. This edition of the database contains records on 9,327 museum lots housed primarily in Canada, Japan, Russia, and the United States: NOAA, Auke Bay Laboratory, Juneau, Alaska (ABL); California Academy of Sciences, San Francisco (CAS); Canadian Museum of Nature, Gatineau, Quebec (CMN); Hokkaido University Museum of Zoology, Hakodate, Japan (HUMZ); Institute of Marine Science, University of Alaska Fairbanks (IMS); Museum of the Moscow State University, Russia (MMSU); Point Stephens Research, Auke Bay, Alaska (PSR); National Museum of Natural History, Washington, D.C. (USNM); University of Alaska Museum of the North, Fairbanks (UAMN); University of British Columbia, Vancouver (UBC); University of Washington, Seattle (UW); and Zoological Institute, St. Petersburg, Russia (ZIN). Specimens currently housed at IMS and PSR are in process of being archived at the UAMN and CAS, and their catalog numbers will replace the IMS and PSR numbers in a future edition. Specimens at the Russian museums were examined by N. V. Chernova and B. A. Sheiko for the first edition of the database.

Development of the database has been funded primarily by NOAA, Arctic Research Office through the Russian-American Long-Term Census of the Arctic (RUSALCA), and the Sloan Foundation through the Arctic Ocean Diversity (ArcOD) section (University of Alaska Fairbanks) of the Census of Marine Life. This edition of the database is an International Polar Year contribution from Point Stephens Research.

Purpose:)

To provide a database of reliably identified specimens in permanent collections as an aid in assessments of geographic distribution of species.

Supplemental Information:

Species identifications have been reviewed and in many cases changed. Therefore, a name associated with any particular museum catalog number in this database will not always be the same as the name given for that catalog number by the museums themselves (such as in print catalogs, searchable museum websites, or FishBase).

Manuscripts using results from this study have been published (Mecklenburg et al., 2007, Northwest. Nat. 88:168-187) or are nearing completion. Maps created for the ArcOD online species accounts are based partly on records in this database (see, for example: http://www.arcodiv.org/Fish/Myoxocephalus_scorpilus.html)

Time Period of Content

Time Period Information:

From earliest date of collection to the present. In this edition of the database the earliest year a fish was collected is 1843.

Currentness Reference:

The second edition includes museum specimens and records reviewed by the authors through 14 April 2009.

Status

Progress:

Population of the database is ongoing. Records will be added at least until the end of the Census of Marine Life program (2010) and the Russian-American Long-Term Census of the Arctic (RUSALCA; joint program of NOAA and Russian Academy of Sciences with activities currently planned through 2012).

Thousands more existing historical specimens need to be evaluated and added, as well as specimens to be deposited in museums after recent and future cruises.

Maintenance and Update Frequency:

Irregular updates of the database are planned. Revisions are made to the current edition's records as well as addition of records.

Spatial Domain

Description of Geographic Extent:

Focus is on the Arctic Ocean and its seas, and adjacent portions of the North Atlantic and North Pacific oceans. A relatively small number of records from subarctic waters are included for special reference purposes of the database creators. This edition includes records primarily from the northern Bering Sea (60 degrees and farther north), Laptev, East Siberian, Chukchi, and Beaufort seas, Canadian Arctic, and adjacent High Arctic.

Bounding Coordinates

West Bounding Coordinate: 0

East Bounding Coordinate: 0

North Bounding Coordinate: 90

South Bounding Coordinate: 60

Keywords

Theme

Theme Keyword Thesaurus: none
Theme Keyword: taxonomy
Theme Keyword: marine fish
Theme Keyword: museum
Theme Keyword: voucher specimen
Theme Keyword: museum specimen
Theme Keyword: distribution

Place

Place Keyword Thesaurus: none
Place Keyword: Arctic Ocean
Place Keyword: Chukchi Sea
Place Keyword: Bering Strait
Place Keyword: Bering Sea
Place Keyword: Pacific Ocean
Place Keyword: East Siberian Sea
Place Keyword: Beaufort Sea
Place Keyword: Laptev Sea
Place Keyword: Alaska
Place Keyword: Greenland
Place Keyword: Russia
Place Keyword: Canada

Temporal

Temporal Keyword Thesaurus:
 None

Taxonomy

Taxonomic Keywords:

Family	Scientific_Name	Common_Name
Agonidae	Aspidophoroides monopterygius	alligatorfish
Agonidae	Bathyagonus alascanus	grey starsnout
Agonidae	Bathyagonus infraspinus	spinycheek starsnout
Agonidae	Bathyagonus nigripinnis	blackfin poacher
Agonidae	Bathyagonus pentacanthus	bigeye poacher
Agonidae	Chesnonia verrucosa	warty poacher
Agonidae	Hypsagonus quadricornis	fourhorn poacher
Agonidae	Leptagonus decagonus	Atlantic poacher
Agonidae	Occella dodecaedron	Bering poacher
Agonidae	Pallasina barbata	tubenose poacher
Agonidae	Percis japonica	dragon poacher
Agonidae	Podothecus accipenserinus	sturgeon poacher
Agonidae	Podothecus sp.	unidentified poacher
Agonidae	Podothecus veternus	veteran poacher
Agonidae	Sarritor frenatus	sawback poacher
Agonidae	Sarritor leptorhynchus	longnose poacher
Agonidae	Stellerina xyosterna	pricklebreast poacher
Agonidae	Ulcina olrikii	Arctic alligatorfish
Ammodytidae	Ammodytes hexapterus	Pacific sand lance
Anarhichadidae	Anarhichas orientalis	Bering wolffish
Anoplopomatidae	Anoplopoma fimbria	sablefish
Bathymasteridae	Bathymaster caeruleofasciatus	Alaskan ronquil

Bathymasteridae	Bathymaster leurolepis	smallmouth ronquil
Bathymasteridae	Bathymaster signatus	searcher
Chauliodontidae	Chauliodus macouni	Pacific viperfish
Clupeidae	Clupea pallasii	Pacific herring
Cottidae	Arteidiellus camchaticus	clownfin sculpin
Cottidae	Arteidiellus gomojunovi	spinyhook sculpin
Cottidae	Arteidiellus ochotensis	Okhotsk hookear sculpin
Cottidae	Arteidiellus pacificus	hookhorn sculpin
Cottidae	Arteidiellus scaber	hamecon
Cottidae	Arteidiellus sp.	unidentified sculpin
Cottidae	Arteidius fenestralis	padded sculpin
Cottidae	Enophrys diceraus	antlered sculpin
Cottidae	Enophrys lucasi	leister sculpin
Cottidae	Enophrys sp.	unidentified sculpin
Cottidae	Gymnocanthus galeatus	armorhead sculpin
Cottidae	Gymnocanthus pistilliger	threaded sculpin
Cottidae	Gymnocanthus sp.	unidentified sculpin
Cottidae	Gymnocanthus tricuspis	Arctic staghorn sculpin
Cottidae	Hemilepidotus gilberti	banded Irish lord
Cottidae	Hemilepidotus hemilepidotus	red Irish lord
Cottidae	Hemilepidotus jordani	yellow Irish lord
Cottidae	Hemilepidotus papilio	butterfly sculpin
Cottidae	Hemilepidotus sp.	unidentified sculpin
Cottidae	Hemilepidotus spinosus	brown Irish lord
Cottidae	Icelus canaliculatus	blacknose sculpin
Cottidae	Icelus euryops	wide-eye sculpin
Cottidae	Icelus sp.	unidentified sculpin
Cottidae	Icelus spatula	spatulate sculpin
Cottidae	Icelus spiniger	thorny sculpin
Cottidae	Jordania zonope	longfin sculpin
Cottidae	Leptocottus armatus	Pacific staghorn sculpin
Cottidae	Megalocottus platycephalus	belligerent sculpin
Cottidae	Microcottus sellaris	brightbelly sculpin
Cottidae	Myoxocephalus jaok	plain sculpin
Cottidae	Myoxocephalus niger	warthead sculpin
Cottidae	Myoxocephalus polyacanthocephalus	great sculpin
Cottidae	Myoxocephalus quadricornis	fourhorn sculpin
Cottidae	Myoxocephalus scorpioides	Arctic sculpin
Cottidae	Myoxocephalus scorpius	shorthorn sculpin
Cottidae	Myoxocephalus sp.	unidentified sculpin
Cottidae	Myoxocephalus stelleri	frog sculpin
Cottidae	Porocottus mednius	Aleutian fringed sculpin
Cottidae	Radulinus taylori	spinynose sculpin
Cottidae	Trichocottus brashnikovi	hairhead sculpin
Cottidae	Triglops forficatus	scissortail sculpin
Cottidae	Triglops pingelii	ribbed sculpin
Cottidae	Triglops scepticus	spectacled sculpin
Cyclopteridae	Aptocyclus ventricosus	smooth lumpsucker
Cyclopteridae	Cyclopteropsis bergi	Berg's lumpsucker
Cyclopteridae	Cyclopteropsis jordani	Jordan's lumpsucker

Cyclopteridae	Cyclopterus lumpus	lumpfish
Cyclopteridae	Eumicrotremus andriashevi	pimpled lumpsucker
Cyclopteridae	Eumicrotremus asperrimus	Siberian lumpsucker
Cyclopteridae	Eumicrotremus barbatus	papillose lumpsucker
Cyclopteridae	Eumicrotremus derjugini	leatherfin lumpsucker
Cyclopteridae	Eumicrotremus orbis	Pacific spiny lumpsucker
Cyclopteridae	Eumicrotremus phrynoides	toad lumpsucker
Cyclopteridae	Eumicrotremus sp.	unidentified lumpsucker
Cyclopteridae	Eumicrotremus spinosus	Atlantic spiny lumpsucker
Cyclopteridae	Lethotremus muticus	docked snailfish
Cyclopteridae	Lethotremus sp.	unidentified lumpsucker
Gadidae	Arctogadus glacialis	polar cod
Gadidae	Boreogadus saida	Arctic cod
Gadidae	Eleginus gracilis	saffron cod
Gadidae	Gadus macrocephalus	Pacific cod
Gadidae	Lota lota	burbot
Gadidae	Theragra chalcogramma	walleye pollock
Gasterosteidae	Pungitius pungitius	ninespine stickleback
Gonostomatidae	Cyclothone atraria	black bristlemouth
Gonostomatidae	Sigmops gracilis	slender fangjaw
Hemitripteridae	Blepsias bilobus	crested sculpin
Hemitripteridae	Hemitripterus bolini	bigmouth sculpin
Hemitripteridae	Nautichthys oculofasciatus	sailfin sculpin
Hemitripteridae	Nautichthys pribilovius	eyeshade sculpin
Hemitripteridae	Nautichthys robustus	shortmast sculpin
Hexagrammidae	Hexagrammos decagrammus	kelp greenling
Hexagrammidae	Hexagrammos lagocephalus	rock greenling
Hexagrammidae	Hexagrammos octogrammus	masked greenling
Hexagrammidae	Hexagrammos stelleri	whitespotted greenling
Hexagrammidae	Pleurogrammus monopterygius	Atka mackerel
Icosteidae	Icosteus aenigmaticus	ragfish
Liparidae	Careproctus colletti	Alaska snailfish
Liparidae	Careproctus cypselurus	falcate snailfish
Liparidae	Careproctus furcellus	emarginate snailfish
Liparidae	Careproctus melanurus	blacktail snailfish
Liparidae	Liparis bristolensis	Bristol snailfish
Liparidae	Liparis dennyi	marbled snailfish
Liparidae	Liparis fabricii	gelatinous seasnail
Liparidae	Liparis gibbus	variegated snailfish
Liparidae	Liparis marmoratus	festive snailfish
Liparidae	Liparis sp.	unidentified snailfish
Liparidae	Liparis tunicatus	kelp snailfish
Liparidae	Rhinoliparis sp.	unidentified snailfish
Melamphaidae	Poromitra crassiceps	crested bigscale
Microstomatidae	Bathylagus pacificus	slender blacksmelt
Microstomatidae	Leuroglossus schmidti	northern smoothtongue
Microstomatidae	Pseudobathylagus milleri	stout blacksmelt
Moridae	Antimora microlepis	Pacific flatnose
Myctophidae	Benthoosema glaciale	glacial lanternfish
Myctophidae	Lampanyctus jordani	brokenline lampfish

Myctophidae	<i>Stenobranchius leucopsarus</i>	northern lampfish
Nemichthyidae	<i>Avocettina infans</i>	blackline snipe eel
Notosudidae	<i>Scopelosaurus adleri</i>	longfin waryfish
Oneirodidae	<i>Bertella idiomorpha</i>	spikehead dreamer
Oneirodidae	<i>Oneirodes bulbosus</i>	bulbous dreamer
Oneirodidae	<i>Oneirodes thompsoni</i>	Alaska dreamer
Oreosomatidae	<i>Allocyttus folletti</i>	oxeye oreo
Osmeridae	<i>Hypomesus olidus</i>	pond smelt
Osmeridae	<i>Mallotus villosus</i>	capelin
Osmeridae	<i>Osmerus dentex</i>	Arctic smelt
Petromyzontidae	<i>Lampetra camtschatica</i>	Arctic lamprey
Petromyzontidae	<i>Lampetra tridentata</i>	Pacific lamprey
Pholidae	<i>Pholis fasciata</i>	banded gunnel
Pholidae	<i>Pholis picta</i>	painted gunnel
Pholidae	<i>Pholis</i> sp.	unidentified gunnel
Platyroctidae	<i>Holtbyrnia innesi</i>	lanternjaw tubeshoulder
Pleuronectidae	<i>Hippoglossoides elassodon</i>	flathead sole
Pleuronectidae	<i>Hippoglossoides robustus</i>	Bering flounder
Pleuronectidae	<i>Hippoglossoides</i> sp.	unidentified flatfish
Pleuronectidae	<i>Limanda aspera</i>	yellowfin sole
Pleuronectidae	<i>Limanda proboscidea</i>	longhead dab
Pleuronectidae	<i>Limanda sakhalinensis</i>	Sakhalin sole
Pleuronectidae	<i>Parophrys vetulus</i>	English sole
Pleuronectidae	<i>Platichthys stellatus</i>	starry flounder
Pleuronectidae	<i>Pleuronectes glacialis</i>	Arctic flounder
Pleuronectidae	<i>Pleuronectes quadrituberculatus</i>	Alaska plaice
Pleuronectidae	<i>Reinhardtius hippoglossoides</i>	Greenland halibut
Psychrolutidae	<i>Eurymen gyrinus</i>	smoothcheek sculpin
Psychrolutidae	<i>Malacocottus aleuticus</i>	whitetail sculpin
Psychrolutidae	<i>Malacocottus kincaidi</i>	blackfin sculpin
Psychrolutidae	<i>Malacocottus zonurus</i>	darkfin sculpin
Psychrolutidae	<i>Psychrolutes paradoxus</i>	tadpole sculpin
Rajidae	<i>Amblyraja badia</i>	broad skate
Rajidae	<i>Amblyraja hyperborea</i>	Arctic skate
Rajidae	<i>Bathyraja parmifera</i>	Alaska skate
Rajidae	<i>Bathyraja smirnovi</i>	Smirnov's skate
Rajidae	<i>Bathyraja</i> sp.	unidentified skate
Salmonidae	<i>Coregonus autumnalis</i>	Arctic cisco
Salmonidae	<i>Coregonus laurettae</i>	Bering cisco
Salmonidae	<i>Coregonus pidschian</i>	humpback whitefish
Salmonidae	<i>Coregonus sardinella</i>	least cisco
Salmonidae	<i>Oncorhynchus gorboscha</i>	pink salmon
Salmonidae	<i>Oncorhynchus keta</i>	chum salmon
Salmonidae	<i>Oncorhynchus kisutch</i>	coho salmon
Salmonidae	<i>Oncorhynchus nerka</i>	sockeye salmon
Salmonidae	<i>Salvelinus malma</i>	Dolly Varden
Salmonidae	<i>Stenodus leucichthys</i>	inconnu
Salmonidae	<i>Thymallus arcticus</i>	Arctic grayling
Scopelarchidae	<i>Benthalbella dentata</i>	northern pearleye
Scorpaenidae	<i>Sebastes aleutianus</i>	rougeye rockfish

Scorpaenidae	<i>Sebastes alutus</i>	Pacific ocean perch
Scorpaenidae	<i>Sebastes variabilis</i>	dusky rockfish
Scorpaenidae	<i>Sebastolobus alascanus</i>	shortspine thornyhead
Scytalinidae	<i>Scytalina cerdale</i>	graveldiver
Stichaeidae	<i>Acantholumpenus mackayi</i>	blackline prickleback
Stichaeidae	<i>Alectridium aurantiacum</i>	lesser prickleback
Stichaeidae	<i>Anisarchus medius</i>	stout eelblenny
Stichaeidae	<i>Anoplarchus purpurescens</i>	high cockscomb
Stichaeidae	<i>Bryozoichthys lysimus</i>	nutcracker prickleback
Stichaeidae	<i>Bryozoichthys marjorius</i>	pearly prickleback
Stichaeidae	<i>Chirolophis decoratus</i>	decorated warbonnet
Stichaeidae	<i>Chirolophis nugator</i>	mosshead warbonnet
Stichaeidae	<i>Chirolophis snyderi</i>	bearded warbonnet
Stichaeidae	<i>Chirolophis</i> sp.	unidentified prickleback
Stichaeidae	<i>Eumesogrammus praecisus</i>	fourline snakeblenny
Stichaeidae	<i>Leptoclinus maculatus</i>	daubed shanny
Stichaeidae	<i>Lumpenella longirostris</i>	longsnout prickleback
Stichaeidae	<i>Lumpenus fabricii</i>	slender eelblenny
Stichaeidae	<i>Lumpenus lamprettaeformis</i>	snakeblenny
Stichaeidae	<i>Lumpenus sagitta</i>	snake prickleback
Stichaeidae	<i>Lumpenus</i> sp.	unidentified prickleback
Stichaeidae	<i>Neozarces steindachneri</i>	flower-string blenny
Stichaeidae	<i>Poroclinus rothrocki</i>	whitebarred prickleback
Stichaeidae	<i>Stichaeus punctatus</i>	Arctic shanny
Umbridae	<i>Dallia pectoralis</i>	Alaska blackfish
Zaproridae	<i>Zaprora silenus</i>	prowfish
Zoarcidae	<i>Bothrocara</i> sp.	unidentified eelpout
Zoarcidae	<i>Gymnelus hemifasciatus</i>	halfbarred pout
Zoarcidae	<i>Gymnelus popovi</i>	Popov's eelpout
Zoarcidae	<i>Gymnelus</i> sp.	unidentified eelpout
Zoarcidae	<i>Gymnelus viridis</i>	fish doctor
Zoarcidae	<i>Lycenchelys camchatica</i>	Kamchatka eelpout
Zoarcidae	<i>Lycenchelys crotalinus</i>	snakehead eelpout
Zoarcidae	<i>Lycenchelys hippopotamus</i>	behemoth eelpout
Zoarcidae	<i>Lycenchelys ratmanovi</i>	manypore eelpout
Zoarcidae	<i>Lycodes attenuatus</i>	attenuate eelpout
Zoarcidae	<i>Lycodes brevipes</i>	shortfin eelpout
Zoarcidae	<i>Lycodes concolor</i>	ebony eelpout
Zoarcidae	<i>Lycodes diapterus</i>	black eelpout
Zoarcidae	<i>Lycodes jugoricus</i>	shulupaoluk
Zoarcidae	<i>Lycodes mucosus</i>	saddled eelpout
Zoarcidae	<i>Lycodes palearis</i>	wattled eelpout
Zoarcidae	<i>Lycodes pallidus</i>	pale eelpout
Zoarcidae	<i>Lycodes polaris</i>	polar eelpout
Zoarcidae	<i>Lycodes raridens</i>	marbled eelpout
Zoarcidae	<i>Lycodes sagittarius</i>	archer eelpout
Zoarcidae	<i>Lycodes seminudus</i>	longear eelpout
Zoarcidae	<i>Lycodes</i> sp.	unidentified eelpout
Zoarcidae	<i>Lycodes turneri</i>	estuarine eelpout
Zoarcidae	<i>Puzanovia rubra</i>	tough eelpout

Taxonomic Procedures

Taxonomic Procedures:

Published identification keys and descriptions of the species, including the original descriptions of the species as well as recent taxonomic reviews such as Mecklenburg et al. (2002), were used to identify fish specimens to species. Observations of external features such as scale patterns, fin configurations and shapes, coloration, and numbers of fin rays and other countable features were sometimes supplemented with radiographic and clearing and staining techniques, such as to count vertebrae or discern other bony details.

Taxonomic Completeness:

Not all specimens are conclusively identified to species. Some may be identified from further study, but others may not be identifiable due to deterioration, lack of character development due to young age of the fish at death, or loss of the specimens. We use the sp. (species) designation for both unidentified and unidentifiable museum specimens. In several cases we use sp. for specimens that are identified to species in the literature or museum ledgers but have collection localities outside known ranges or other problems indicating a need to verify the identifications.

Vouchers : not applicable

Specimen:

Not applicable. This database uses museum voucher specimens generated from numerous studies, historical as well as recent.

Repository:

Not applicable. The database reports the database creators' evaluation of museum voucher specimens and information presented in museum catalogs or data records deposited in museums with the specimens. Questions regarding the data presented or requests for more detail should be addressed to the database creators rather than to the holding museums. The repository museums are identified in "Data Set Credit" and "Attribute Definition" for the "Museum" column.

Access Constraints:

Use Constraints:

When using information from this database that differs from information given in the literature on range or for the same specimens in online museum fish collection search applications or printed catalogs (this will be a fairly frequent occurrence), please cite this edition of the database (as Mecklenburg and Mecklenburg [2009]), as well as the museum catalog numbers; the scientific names given for each record represent our conclusions as to identification of those specimens. Since revisions are continually being made, we advise checking with the authors (ptstephens@alaska.com) to learn of any changes affecting data or interpretations of interest.

The database is not to be distributed to third parties.

Point of Contact:

Contact Person: Catherine W. Mecklenburg

Contact organization: Point Stephens Research

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Contact Voice Telephone: (907) 789-7603

Data Set Credit: Catherine W. Mecklenburg¹ and T. Anthony Mecklenburg²

1. Department of Ichthyology, California Academy of Sciences, San Francisco, and Point Stephens Research, Auke Bay, Alaska, USA.
2. Point Stephens Research, Auke Bay, Alaska, USA.

The results presented in this data set are from a number of studies on fishes of the North Pacific and Arctic oceans conducted by the database creators since about 1997. Funding for focusing on the northern Bering Sea and Arctic Ocean has been provided by the National Oceanic and Atmospheric Administration (NOAA), Office of Arctic Research, and the Arctic Ocean Diversity section of the Census of Marine Life, University of Alaska Fairbanks.

We thank the museum curators and managers for hosting our research visits and allowing examination of the valuable specimens, ledgers, and field records in their care, and for giving their time to resolve discrepancies in collection data, make special database searches, take photographs and radiographs, help us find and reshelv specimens, and occasionally loan specimens. For the current edition of the database, C. W. Mecklenburg visited the following institutions, some of them several times:

Auke Bay Laboratory: Bruce Wing

California Academy of Sciences: Tomio Iwamoto, David Catania, Jon Fong

Canadian Museum of Nature: Brian Coad, Sylvie Laframboise, Noel Alfonso

Hokkaido University Museum of Zoology: Kazuhiro Nakaya, Mamoru Yabe, Osamu Tsuruoka

Museum of the North, University of Alaska Fairbanks: J. Andres Lopez

National Museum of Natural History: Jeff Williams, Kris Murphy, Sandra Raredon

University of British Columbia: Eric Taylor

The Point Stephens Research (PSR) collection is housed at the Mecklenburgs' laboratory at Point Stephens, Tee Harbor, a few miles north of Auke Bay and Juneau, Alaska. The collection includes, among others, Bering, Chukchi, and Beaufort Sea specimens collected during participation in surveys or sent to us for identification and curation which will be archived in the permanent fish collections of the University of Alaska Museum of the North and the California Academy of Sciences.

Native Data Set Environment: Windows XP

Cross Reference:

Journal articles are being written.

Data Quality Information

Attribute Accuracy

Attribute Accuracy Report

Users with special concerns regarding data precision or accuracy, particularly regarding taxonomic determinations and geographic referencing, should communicate these concerns to the database creators.

Logical Consistency Report

The museum, museum lot number, kingdom, phylum, order, family, genus, scientific name, and common name are the only data consistently included.

Completeness Report

As with any body of data on biodiversity, the museum voucher records constitute positive information only. Absence of a record in any region or location or at any time does not mean

absence of the species. It could indicate incomplete regional coverage in sampling or evaluation of specimens. Empty cells indicate lack of data, not zero.

Positional Accuracy

Positions are not our direct measurements, but are taken from museum records, publications reporting research cruise station data, and station data provided from the bridge or our data recorders for cruises in which we participated. Therefore they can only be as accurate as those records.

Lineage

Source Information:

Methodology

Ideally, before each museum research visit we prepare an Excel spreadsheet with all the Arctic fish holdings listed by the museum in their online search database or, if the museum's holdings are not online, from a hard copy catalog printout obtained from the curators. For some museums, neither online nor print versions are available and we prepare the spreadsheet once we arrive at the museum, from their field records or card catalog and personal inventory of the jars on the shelves. At each museum, we examine all specimens that are, from our experience, possibly dubiously identified (such as specimens collected from localities outside of the species' published geographic range). In addition we examine a more or less random sample of specimens of each species from each cruise or other collection activity. Identifications are changed to correct misidentifications, and to bring the nomenclature up to date (such as changing an old scientific name or junior synonym to the current name or senior synonym). We also proof and correct locality data against cruise records and published station data; and add data to the database, such as habitat and physical parameters (e.g., vegetation, bottom type, bottom depth, temperature, salinity), from field records and other museum records not widely available. The spreadsheets are exported to the MS Access database, where additional changes and revisions are made directly in the database.

Methodology Type: Specimens were identified using standard ichthyological techniques and referring to descriptions of type specimens and systematic reviews of families and species.

Methodology Description: Not applicable

Process Step

Process Description: not applicable when fully explained in Methodology

Process Date: not applicable when fully explained in Methodology

Process Time: not applicable when fully explained in Methodology

Process Contact: not applicable when fully explained in Methodology

Spatial Data Organization Information

Indirect Spatial Reference: (what can be used to georeference the data other than coordinates)

Direct Spatial Reference Method: (vector, point or line)

Point and Vector Object Information

SDTS Point and Vector Object Type: (e.g. point, line or polygon)

Point and Vector Object Count: (count the points/vectors/polygons in the dataset and report individually)

Spatial Reference Information

Horizontal Coordinate System Definition : Planar

Map Projection

Map Projection Name: (report the official name of the projection)

Standard Parallel: (as decimal degrees)

Standard Parallel: (as decimal degrees)

Longitude Of Central Meridian: (as decimal degrees)

Latitude Of Projection Origin: (as decimal degrees)

False Easting: (as number)

False Northing: (as number)

Planar Coordinate Information

Planar Coordinate Encoding Method: (e.g. 'coordinate pair' if x and y coordinates are used)

Planar Distance Units: (e.g. meters)

Geodetic Model

Horizontal Datum Name: (official and full name)

Ellipsoid Name: (official and full name)

Entity and Attribute Information

Detailed Description

Entity Type

Entity Type Label: AMFishArcOD2ndEd14Apr09.xls

Entity Type Definition: Data set in Excel, exported from MS Access.

Attribute: Column name

Attribute Label: Museum

Attribute Definition: Abbreviation or acronym for the museum housing the specimen(s): ABL, Alaska Fisheries Research Center, Auke Bay Laboratory, Juneau, Alaska; CAS, California Academy of Sciences, San Francisco; CMN, Canadian Museum of Nature, Gatineau, Quebec; HUMZ, Hokkaido University Museum of Zoology, Hakodate, Japan; MIMB, Museum of the Institute of Marine Biology, Vladivostok, Russia; IMS, Institute of Marine Science, University of Alaska Fairbanks; MMSU, Museum of the Moscow State University, Russia; NMNH, National Museum of Natural History, Washington, D.C.; PSR, Point Stephens Research, Auke Bay, Alaska; UAMN, University of Alaska Museum of the North, Fairbanks; UBC, University of British Columbia, Vancouver; UW, University of Washington, Seattle; ZIN, Zoological Institute, St. Petersburg, Russia.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Museum No

Attribute Definition: The unique combination of letters and numbers assigned to a museum lot (usually a jar of 1 or more specimens of the same species). The prefix of 2-4 uppercase letters stands for the collection name; e.g., USNM, the prefix for the fish collection of the U.S. National Museum of Natural History; or SU, for the Stanford University collection, which is now housed at the California Academy of Sciences. The abbreviations follow Eschmeyer (1998). For some museums and collections the prefix and number make a unique combination. However, museum practices differ and some use accession numbers, assigning the same number to all specimens in a trawl haul or other sample, whether of one or more species. To make these museum numbers unique we add lowercase letters (a...z) to distinguish among different

specimen lots bearing the same accession numbers. Note that the museums themselves do not use these appended letters in their records.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: SciName

Attribute Definition: Scientific name, including genus and species but excluding author(s) and publication date. (Author and date may be added in later database editions.) This name represents our conclusion as to the species identity of the specimen(s), and in many cases differs from the identification given in the museum records and, occasionally, from identifications used in the literature. The name given is always the senior synonym; most museums do not change their records to reflect published synonymies, and in ichthyological practice the names of types never change. We use the senior synonyms to facilitate searches for generating reports and maps of species distribution.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: ComName

Attribute Definition: Common name of the species.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Family

Attribute Definition: Taxonomic category between superfamily and subfamily in the Linnean system, following ITIS. The name of the family to which the species belongs.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Genus

Attribute Definition: Taxonomic category between subfamily and species in the Linnean system, following ITIS. The name of the genus to which the species belongs.

Attribute Definition Source: This study

Attribute Label: Species

Attribute Definition: Taxonomic category below genus in the Linnean system, following ITIS. The name of the species to which the specimen(s) belong.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: N spec

Attribute Definition: The number of specimens in the museum lot. If there is more than one jar or type of preparation in the lot, the number of specimens in each is separated by a plus sign; e.g., 2 + 5. Where this field is blank, it means we did not count the number of specimens.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: SL

Attribute Definition: Standard length, measured from the most anteriorly projecting part of the head to the end of the hypural. Where this field is blank, it means we did not measure the standard length of the specimens.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: TL

Attribute Definition: Total length, measured from the most anteriorly projecting part of the head to the farthest tip of the caudal fin when the rays are squeezed together. Where this field is blank, it means we did not measure the total length of the specimens.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Political Region

Attribute Definition: The political region from which the specimen(s) was collected; e.g., Russia or Alaska.

Attribute Definition Source: This study

Attribute: Column name

Attribute: Ocean Region

Attribute Definition: The water body from which the specimen(s) was collected; e.g., E Chukchi Sea for eastern Chukchi Sea. East (E) and West (W) are relative to the International Dateline. Where this field is blank, it means the available records do not give enough information to give the region. Records lacking the region will not show up in a dot distribution map because there is no way to estimate the geographic position (latitude and longitude). We do not estimate regions from such vague terms as "Alaska" or "Siberia." The record is included in the database because we need to be able to track it.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Location

Attribute Definition: Text describing a more specific location than region. Written by locating the geographic coordinates on maps if not given in museum records. Where this field is blank, it means the available records do not give enough information to give even an estimate of the location. Records lacking the location will not show up in a dot distribution map because there is no way to estimate the geographic coordinates. The record is included in the database because we need to be able to track it.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: LatDD

Attribute Definition: The geographic latitude at which the specimen(s) was collected, given in decimal degrees. All latitudes are in the northern hemisphere (positive). Where this field is blank, it means the available records do not give enough information to give even an estimate of the latitude. Records lacking the latitude will not show up in a dot distribution map. The record is included in the database because we need to be able to track it.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: LongDD

Attribute Definition: The geographic longitude at which the specimen(s) was collected, given in decimal degrees. Western is negative, eastern is positive. Where this field is blank, it means the available records do not give enough information to give even an estimate of the longitude. Records lacking the longitude will not show up in a dot distribution map. The record is included in the database because we need to be able to track it.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Depth

Attribute Definition: The water depth or range of depths at which the specimen(s) was collected, given in meters (m). Where this field is blank, it means the available records do not give the depth.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Gear

Attribute Definition: The fishing gear used to collect the specimen(s). Where this field is blank, it means the available records do not report the gear.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Vessel, Cruise

Attribute Definition: The vessel and cruise number or expedition that collected the specimen(s). Where this field is blank, it means the available records do not report the vessel and cruise.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Station, Haul

Attribute Definition: The number of the station at which the specimen(s) was caught, and the tow or haul number. Where this field is blank, it means the available records do not report the station and haul.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Date

Attribute Definition: The date the specimen was collected. No particular format is followed; usually the format used in the museum catalogs or field records. Where this field is blank, it means the available records do not report the date.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Day

Attribute Definition: Day of the month on which the specimen was collected. Where this field is blank, it means the available records do not give the day.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Month

Attribute Definition: Month of the year in which the specimen was collected. Where this field is blank, it means the available records do not give the month.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Year

Attribute Definition: Year in which the specimen was collected. Where this field is blank, it means the available records do not give the year.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Collector

Attribute Definition: The person(s)who collected the specimens. An organizational name is given if one is known and collectors were not named in the records. Where this field is blank, it means the available records do not give the collector or organization.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Previous ID

Attribute Definition: Identification given on the jar label or in the museum records, if this name differs from our identification of the specimen(s).

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Previous ID by

Attribute Definition: The person who made the previous identification, if known. Where this field is blank, it means the name of the person making the previous identification is not given in the available records.

Attribute Definition Source: This study

Attribute: Column name

Attribute Label: Habitat

Attribute Definition: Information on habitat found on the museum jar labels, in online museum collection databases, original field records, or publications reporting station data. Individual sources are not given in the database, and users with special concerns should address them to the database creators. Where this field is blank, it could mean that no notes on habitat are given in the available records or we elected not to include the data. Recently, we have not been including habitat data if they are easily available elsewhere such as in published station data tables.

Attribute Definition Source: This study

Distribution Information

Distributor

Contact Person: (name) Catherine W. Mecklenburg

Contact Organization: (name) Point Stephens Research

Contact Address

Address Type: (mailing address)

Address: (address) P.O. Box 210307

City: (city) Auke Bay

State or Province: (Full name of the province) Alaska

Postal Code: 99821-0307

Country: USA

Contact Voice Telephone: (907) 789-7603

Please do not telephone. Please send written inquiries to: ptstephens@alaska.com

Distribution Liability

Standard Order Process

Digital Form (Computer Infrastructure; Hard and Software)

Format Name: (version name of software and hardware)

Digital Transfer Option (How data can be transferred, e.g. digital, networks, ftp, website)

Network Resource Name: (where data are stored on the computer/server harddrive; give the complete path)

Metadata Reference Information

Metadata Date: 15 April 2009

Metadata Review Date: (planned reviews)

Metadata Contact:

Contact Person: (name)

Contact Organization: (agency name)

Contact Address

Address Type:

mailing address

Address: (address)

City: (official name of city)

State or Province: (full name)

Postal Code: (numbers/letters)

Country: (name)

Contact Voice Telephone: (include area code)

Metadata Standard Name:

As of October, 1999 the Standard Name is - FGDC Biological Data Profile of the Content Standard for Digital Geospatial Metadata

The standard version is FGDC-STD-001.1-1999

Metadata Access Constraints:

None

Metadata Use Constraints:

None