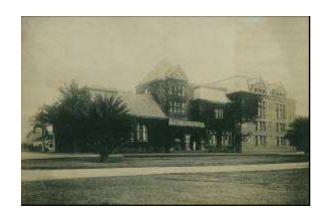
Digitization Initiatives at the Bishop Museum





Shelley A. James & Bishop Museum Natural Science Staff & many volunteers



Bernice Pauahi Bishop Museu

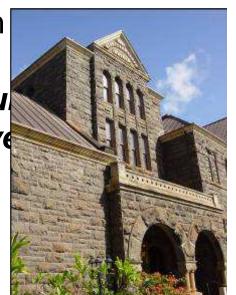






- Established in 1889
- World's largest biological collections from the Pacific region (more than 22.3 million specimens)
- Organizer of more than 100 major biological survey expeditions in Hawaii and throughout the Pacific
- 1988: designated as the Hawaii State Museum Natural and Cultural History
- 1992: designated as the *Hawaii Biological Su*
- 1998: established the Pacific Biological Surve

www.bishopmuseum.org

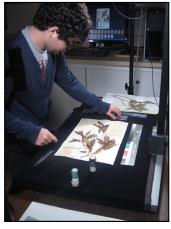
















Micronesica 2013-62: 1-61

Bibliographic checklist of the marine benthic algae of Central Polynesia in the Pacific Ocean (Excluding Hawai'i and French Polynesia)¹

ROY T. TSUDA AND SEANA K. WALSH² Herbarian Penfinan – Balany, Naturel Sciences, Bulsay Meseaw 1521 Bernier Street, Huneldin, Hanut 3 96517–2704, USA e-mail: my. Inshift@hidspanaram.org

Abstract— The Polynesian algal bibliographic checklist is based on records from past references for American Samoa and Samoa (380 spp.), Cook Islands (111 spp.), Johnston Atoll (190 spp.), Line Islands (250 spp.), Nine (3 spp.), Phoenix Islands (193 spp.), Pitcaim Islands (23 spp.), Tokelau (1 sp.), Tonga (109 spp.), Wake Atoll (121 spp.) and Wallis and Futuna (191 spp.) and consists of three sections. The first

CHECKLIST
Second Edition

HAWAIIAN TERRESTRIAL ARTHROPOD



Charles M. Walter





- approx. 10,300 Type specimens; 47% Hawaii, 16%
 Polynesia, 6% New Guinea & Solomon Islands,
 7% Fiji,
 2% Micronesia
- 17,500 specimens of the > 1,000 extinct,
 endangered, and threatened species in Hawaii
- Historical collections, including Nelson's collections from Capt. James Cook's third voyage
- Submission of data and barcoded images to JSTOR Global Plants (*plants.jstor.org*)



New Guinea floral biodivers

- 33,100 specimens databased & imaged from Papua New Guinea and Indonesian New Guinea
- Expeditions providing new collections; digital online; tissues for molecular studies field images
- Online checklist of Papuan flora
 - more than 13,200 accepted taxa
- -Bibliography of published and grey literature (ca. 7,000 records)
- Specimen backlog incorporated into collections

 Repatriation of New Guinea data to PNG Plant (pngplants.org)

obs.bishopmuseum.org/papuanplants png-bpbm.smugmug.com nsdb.bishopmuseum.org





Pacific Collections

 Collaboration between Bishop Museum, National Tropical Botanical Garden, University of Hawaii, and 17 other Pacific herbaria

Consortium of Pacific Herbaria (www.pacificherbaria.org)

 Digitization of collections from the Polynesia Micronesia Hotspot

- As of 2014, more than 304,500 records databased, 90,000 images

- Curation of collections by visiting specialis





Current number of BPBM digitized botanical collections

Total: 304,523



Northern Polynesia	201,664
Hawaii	194,440
Republic of Kiribati	2,820
Tokelau, Tuvalu	147
U.S. Administered Islands (Polynesia)	4,284
Micronesia	37,215
CNMI	6,658
Federated States of Micronesia	12,698
Republic of Nauru	123
Republic of Palau	6,140
Republic of the Marshall Islands	5,398
Guam	6,173
Western Polynesia	19,768
American Samoa & Samoa	11,018
Niue	1,127
Norfolk Island	17
Tonga	4,031
Wallis and Futuna Islands	515
Eastern Polynesia	34,052
Cook Islands	2,221
French Polynesia	30,351
Pitcairn Islands	1,094
Melanesia	52,512
Fiji	11,824
Indonesian & Papua New Guinea	33,089
Vanuatu	749
New Caledonia	3,554
Solomon Islands	2,885



Macroalgae (TCN)

BISHO?

- Digitization of 79,000 specimens
- Primarily from Hawaii and Pacific
 - 40% Hawaii
 - 14% Continental US, Territories, Canada & Mexico
 - 10% Polynesia
 - 13% Micronesia
 - 22% Other
- Collected over the past 250 years
- 35% from the past 50 years
- Collections of more than 1,500 phycologists





Entomology: Tri-Trophic TCN

• 94,000 Hemiptera in collections

29,169 specimens to be barcoded and databased

~60% complete



Other BPBM collections

Collection	No. objects	Databased	%
Botany	750,000	415,615	55
Ichthyology	41,171	41,171	100
Malacology	283,786	278,809	98
Vertebrates	233,956	97,124	42
Invertebrates	35,852	33,846	94
Entomology			
Types	17,790	17,790	100
 Beetles & Flies 	126,184	126,184	100
 Other specimens 	14,000,000	68,643	0.1
PCMB	11,700	11,700	100



Mobilization of collections data

Bishop Museum's online collections portal

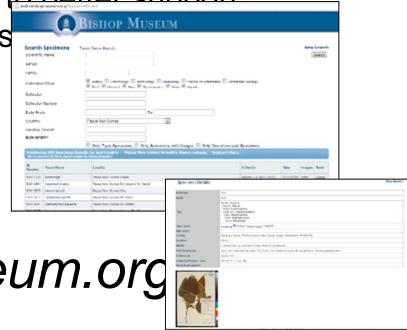
- 842,000 specimen records available online
- Conversion of online collection databases to live data (vs. snapshot data)

- Creation of RESTful services to better support

biodiversity data aggregators

 Pages now have persistent, globally unique addresses instead of technology dependent parameter

nsdb.bishopmuseum.org



A Global Names Architecture CATALOGUE OF LIFE **Species GBIF** ATLAS OF LIVING AUSTRALIA ToL FFF7160A-372D-40E9-9611-23AF5D9EAC4C **algae**BASE NCBI HEXACORALS **BDWB GenBank**



PLOS

Biodiversity Heritage

CalPhotos

lickr

XZOO TAXA One

Zoolleys

SPECIES PLANTARUM.









