

CATALOG OF ENTOMOLOGICAL TYPES IN THE BISHOP MUSEUM Diptera: Chironomidae¹

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Abstract. Thirty-one holotypes and 3 syntype series of Chironomidae deposited in the Bishop Museum Entomological Type Collection are listed. An account of the holdings of Chironomidae in the general collection of the Bishop Museum is also presented.

This catalog lists the types of 34 species of Chironomidae in 19 genera deposited in the Bishop Museum Entomological Type Collection. Of these, 31 are represented by holotypes and 3 are represented by syntype series. Eighteen allotypes are also included. The majority of the types are from the Hawaiian Islands (18) and Micronesia (11). The remainder derive from Malaysia (3) and the Marquesas (2). The possible existence of additional syntype specimens of Grimshaw and Terry were checked at the British Museum (Natural History), London (BMNH) and the Royal Scottish Museum, Edinburgh. Only one species, *Tanytarsus lacteiclavus* Grimshaw, has syntypes elsewhere (British Museum). These data are presented under the species in the main text. The allotype of *Anatopynia elongata* Tokunaga is deposited in the U.S. National Museum, Washington, D.C. (USNM). All but one type of the material deposited in the Bishop Museum are preserved either on pin or slide. The holotype male of *Pentaneura batuensis* Freeman is preserved in alcohol. The format used here is explained in Radovsky et al. (1976).

The Chironomidae in the general collection comprise approximately 22,000 specimens, including 614 paratypes. Of these, 21,000 are pinned adults, 600 are slide-mounted adults, and 250 adults and immatures are preserved in alcohol. The majority of the specimens identified to species (ca. 400) are from the Hawaiian Is (225); the remainder are from miscellaneous Pacific islands, including Samoa, Micronesia and other small island groups. The remaining undetermined material derives from Alaska (1278), Auckland I (257), Austral I (55), Borneo (1544), Campbell I (382), Fiji (146), Hawaiian Is (552), Hong Kong (1005), Japan (17), Java (162), Malaysia (110), Marquesas (61), Micronesia (133), Nepal (538), the Netherlands (195), New Caledonia (982), New Guinea (6588), New Zealand (173), Philippines (3315), Ryukyu Is (228), Samoa (246), Society Is (143), Solomon Is (715), Thailand (1614), Taiwan (1278),

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Tokelau (50), Tonga (5), Vietnam (658) and miscellaneous localities (45). Most of this material is not yet sorted to genera.

SPECIES-GROUP ENTRIES

Family CHIRONOMIDAE

abnormis Terry, <i>Charadromya</i>	4 ♂ SYNTYPES	4020
1913 <i>Proc. Hawaii. Entomol. Soc.</i> 2 : 295 Pl. 7, Fig. 6-9 HAWAIIAN IS: Kauai I: Kilauea IX.1910 F.W. Terry	pin	
albifasciata Hardy, <i>Calopsectra hawaiensis</i>	HOLOTYPE ♂	2970
1960 <i>Insects of Hawaii</i> 10 : 106-07 HAWAIIAN IS: Maui I: Wailuaiki VII.1920 E.H. Bryan, Jr Transferred from pin to slide mount by J.E. Sublette in 1978. ALLOTYPE ♀ 2970a on pin.	slide	
batuensis Freeman, <i>Pentaneura</i>	HOLOTYPE ♂	3148
1962 <i>Pac. Insects</i> 4 (1): 129 MALAYSIA: [SELANGOR]: Kuala Lumpur: Batu Caves 11.VIII.1959 [H.E. McClure] Ex cavern C	fluid	
boninensis Tokunaga, <i>Tanytarsus</i>	HOLOTYPE ♂	3376
1964 <i>Insects Micronesia</i> 12 (5): 606-08 Fig. 17c MICRONESIA: OGASAWARA ARCH: Chichi Shima: Futami-ko V.1956 C.F. Clagg ALLOTYPE ♀ 3376a on slide.	slide	
bryanti Hardy, <i>Calopsectra (Micropsectra)</i>	HOLOTYPE ♂	2968
1960 <i>Insects of Hawaii</i> 10 : 102-04 Fig. 27a-b HAWAIIAN IS: Maui I: Olinda 1364 m 8.IV.1932 O. Bryant Transferred from pin to slide mount by J.E. Sublette in 1978. ALLOTYPE ♀ 2968a on pin.	slide	
cavernae Freeman, <i>Eusmittia</i>	HOLOTYPE ♂	3149
1962 <i>Pac. Insects</i> 4 (1): 130-31 Fig. 1-2 MALAYSIA: [SELANGOR]: Kuala Lumpur: Batu Caves 8.XII.1959 [H.E. McClure] Ex cavern C	slide	
claggi Tokunaga, <i>Chironomus (Chironomus)</i>	HOLOTYPE ♂	3373
1964 <i>Insects Micronesia</i> 12 (5): 563-64 Fig. 11f, 12i-j MICRONESIA: OGASAWARA ARCH: Chichi Shima: Futami-ko 10.V.1956 C.F. Clagg ALLOTYPE ♀ 3373a on slide.	slide	
claggi Tokunaga, <i>Metriocnemus</i>	HOLOTYPE ♂	3369
1964 <i>Insects Micronesia</i> 12 (5): 506-07 Fig. 3b MICRONESIA: OGASAWARA ARCH: Chichi Shima: Futami-ko 10.V.1956 C.F. Clagg ALLOTYPE ♀ 3369a on slide.	slide	
davisi Hardy, <i>Orthocladius (Orthocladius)</i>	HOLOTYPE ♀	2973
1960 <i>Insects of Hawaii</i> 10 : 131-32 Fig. 38a-c HAWAIIAN IS: Hawaii I: Kaula Gulch 2121 m VIII.1952 D.E. Hardy Since <i>davisi</i> was based originally on females with males stated as "unknown," the paragraph on p. 132 stating there is an allotype in the Bishop Museum is erroneous.	pin	
elongata Tokunaga, <i>Anatopynia</i>	HOLOTYPE ♀	3367
1964 <i>Insects Micronesia</i> 12 (5): 501-02 Fig. 1c, 2e MICRONESIA: MARIANA IS: Guam I: Sumay Rd 23.VI.1936 R.L. Usinger Mangrove swamp ALLOTYPE ♂ in USNM.	slide	
flavellus Tokunaga, <i>Metriocnemus</i>	HOLOTYPE ♂	3368
1964 <i>Insects Micronesia</i> 12 (5): 504-06 Fig. 3a, d MICRONESIA: CAROLINE IS: Ponape I: Colonia: Agric. Exp. Station 15.I.1953 J.L. Gressitt Light trap ALLOTYPE ♀ 3368a on slide.	slide	

fluviatilis Wirth, <i>Telmatogeton</i>	HOLOTYPE ♂	1655
1947 <i>Proc. Hawaii. Entomol. Soc.</i> 13(1): 166-67 Fig. 4a-d	pin	
HAWAIIAN IS: Oahu: Kipapa: Waiahole Ditch 9.IV.1946 W.W. Wirth		
ALLOTYPE ♀ 1655a on pin.		
fusivenosa Tokunaga, <i>Smittia</i>	HOLOTYPE ♀	3372
1964 <i>Insects Micronesia</i> 12(5): 534-35 Fig. 7b-h	slide	
MICRONESIA: CAROLINE IS: Truk Is: Tonoas I 20.XII.1935 Z. Ono		
gressitti Tokunaga, <i>Cricotopus</i>	HOLOTYPE ♀	3370
1964 <i>Insects Micronesia</i> 12(5): 510-11 Fig. 4f	slide	
MICRONESIA: CAROLINE IS: Ponape I: Colonia: Agric. Exp. Station 7.I.1953 J.L. Gressitt		
Light trap		
ALLOTYPE ♂ 3370a on slide.		
gressitti Tokunaga, <i>Phaenopsectra</i>	HOLOTYPE ♂	3374
1964 <i>Insects Micronesia</i> 12(5): 579-80 Fig. 13b, d	slide	
MICRONESIA: CAROLINE IS: Kusaie I: Matanluk 16 m 29.I.1953 J.L. Gressitt		
Light trap		
Original description cites type locality as "Mutunluk (Yepan)." ALLOTYPE ♀ 3374a on slide.		
grimshawi Hardy, <i>Orthocladius (Orthocladius)</i>	HOLOTYPE ♂	2974
1960 <i>Insects of Hawaii</i> 10: 132-34 Fig. 38d-f	pin	
HAWAIIAN IS: Maui I: Nihiku 3.VIII.1952 N.L.H. Krauss		
ALLOTYPE ♀ 2974a on pin.		
hawaiensis Hardy, <i>Calopsectra (Micropsectra)</i>	HOLOTYPE ♂	2969
1960 <i>Insects of Hawaii</i> 10: 104-06 Fig. 28a-f	slide	
HAWAIIAN IS: Oahu I: Manoa Valley nr falls X.1952 D.E. Hardy		
Original description cites date as "IX.1952"; transferred from pin to slide mount by J.E. Sublette in 1978. ALLOTYPE ♀ 2969a on pin.		
herbicolus Hardy, <i>Metriocnemus</i>	HOLOTYPE ♂	2977
1960 <i>Insects of Hawaii</i> 10: 147-49 Fig. 44a-d	pin	
HAWAIIAN IS: Oahu I: Mt Tantalus VIII.1955 D.E. Hardy		
Swept from lush vegetation on side of trail		
ALLOTYPE ♀ 2977a on pin.		
hirtus Wirth, <i>Telmatogeton</i>	HOLOTYPE ♂	1653
1947 <i>Proc. Hawaii. Entomol. Soc.</i> 13(1): 158-61	pin	
HAWAIIAN IS: Kauai I: Wainiha Stream 1212 m 8.IX.1946 W.W. Wirth		
ALLOTYPE ♀ 1653a on pin.		
inarmatus Freeman, <i>Paratendipes</i>	HOLOTYPE ♂	3150
1962 <i>Pac. Insects</i> 4(1): 131	slide	
MALAYSIA: [SELANGOR]: Kuala Lumpur: Batu Caves 27.X.1959 [P. Freeman]		
Ex cavern C		
latifasciata Hardy, <i>Calopsectra lacteiclavus</i>	HOLOTYPE ♂	2972
1960 <i>Insects of Hawaii</i> 10: 110	slide	
HAWAIIAN IS: Hawaii I: Nauhi Gulch 1515 m 2.X.1931 [no collector given]		
lacteiclavus Grimshaw, <i>Tanytarsus</i>	1♂,1♀ SYNTYPES	2141
1901 <i>Fauna Hawaiianensis</i> 3(1): 5	slide	
HAWAIIAN IS: Kauai I: Kaholuamanu IV.1895 P.H. Grimshaw		
Label data cite type-locality as "Koholuamano"; an additional 5♂ and 1♀ syntypes are deposited in BMNH.		
maculiventris Edwards, <i>Spaniotoma (Smittia)</i>	HOLOTYPE ♂	673
1935 <i>B.P. Bishop Mus. Bull.</i> 114: 89	pin	
MARQUESAS IS: Uahuka I: Putauauo: Vaipoo Val 263 m 20.IX.1929 A.M. Adamson		
On dead banana leaves		
Abdomen separated from and glued to top of thorax.		

mauiensis Hardy, <i>Orthocladius</i> (<i>Smittia</i>)		HOLOTYPE ♀	2976
1960 <i>Insects of Hawaii</i> 10 : 141–42 Fig. 41d–f		pin	
HAWAIIAN IS: Maui I: Haleakala nr Puu Nianiau	1879 m	21.VII.1919 Walker	
membranisensoria Hardy, <i>Orthocladius</i> (<i>Orthocladius</i>)		HOLOTYPE ♀	2975
1960 <i>Insects of Hawaii</i> 10 : 134–35 Fig. 39a–c		pin	
HAWAIIAN IS: Hawaii I: Kaula Gulch	2135 m	VIII.1952 D.E. Hardy	
monticola Hardy, <i>Calopsectra kaalae</i>		HOLOTYPE ♀	2971
1960 <i>Insects of Hawaii</i> 10 : 109		pin	
HAWAIIAN IS: Molokai I: Puu Kolekole	1091 m	VII.1953 D.E. Hardy & M. Tama-	
shiro			
ALLOTYPE ♂ 2971a on pin.			
pauciplumatus Hardy, <i>Chironomus</i>		HOLOTYPE ♂	4022
1960 <i>Insects of Hawaii</i> 10 : 115–16 Fig. 33a–d		pin	
HAWAIIAN IS: Molokai I: Wailau Pass	849 m	XII.1937 F.X. Williams	
Ex spring			
ALLOTYPE ♀ 4022a on pin.			
ponapensis Tokunaga, <i>Polypedilum</i> (<i>Polypedilum</i>)		HOLOTYPE ♂	3375
1964 <i>Insects Micronesia</i> 12 (5): 585–86 Fig. 14g		slide	
MICRONESIA: CAROLINE IS: Ponape I: SE Nanpohnmal	70 m	12.I.1953 J.L. Gres-	
sitt			
Light trap			
ALLOTYPE ♀ 3375a on slide.			
ponapensis Tokunaga, <i>Tanytarsus</i> (<i>Tanytarsus</i>)		HOLOTYPE ♂	3377
1964 <i>Insects Micronesia</i> 12 (5): 612–14 Fig. 18a		slide	
MICRONESIA: CAROLINE IS: Ponape I: Mt Temewetemwensekir	180 m	19.I.1953	
J.L. Gressitt			
Light trap			
ALLOTYPE ♀ 3377a on slide.			
pusillum Edwards, <i>Telmatogeton</i>		HOLOTYPE [♂]	672
1935 <i>B.P. Bishop Mus. Bull.</i> 11 : 88–89		pin	
MARQUESAS IS: Eiao I: Vaituha	267 m	2.X.1929 A.M. Adamson	
At light			
Sex of type not given in original description, but examination of type shows it to be a male.			
quadrizonatus Tokunaga, <i>Cricotopus</i>		HOLOTYPE ♂	3371
1964 <i>Insects Micronesia</i> 12 (5): 512–13 Fig. 4g		slide	
MICRONESIA: OGASAWARA ARCH: Chichi Shima: Futami-ko	10.V.1956 C.F. Clagg		
torrenticola Terry, <i>Charadromyia</i>	4 ♂	SYNTYPES	4021
1913 <i>Proc. Hawaii. Entomol. Soc.</i> 2 : 292–94 Pl. 7, Fig. 1–5, 10–16		pin	
HAWAIIAN IS: Maui I: Nahiku	I.1908 F.W. Terry		
williamsi Hardy, <i>Orthocladius</i> (<i>Orthocladius</i>)		HOLOTYPE ♀	4023
1960 <i>Insects of Hawaii</i> 10 : 135–38 Fig. 39d–h		pin	
HAWAIIAN IS: Oahu I: Honolulu: H.S.P.A. Exp. Station	14.VI.1939 F.X. Williams		
williamsi Wirth, <i>Telmatogeton</i>		HOLOTYPE ♂	1654
1947 <i>Proc. Hawaii. Entomol. Soc.</i> 13 (1): 162–66 Fig. 2a–e		pin	
HAWAIIAN IS: Oahu I: Waianae	76 m	2.V.1946 W.W. Wirth	
[Ex cane flume]			
ALLOTYPE ♀ 1654a on pin.			

GENUS-GROUP ENTRIES

Anatopynia: elongata

Calopsectra: hawaiensis albifasciata, kaalae monticola, lacteiclavus latifasciata

Calopsectra (*Micropsectra*): bryanti, hawaiensis

Charadromyia: abnormis, torrenticola

Chironomus: claggi, pauciplumatus
Cricotopus: gressitti, quadrizonatus
Eusmittia: cavernae
Metriocnemus: claggi, flavellus, herbicolus
Orthocladius (Orthocladius): davisii, grimshawi, membranisensoria, williamsi
Orthocladius (Smittia): mauiensis
Paratendipes: inarmatus
Pentaneura: batuensis
Polypedilum (Polypedilum): ponapensis
Phaenopsectra: gressitti
Smittia: fusivenosa
Spaniotoma (Smittia): maculiventris
Tanytarsus: boninensis, lacteiclavus
Tanytarsus (Tanytarsus): ponapensis
Telmatogeton: fluvialis, hirtus, pusillum, williamsi

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