

A Catalog of the Order Zoraptera (Insecta)

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Abstract

A catalog of references to the genus *Zorotypus* of the monogeneric order Zoraptera and its 30 nominal species is presented, along with other general non-specific references to the order and a complete list of literature cited.

Introduction

The order Zoraptera, originally established in 1913 by Silvestri, is one of the smallest and least known of the insect orders. It presently contains only one family, Zorotypidae Silvestri, with 30 nominal species (29 Recent and one Eocene) all of which are in the genus *Zorotypus* Silvestri, and most of which are tropical in distribution.

This paper is an attempt to catalog all references in the scientific literature to the species of the order Zoraptera. No attempt, however, has been made to include all references in textbooks, field guides, popular articles, and other sources not of the primary scientific literature.

Each mention of a taxon is given in chronological order, followed by the author of the reference, the date and page and figure numbers, if any. For each reference to a species the stage (adult male, adult female, nymph, egg) described or figured (if able to be determined) is listed. Other annotations are included as appropriate. The known geographical distribution for each species is listed at the end of its list of references.

Following the taxonomic catalog are a list of non-specific references to Zoraptera which are of interest and a complete list of literature cited.

Genus Zorotypus Silvestri

Zorotypus Silvestri, 1913: 196 (Type-species: *Zorotypus guineensis* Silvestri, type by original designation).

Zorotypus; Caudell, 1920: 84.

Zorotypus; Gurney, 1942: 43.

Zorotypus; Delamare-Deboutteville, 1947: 145.

Zorotypus; Delamare-Deboutteville, 1948a: 347.

Zorotypus; Denis, 1949: 545.

Zorotypus; Delamare-Deboutteville, 1954: 130.

Zorotypus; Gurney, 1938: 57.

Zorotypus; Weidner, 1969: 30.

Zorotypus; Matsuda, 1970: 218.

Zorotypus; Smithers, 1970: 302.

Zorotypus; Gurney, 1974: 32.

Zorotypus; Huang, 1981a: 1087.

Zorotypus; Huang, 1982: 269.

Zorotypus barberi Gurney

Zorotypus barberi Gurney, 1938: 70, fig. 32-39 (male).

Zorotypus barberi; Delamare-Deboutteville, 1948a: 348.

Zorotypus barberi; Denis, 1949: 551 (male).

Zorotypus barberi; Delamare-Deboutteville, 1954: 130.

Zorotypus barberi; Bolivar y Pieltain & Coronado-G., 1963: 99.

Zorotypus barberi; Weidner, 1969: 31.

Zorotypus barberi; Weidner, 1970: 2, fig. 18 (male).

Zorotypus barberi; Shetlar, 1974: 8.

Zorotypus barberi; Weidner, 1976: 175.

Zorotypus barberi; New, 1978: 362.

Zorotypus barberi; Huang, 1981a: 1089.

Zorotypus barberi; Huang, 1982: 270.
Zorotypus barberi; Poinar, 1988: 257.
Zorotypus barberi; Choe, 1989: 152, fig. 1, 6-9,
 14-18, 20 (male, female, nymph, egg).
Zorotypus barberi; Choe, in press, fig. 7-9, 11,
 13, 15, 17 (male, female, egg).
 Distribution: Costa Rica [Cocos Island],
 Panama, Dominican Republic.

Zorotypus brasiliensis Silvestri

Zorotypus brasiliensis Silvestri, 1947: 1, fig. 1-4
 (female, nymph, egg).
Zorotypus brasiliensis; Denis, 1949: fig. 192 (fe-
 male).
Zorotypus brasiliensis; Delamare-Deboutteville,
 1956, fig. 37 (female).
Zorotypus brasiliensis; Bolivar y Pieltain &
 Coronado-G., 1963: 98.
Zorotypus brasiliensis; Weidner, 1969: 31, fig. 2.
Zorotypus brasiliensis; Delamare-Deboutteville,
 1970: fig. 48 (female).
Zorotypus brasiliensis; Weidner, 1970: 2, fig. 1,
 6, 12, 24 (female, egg).
Zorotypus brasiliensis; Matsuda, 1976: 168, fig.
 40d (female).
Zorotypus brasiliensis; Remane, Storch, &
 Welsch, 1976: fig. 235.
Zorotypus brasiliensis; Weidner, 1976: 174.
Zorotypus brasiliensis; New, 1978: 362.
Zorotypus brasiliensis; Nachtigall, 1979: fig. 2
 (female; wings).
Zorotypus brasiliensis; Huang, 1981a: 1089.
Zorotypus brasiliensis; Huang, 1982: 270.
Zorotypus brasiliensis; Poinar, 1988: 257.
Zorotypus brasiliensis; Choe, 1989: 150.
Zorotypus brasiliensis; Choe, in press, fig. 3-4
 (female).
 Distribution: Brazil.

Zorotypus buxtoni Karny

Zorotypus buxtoni Karny, 1932: 118, fig. 1.
Zorotypus buxtoni; Gurney, 1938: 73.
Zorotypus buxtoni; Gurney, 1939: 163.
Zorotypus buxtoni; Delamare-Deboutteville,
 1948a: 348.
Zorotypus buxtoni; Delamare-Deboutteville,
 1954: 130.

Zorotypus buxtoni; Bolivar y Pieltain & Coron-
 ado-G., 1963: 98.
Zorotypus buxtoni; Weidner, 1970: 2.
Zorotypus bustoni [sic]; Shetlar, 1974: 8.
Zorotypus buxtoni; Weidner, 1976: 176.
Zorotypus buxtoni; New, 1978: 362.
Zorotypus buxtoni; Huang, 1981a: 1089.
Zorotypus buxtoni; Huang, 1982: 270.
Zorotypus buxtoni; Poinar, 1988: 257.
Zorotypus buxtoni; Choe, in press.
 Distribution: Samoa.

Zorotypus caudelli Karny

"*Zorotypus aus Wai Lima*" Karny, 1923: 15, fig.
 1-7 (male, female, nymph).
Zorotypus caudelli Karny, 1927: 1, fig. 1, pl. 1.
Zorotypus caudelli; Karny, 1932: 119.
Zorotypus caudelli; Gurney, 1938: 73, fig. 27-28
 (male).
Zorotypus caudelli; Bolivar y Pieltain & Coro-
 nado-G., 1963: 98.
Zorotypus caudelli; Weidner, 1969: 31.
Zorotypus caudelli; Weidner, 1970: 2, fig. 13
 (adult).
Zorotypus caudelli; Shetlar, 1974: 8.
Zorotypus caudelli; New, 1978: 362.
Zorotypus caudelli; Huang, 1981a: 1089.
Zorotypus caudelli; Huang, 1982: 270.
Zorotypus caudelli; Poinar, 1988: 257.
Zorotypus caudelli; Choe, in press.
 Distribution: Sumatra [Wai Lima] (In-
 donesia).

Zorotypus ceylonicus Silvestri

Zorotypus ceylonicus Silvestri, 1913: 207, fig. 8-
 12 (adult, nymph).
Zorotypus ceylonicus; Caudell, 1918: 381.
Zorotypus ceylonicus; Ferrante, 1918: 23.
Zorotypus ceylonicus; Caudell, 1922: 135.
Zorotypus ceylonicus; Karny, 1923: 19.
Zorotypus ceylonicus; Karny, 1932: 118.
Zorotypus ceylonicus; Gurney, 1938: 74, fig. 31.
Zorotypus ceylonicus; Denis, 1949: 551.
Zorotypus ceylonicus; Paulian, 1949: 80.
Zorotypus ceylonicus; Bolivar y Pieltain &
 Coronado-G., 1963: 98.
Zorotypus ceylonicus; Weidner, 1969: 30.

Zorotypus ceylonicus; Weidner, 1970: 2, fig. 20 (male, nymph).

Zorotypus ceylonicus; van Ryn-Tournel, 1971: 106 (adult, nymph).

Zorotypus ceylonicus; Huang, 1974: 424.

Zorotypus ceylonicus; Shetlar, 1974: 8.

Zorotypus ceylonicus; Weidner, 1976: 176.

Zorotypus ceylonicus; New, 1978: 362.

Zorotypus ceylonicus; Huang, 1981a: 1089.

Zorotypus ceylonicus; Huang, 1982: 270.

Zorotypus ceylonicus; Poinar, 1988: 257.

Zorotypus ceylonicus; Choe, in press.

Distribution: Sri Lanka.

Zorotypus congensis van Ryn-Tournel

Zorotypus congensis van Ryn-Tournel, 1971: 102, fig. 1-10 (adult, nymph).

Zorotypus congensis; Gurney, 1974: 32.

Zorotypus congensis; Huang, 1981a: 1089.

Zorotypus congensis; Huang, 1982: 270.

Zorotypus congensis; Poinar, 1988: 257.

Zorotypus congensis; Choe, 1989: 153.

Zorotypus congensis; Choe, in press.

Distribution: Zaire.

Zorotypus cramptoni Gurney

Zorotypus cramptoni Gurney, 1938: 69, fig. 49-54 (male, female, nymph).

Zorotypus cramptoni; Bolivar y Pieltain, 1940: 519.

Zorotypus cramptoni; Bolivar y Pieltain & Coronado-G., 1963: 98.

Zorotypus cramptoni; Weidner, 1969: 31.

Zorotypus cramptoni; Weidner, 1970: 2.

Zorotypus cramptoni; Shetlar, 1974: 8.

Zorotypus cramptoni; Weidner, 1976: 174.

Zorotypus cramptoni; New, 1978: 362.

Zorotypus cramptoni; Huang, 1981a: 1089.

Zorotypus cramptoni; Huang, 1982: 270.

Zorotypus cramptoni; Poinar, 1988: 257.

Zorotypus cramptoni; Choe, 1989: 150.

Zorotypus cramptoni; Choe, in press.

Distribution: Guatemala.

Zorotypus delamarei Paulian

Zorotypus delamarei Paulian, 1949: 78, fig. 1-2 (male, female).

Zorotypus delamarei; Paulian, 1951: 33, fig. 4 (male).

Zorotypus delamarei; Delamare-Deboutteville, 1951: 37, fig. 1-2 (male).

Zorotypus delamarei; Delamare-Deboutteville, 1956: 38, fig. 32 (male).

Zorotypus delamarei; Bolivar y Pieltain & Coronado-G., 1963: 99.

Zorotypus delamarei; Delamare-Deboutteville, 1970: 47, fig. 43 (male).

Zorotypus delamarei; van Ryn-Tournel, 1971: 100.

Zorotypus delamarei; Gurney, 1974: 32.

Zorotypus delamarei; Weidner, 1969: 31.

Zorotypus delamarei; Weidner, 1970: 2, fig. 14 (male).

Zorotypus delamarei; Shetlar, 1974: 8.

Zorotypus delamarei; Weidner, 1976: 176.

Zorotypus delamarei; New, 1978: 362.

Zorotypus delamarei; Huang, 1981a: 1089.

Zorotypus delamarei; Huang, 1982: 270.

Zorotypus delamarei; Poinar, 1988: 257.

Zorotypus delamarei; Choe, 1989: 154.

Zorotypus delamarei; Choe, in press.

Distribution: Madagascar.

Zorotypus guineensis Silvestri

Zorotypus guineensis Silvestri, 1913: 205, fig. 1-7 (adult).

Zorotypus guineensis; Silvestri, 1916: 120.

Zorotypus guineensis; Caudell, 1918: 381.

Zorotypus guineensis; Ferrante, 1918: 23.

Zorotypus guineensis; Caudell, 1922: 135.

Zorotypus guineensis; Karny, 1923: 15.

Zorotypus guineensis; Handlirsch, 1925: fig. 438.

Zorotypus guineensis; Tillyard, 1926: fig. M1.

Zorotypus guineensis; Caudell, 1927: 145.

Zorotypus guineensis; Handlirsch, 1930: fig. 907 (male).

Zorotypus guineensis; Lameere, 1935: fig. 395-396 (male).

Zorotypus guineensis; Gurney, 1938: 74, fig. 30.

Zorotypus guineensis; Delamare-Deboutteville, 1947: 145.

Zorotypus guineensis; Delamare-Deboutteville, 1948a: 348.

Zorotypus guineensis; Delamare-Deboutteville, 1948b: 97 (feeding, predators).

Zorotypus guineensis; Paulian, 1949: 77.

Zorotypus guineensis; Denis, 1949: 551, fig. 193, 198, 201 (nymph).

Zorotypus guineensis; Delamare-Deboutteville, 1954: 130.

Zorotypus guineensis; Bolivar y Pieltain & Coronado-G., 1963: 98.

Zorotypus guineensis; Matsuda, 1965: 120.

Zorotypus guineensis; Weidner, 1969: 30.

Zorotypus guineensis; Grassé, Poisson, & Tuzet, 1970: 695, fig 598.

Zorotypus guineensis; Matsuda, 1970: fig. 90b, c, 91.

Zorotypus guineensis; Weidner, 1970: 2, fig. 3, 8 (male).

Zorotypus guineensis; van Ryn-Tournel, 1971: 100.

Zorotypus guineensis; Gurney, 1974: 32.

Zorotypus guineensis; Shetlar, 1974: 8.

Zorotypus guineensis; New, 1978: 362.

Zorotypus guineensis; Bitsch & Matsuda, 1979: fig. 73b, c, 74.

Zorotypus guineensis; Huang, 1981a: 1089.

Zorotypus guineensis; Huang, 1982: 270.

Zorotypus guineensis; Poinar, 1988: 257.

Zorotypus guineensis [sic]; Choe, in press.

Distribution: Guinea, Ghana, Ivory Coast.

Zorotypus gurneyi Choe

Zorotypus gurneyi Choe, 1989: 149, fig. 1-5, 10-13, 19 (male, female, nymph, egg).

Zorotypus gurneyi; Choe, in press, fig. 10, 12, 14, 16, 18 (male, female, egg).

Distribution: Panama.

Zorotypus hamiltoni New

Zorotypus hamiltoni New, 1978: 365, fig. 16-23 (male, female).

Zorotypus hamiltoni; Huang, 1981a: 1089.

Zorotypus hamiltoni; Huang, 1982: 270.

Zorotypus hamiltoni; Poinar, 1988: 257.

Zorotypus hamiltoni; Choe, 1989: 150.

Zorotypus hamiltoni; Choe, in press.

Distribution: Colombia, Barbados.

Zorotypus hubbardi Caudell

"Termitophilous psocid" Hubbard in Snyder, 1915: 71.

Zorotypus hubbardi Caudell, 1918: 377 (male, female, nymph).

Zorotypus hubbardi; Caudell, 1920: 85, fig. 1-4 (female, nymph).

Zorotypus hubbardi [sic]; Crampton, 1920b: 98, fig. 1-5 (male, female).

Zorotypus hubbardi; Banks & Snyder, 1920: 119.

Zorotypus hubbardi; Snyder, 1920: 118 (adult, nymph).

Zorotypus hubbardi; Crampton, 1921b: 97.

Zorotypus hubbardi; Crampton, 1921a: 111, fig. 11.

Zorotypus hubbardi; Caudell, 1922: 135.

Zorotypus hubbardi; Walker, 1922: 50, pl. 8 fig. 78-79 (male).

Zorotypus hubbardi; Caudell, 1923a: 61.

Zorotypus hubbardi; Karny, 1923: 18.

Zorotypus hubbardi; Wheeler, 1923: 346 (sociality).

Zorotypus hubbardi; Handlirsch, 1925: fig. 437 (female).

Zorotypus hubbardi; Tillyard, 1926: fig. M2 (wing).

Zorotypus hubbardi; Handlirsch, 1930: fig. 908 (female).

Zorotypus hubbardi; Lameere, 1935: fig. 397 (female).

Zorapterus [sic] *hubbardi*; Navás, 1937: 54.

Zorotypus hubbardi; Snodgrass, 1937: 18, fig. 5.

Zorotypus hubbardi; Costa Lima, 1938: 331, fig. 156 (adult, nymph).

Zorotypus hubbardi; Gurney, 1938: 60, fig. 1-10 (male, female, nymph, egg).

Zorotypus hubbardi; Gurney, 1939: 164.

Zorotypus hubbardi; Gurney, 1942: 43, fig. 1-3.

Zorotypus hubbardi; Delamare-Deboutteville, 1947: 145.

Zorotypus hubbardi; Delamare-Deboutteville, 1948a: 347.

Zorotypus hubbardi; Delamare-Deboutteville, 1948b: 97 (feeding, predators).

- Zorotypus hubbardi*; Denis, 1949: 551, fig. 194-195, 197, 200c (male, female, nymph).
- Zorotypus hubbardi*; Valentine & Wilson, 1949: 180.
- Zorotypus hubbardi*; Riegel, 1950: 124.
- Zorotypus hubbardi*; Copeland, 1953: 314.
- Zorotypus hubbardi*; Copeland, 1954: 98.
- Zorotypus hubbardi*; Delamare-Deboutteville, 1954: 130.
- Zorotypus hubbardi*; St. Amand, 1954: 131.
- Zorotypus hubbardi*; Delamare-Deboutteville, 1956: 38, fig. 33 (male).
- Zorotypus hubbardi*; Riegel, 1956b: 188.
- Zorotypus hubbardi*; Riegel, 1956a: 227.
- Zorotypus hubbardi*; Riegel, 1957a: 33.
- Zorotypus hubbardi*; Riegel, 1957b: 265.
- Zorotypus hubbardi*; Riegel & Koestner, 1957: 512.
- Zorotypus hubbardi*; Frost, 1959: 78, fig. 48 (female).
- Zorotypus hubbardi*; Gurney, 1959: 183.
- Zorotypus hubbardi*; Marsh, 1959: 511.
- Zorotypus hubbardi*; Van Cleave & Goin, 1959: 22.
- Zorotypus hubbardi*; Riegel & Ferguson, 1960: 213.
- Zorotypus hubbardi*; Van Cleave, Drew, & Goin, 1962: 157.
- Zorotypus hubbardi*; Bolivar y Pieltain & Coronado-G., 1963: 99.
- Zorotypus hubbardi*; Riegel, 1963: 744, fig. 1-3.
- Zorotypus hubbardi*; Matsuda, 1965, fig. 48b.
- Zorotypus hubbardi*; Riegel, 1968: 125.
- Zorotypus hubbardi*; Mignot & Sillings, 1969: 72.
- Zorotypus hubbardi*; Shetlar, 1969: 104.
- Zorotypus hubbardi*; Weidner, 1969: 31, fig. 8 (nymph).
- Zorotypus hubbardi*; Matsuda, 1970: fig. 90a, d.
- Zorotypus hubbardi*; Smithers, 1970: fig. 17.1-17.2.
- Zorotypus hubbardi*; Delamare-Deboutteville, 1970: 47, fig. 44 (male).
- Zorotypus hubbardi*; Weidner, 1970: 2, fig. 4-5, 9-10, 15, 21-23 (male, female, nymph).
- Zorotypus hubbardi*; Darst, Cooper, Paul, & Steen, 1974: 224.
- Zorotypus hubbardi*; Riegel, 1974: 106 (life history).
- Zorotypus hubbardi*; Shetlar, 1974: 1, fig. 1-7 (male, female, nymph).
- Zorotypus hubbardi*; Tietjen, Faircloth, & Edge, 1974: 87.
- Zorotypus hubbardi*; Kristensen, 1975: fig. 7.
- Zorotypus hubbardi*; Seeger, 1975: 139 (antennae).
- Zorotypus hubbardi*; Cooper, 1976: 57.
- Zorotypus hubbardi*; Matsuda, 1976: 167, fig. 40a, e-f (male).
- Zorotypus hubbardi*; Mizell & Nebeker, 1976: 58.
- Zorotypus hubbardi*; Sperka, 1976: 270.
- Zorotypus hubbardi*; Morrison & Carpenter, 1977: 141.
- Zorotypus hubbardi*; New, 1978: 361.
- Zorotypus hubbardi*; Riegel, 1978: III, fig. (male).
- Zorotypus hubbardi*; Shetlar, 1978: 217, fig. 1.
- Zorotypus hubbardi*; Slifer & Sekhon, 1978: 1, fig. 1-7 (male, female).
- Zorotypus hubbardi*; Bitsch & Matsuda, 1979: fig. 73a, d.
- Zorotypus hubbardi*; Huang, 1981a: 1087.
- Zorotypus hubbardi*; Huang, 1982: 270.
- Zorotypus hubbardi*; Roonwal & Rathore, 1983: 339.
- Zorotypus hubbardi*; Valentine, 1986: 150 (grooming behavior).
- Zorotypus hubbardi*; Riegel, 1987: 184, fig. 19.1-19.4 (egg, nymph).
- Zorotypus hubbardi*; Urrelo, Rice, & Blocker, 1987: 153.
- Zorotypus hubbardi*; Poinar, 1988: 257.
- Zorotypus hubbardi*; Choe, 1989: 150.
- Zorotypus hubbardi*; Choe, in press, fig. 5.
- Distribution: Southeastern United States [Alabama, Arkansas, Delaware, Florida, District of Columbia, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia].
- Zorotypus huxleyi* Bolivar y Pieltain & Coronado G.

Zorotypus huxleyi Bolivar y Pieltain & Coronado G., 1963: 93, fig. 1-4, pl. 4 fig. 1-5 (male, female).

Zorotypus huxleyi; Weidner, 1969: 31.

Zorotypus huxleyi; Weidner, 1970: 2.

Zorotypus huxleyi; Weidner, 1976: 175.

Zorotypus huxleyi; New, 1978: 368, fig. 24-28 (male).

Zorotypus huxleyi; Huang, 1981a: 1089.

Zorotypus huxleyi; Huang, 1982: 270.

Zorotypus huxleyi; Poinar, 1988: 257.

Zorotypus huxleyi; Choe, 1989: 150.

Zorotypus huxleyi; Choe, in press.

Distribution: Peru, Brazil.

Zorotypus javanicus Silvestri

Zorotypus javanicus Silvestri, 1913: 208, fig. 12-13 (nymph).

Zorotypus javanicus; Caudell, 1918: 381.

Zorotypus javanicus; Ferrante, 1918: 23.

Zorotypus javanicus; Caudell, 1922: 135.

Zorotypus javanicus; Karny, 1923: 15.

Zorotypus javanicus; Karny, 1927: 1, fig. 1-3, pl. 1.

Zorotypus javanicus; Karny, 1932: 118.

Zorotypus javanicus; Denis, 1932: 109 (nymph, adult).

Zorotypus javanicus; Gurney, 1938: 73, fig. 29.

Zorotypus javanicus; Delamare-Deboutteville, 1948a: 347.

Zorotypus javanicus; Delamare-Deboutteville, 1954: 129.

Zorotypus javanicus; Bolivar y Pieltain & Coronado-G., 1963: 98.

Zorotypus javanicus; Weidner, 1969: 30.

Zorotypus javanicus; Weidner, 1970: 2.

Zorotypus javanicus; van Ryn-Tournel, 1971: 107 (female).

Zorotypus javanicus; Shetlar, 1974: 8.

Zorotypus javanicus; Weidner, 1976: 176.

Zorotypus javanicus; New, 1978: 362.

Zorotypus javanicus; Huang, 1981a: 1089.

Zorotypus javanicus; Huang, 1982: 270.

Zorotypus javanicus; Poinar, 1988: 257.

Zorotypus javanicus; Choe, in press.

Distribution: Java (Indonesia).

Zorotypus leleupi Weidner

Zorotypus leleupi Weidner, 1976: 162, fig. 1-9 (female, nymph, egg).

Zorotypus leleupi; New, 1978: 362.

Zorotypus leleupi; Poinar, 1988: 257.

Zorotypus leleupi; Choe, 1989: 150.

Zorotypus leleupi; Choe, in press.

Distribution: Galapagos Islands.

Zorotypus longicercatus Caudell

Zorotypus longicercatus Caudell, 1927: 144, fig. 1-2 (nymph).

Zorotypus longicercatus; Karny, 1932: 119.

Zorotypus longicercatus; Gurney, 1938: 71, fig. 26.

Zorotypus longicercatus; Delamare-Deboutteville, 1948a: 348.

Zorotypus longicercatus; Delamare-Deboutteville, 1954: 130.

Zorotypus longicercatus; Bolivar y Pieltain & Coronado G., 1963: 98.

Zorotypus longicercatus; Weidner, 1969: 31.

Zorotypus longicercatus; Weidner, 1970: 2.

Zorotypus longicercatus; Shetlar, 1974: 7.

Zorotypus longicercatus; Weidner, 1976: 176.

Zorotypus longicercatus; New, 1978: 361.

Zorotypus longicercatus; Huang, 1981a: 1089.

Zorotypus longicercatus; Huang, 1982: 270.

Zorotypus longicercatus; Poinar, 1988: 257.

Zorotypus longicercatus; Choe, 1989: 150.

Zorotypus longicercatus; Choe, in press.

Distribution: Jamaica.

Zorotypus machadoi Delamare-Deboutteville

Zorotypus machadoi Delamare-Deboutteville, 1951: 37 (nomen nudum).

Zorotypus machadoi; van Ryn-Tournel, 1971: 101 (nomen nudum).

Zorotypus machadoi; Gurney, 1974: 32 (nomen nudum).

Distribution: Angola.

The name "*Zorotypus machadoi*" has only been used without an associated description and must be considered a *nomen nudum*. It is therefore unavailable as a species name in the sense of the International Code of Zoological

Nomenclature (International Commission for Zoological Nomenclature, 1985).

Zorotypus manni Caudell

Zoraptera [sic; error for *Zorotypus*] *manni* Caudell, 1923a: 60 (female).

Zorotypus manni; Caudell, 1923b: 104.

Zorotypus manni; Karny, 1932: 119.

Zorotypus manni; Gurney, 1938: 71, fig. 40-41 (female).

Zorotypus manni; Delamare-Deboutteville, 1948a: 348.

Zorotypus manni; Delamare-Deboutteville, 1954: 130.

Zorotypus manni; Bolivar y Pieltain & Coronado-G., 1963: 98.

Zorotypus manni; Weidner, 1969: 31.

Zorotypus manni; Weidner, 1970: 2.

Zorotypus manni; Shetlar, 1974: 9.

Zorotypus manni; New, 1978: 362.

Zorotypus manni; Huang, 1981a: 1089.

Zorotypus manni; Huang, 1982: 270.

Zorotypus manni; Poinar, 1988: 257.

Zorotypus manni; Choe, 1989: 150.

Zorotypus manni; Choe, in press.

Distribution: Bolivia.

Zorotypus medoensis Huang

Zorotypus medoensis Huang, 1978: 225, fig. 1, 3, 5. (male).

Zorotypus medoensis; Huang, 1980: 216, fig. 1-2 (male).

Zorotypus medoensis; Huang, 1981a: 1087 (male).

Zorotypus medoensis; Huang, 1981b: 124, fig. 1-2, pl. 3 (male).

Zorotypus medoensis; Huang, 1982: 269, fig. 1c-d (male).

Zorotypus medoensis; Poinar, 1988: 257.

Zorotypus medoensis; Choe, in press.

Distribution: Tibet.

Zorotypus mexicanus Bolivar y Pieltain

Zorotypus mexicanus Bolivar y Pieltain, 1940: 516, pl. 77 fig. 1, pl. 78 fig. 1-10 (male, female).

Zorotypus mexicanus; Bolivar y Pieltain & Coronado-G., 1963: 99.

Zorotypus mexicanus; Weidner, 1969: 31, fig. 3.

Zorotypus mexicanus; Weidner, 1970: 2, fig. 2 (adult).

Zorotypus mexicanus; Gurney, 1974: fig. 8.

Zorotypus mexicanus; Shetlar, 1974: 9.

Zorotypus mexicanus; Weidner, 1976: 175.

Zorotypus mexicanus; New, 1978: 362.

Zorotypus mexicanus; Huang, 1981a: 1089.

Zorotypus mexicanus; Huang, 1982: 270.

Zorotypus mexicanus; Poinar, 1988: 257.

Zorotypus mexicanus; Choe, 1989: 150.

Zorotypus mexicanus; Choe, in press.

Distribution: Mexico.

Zorotypus neotropicus Silvestri

Zorotypus neotropicus Silvestri, 1916: 120 (adult, nymph).

Zorotypus neotropicus; Caudell, 1918: 380.

Zorotypus neotropicus; Caudell, 1922: 135.

Zorotypus neotropicus; Karny, 1932: 119.

Zorotypus neotropicus; Gurney, 1938: 72.

Zorotypus neotropicus; Silvestri, 1947: 9, fig. 5-6 (female, nymph, egg).

Zorotypus neotropicus; Delamare-Deboutteville, 1956: 40 (female).

Zorotypus neotropicus; Bolivar y Pieltain & Coronado-G., 1963: 98.

Zorotypus neotropicus; Weidner, 1969: 31, fig. 4-7.

Zorotypus neotropicus; Delamare-Deboutteville, 1970: 47 (female).

Zorotypus neotropicus; Weidner, 1970: 2.

Zorotypus neotropicus; Shetlar, 1974: 9.

Zorotypus neotropicus; Seeger, 1975: 139 (antennae).

Zorotypus neotropicus; Weidner, 1976: 174.

Zorotypus neotropicus; New, 1978: 362.

Zorotypus neotropicus; Huang, 1981a: 1089.

Zorotypus neotropicus; Huang, 1982: 270.

Zorotypus neotropicus; Poinar, 1988: 257.

Zorotypus neotropicus; Choe, 1989: 150.

Zorotypus neotropicus; Choe, in press, fig. 6 (nymph).

Distribution: Costa Rica.

Zorotypus palaeus Poinar

Zorotypus palaeus Poinar, 1988: 254, fig. 1-7 (female).

Zorotypus palaeus; Choe, 1989: 150.

Zorotypus palaeus; Choe, in press.

Distribution: Dominican Republic (Eocene amber).

Zorotypus philippinensis Gurney

Zorotypus philippinensis Gurney, 1938: 72, fig. 55-56 (female).

Zorotypus philippinensis; Delamare-Deboutteville, 1948a: 348.

Zorotypus philippinensis; Delamare-Deboutteville, 1954: 130.

Zorotypus philippinensis; Bolivar y Pieltain & Coronado-G., 1963: 98.

Zorotypus philippinensis; Weidner, 1969: 31.

Zorotypus philippinensis; Weidner, 1970: 2.

Zorotypus philippinensis; Shetlar, 1974: 9.

Zorotypus philippinensis; Weidner, 1976: 176.

Zorotypus philippinensis; New, 1978: 362.

Zorotypus philippinensis; Huang, 1981a: 1089.

Zorotypus philippinensis; Huang, 1982: 270.

Zorotypus philippinensis; Poinar, 1988: 257.

Zorotypus philippinensis; Choe, in press.

Distribution: Philippines.

Zorotypus shannoni Gurney

Zorotypus shannoni Gurney, 1938: 66, fig. 44-48 (male).

Zorotypus shannoni; Denis, 1949: 550.

Zorotypus shannoni; Delamare-Deboutteville, 1956: 40 (male).

Zorotypus shannoni; Bolivar y Pieltain & Coronado-G., 1963: 99.

Zorotypus shannoni; Weidner, 1969: 31.

Zorotypus shannoni; Delamare-Deboutteville, 1970: 47 (male).

Zorotypus shannoni; Weidner, 1970: 2.

Zorotypus shannoni; Shetlar, 1974: 9.

Zorotypus shannoni; New, 1978: 363, fig. 1-6 (male).

Zorotypus shannoni; Bitsch & Matsuda, 1979: 374.

Zorotypus shannoni; Huang, 1981a: 1089.

Zorotypus shannoni; Huang, 1982: 270.

Zorotypus shannoni; Poinar, 1988: 257.

Zorotypus shannoni; Choe, 1989: 150.

Zorotypus shannoni; Choe, in press.

Distribution: Brazil.

Zorotypus silvestrii Karny

Zorotypus silvestrii Karny, 1927: 1, fig. 1-3, pl. 1 (adult, nymph).

Zorotypus silvestrii; Karny, 1932: 119.

Zorotypus silvestrii; Gurney, 1938: 73.

Zorotypus silvestrii; Delamare-Deboutteville, 1948a: 248.

Zorotypus silvestrii; Delamare-Deboutteville, 1954: 130.

Zorotypus silvestrii; Bolivar y Pieltain & Coronado-G., 1963: 98.

Zorotypus silvestrii; Weidner, 1969: 31.

Zorotypus silvestrii; Weidner, 1970: 2.

Zorotypus silvestrii; Shetlar, 1974: 9.

Zorotypus silvestrii; Weidner, 1976: 176.

Zorotypus silvestrii; New, 1978: 362.

Zorotypus silvestrii; Huang, 1981a: 1089.

Zorotypus silvestrii; Huang, 1982: 270.

Zorotypus silvestrii; Poinar, 1988: 257.

Zorotypus silvestrii; Choe, in press.

Distribution: Indonesia (Metawai Island).

Zorotypus sinensis Huang

Zorotypus sinensis Huang, 1974: 424, pl. 1 fig. 1-5, pl. 2 fig. 1-7 (male; also misspelled *chinensis*).

Zorotypus sinensis; Huang, 1976: 225, fig. 2, 4, 6 (male).

Zorotypus sinensis; Huang, 1980: 216.

Zorotypus sinensis; Huang, 1981a: 1087 (male).

Zorotypus sinensis; Huang, 1981b: 124, pl. 1-2 (male).

Zorotypus sinensis; Huang, 1982: 269, fig. 1a-b.

Zorotypus sinensis; Poinar, 1988: 257.

Zorotypus sinensis; Choe, in press.

Distribution: Tibet.

Zorotypus snyderi Caudell

- Zorotypus snyderi* Caudell, 1920: 90, fig. 5 (male, female, nymph, egg).
Zorotypus snyderi; Snyder, 1920: 118 (adult).
Zorotypus snyderi; Crampton, 1921b: 97, pl. 2 fig. 5.
Zorotypus snyderi; Crampton, 1921a: 111, fig. 3, 12.
Zorotypus snyderi; Caudell, 1922: 135.
Zorotypus snyderi; Crampton, 1922: pl. 1 fig. 3 (wing).
Zorotypus snyderi; Caudell, 1923a: 60.
Zorotypus snyderi; Caudell, 1927: 145.
Zorotypus snyderi; Gurney, 1938: 67, fig. 11-24 (male).
Zorotypus snyderi; Bolivar y Pieltain, 1940: 519.
Zorotypus snyderi; Gurney, 1942: 43.
Zorotypus snyderi; Delamare-Deboutteville, 1948a: 348.
Zorotypus snyderi; Denis, 1949: fig. 196, 200a, b.
Zorotypus snyderi; Delamare-Deboutteville, 1954: 130.
Zorotypus snyderi; Delamare-Deboutteville, 1956: 40, fig. 34 (male).
Zorotypus snyderi; Bolivar y Pieltain & Coronado-G., 1963: 99.
Zorotypus snyderi; Hennig, 1969, fig. 65 (wing).
Zorotypus snyderi; Matsuda, 1965: 120, fig. 48a.
Zorotypus snyderi; Weidner, 1969: 31.
Zorotypus snyderi; Delamare-Deboutteville, 1970: 47, fig. 45 (male).
Zorotypus snyderi; Weidner, 1970: 2, fig. 7, 16 (male).
Zorotypus snyderi; de Zayas, 1974: 48.
Zorotypus snyderi; Shetlar, 1974: 7.
Zorotypus snyderi; New, 1978: 361.
Zorotypus snyderi; Hennig, 1981, fig. 65 (wing).
Zorotypus snyderi; Huang, 1981a: 1089.
Zorotypus snyderi; Huang, 1982: 270.
Zorotypus snyderi; Riegel, 1987: 184 (nymph).
Zorotypus snyderi; Poinar, 1988: 257.
Zorotypus snyderi; Choe, 1989: 150.
Zorotypus snyderi; Choe, in press.
 Distribution: Florida, Jamaica.
- Zorotypus swezeyi* Caudell**
- Zorotypus swezeyi* Caudell, 1922: 133 (female).
Zorotypus swezeyi; Fullaway, 1923: 344.
- Zorotypus swezeyi*; Wheeler, 1923: 346 (sociality).
Zorotypus swezeyi; Gurney, 1938: 72, fig. 42-43 (female).
Zorotypus swezeyi; Delamare-Deboutteville, 1948a: 348.
Zorotypus swezeyi; Zimmerman, 1948: 214.
Zorotypus swezeyi; Delamare-Deboutteville, 1954: 130.
Zorotypus swezeyi; Bolivar y Pieltain & Coronado-G., 1963: 98.
Zorotypus swezeyi; Weidner, 1969: 31.
Zorotypus swezeyi; Weidner, 1970: 2.
Zorotypus swezeyi; Shetlar, 1974: 9.
Zorotypus swezeyi; Weidner, 1976: 175.
Zorotypus swezeyi; New, 1978: 362.
Zorotypus swezeyi; Huang, 1981a: 1089.
Zorotypus swezeyi; Huang, 1982: 270.
Zorotypus swezeyi; Riegel, 1987: 184.
Zorotypus swezeyi; Poinar, 1988: 257.
Zorotypus swezeyi; Choe, in press.
 Distribution: Hawaii.
- Zorotypus vinsoni* Paulian**
- Zorotypus vinsoni* Paulian, 1951: 34, fig. 1-3 (male, female).
Zorotypus vinsoni; Delamare-Deboutteville, 1956: 40 (male).
Zorotypus vinsoni; Bolivar y Pieltain & Coronado-G., 1963: 98.
Zorotypus vinsoni; Weidner, 1969: 31.
Zorotypus vinsoni; Delamare-Deboutteville, 1970: 47 (male).
Zorotypus vinsoni; Weidner, 1970: 2.
Zorotypus vinsoni; van Ryn-Tournel, 1971: 101.
Zorotypus vinsoni; Gurney, 1974: 32.
Zorotypus vinsoni; Shetlar, 1974: 9.
Zorotypus vinsoni; Weidner, 1976: 176.
Zorotypus vinsoni; New, 1978: 362.
Zorotypus vinsoni; Huang, 1981a: 1089.
Zorotypus vinsoni; Huang, 1982: 270.
Zorotypus vinsoni; Poinar, 1988: 257.
Zorotypus vinsoni; Choe, in press.
 Distribution: Mauritius.
- Zorotypus weidneri* New**

Zorotypus weidneri New, 1978: 365, fig. 7-15 (male, female).

Zorotypus weidneri; Huang, 1981a: 1089.

Zorotypus weidneri; Huang, 1982: 270.

Zorotypus weidneri; Poinar, 1988: 257.

Zorotypus weidneri; Choe, 1989: 150.

Zorotypus weidneri; Choe, in press.

Distribution: Brazil.

Zorotypus zimmermani Gurney

Zorotypus zimmermani Gurney, 1939: 161, fig. 1-9 (male, female, nymph).

Zorotypus zimmermani; Zimmermann, 1948: 214, fig. 120 (male, female).

Zorotypus zimmermani; Delamare-Deboutteville, 1956: 40, fig. 35-36 (male).

Zorotypus zimmermani; Bolivar y Pieltain & Coronado-G., 1963: 98.

Zorotypus zimmermani; Weidner, 1969: 31.

Zorotypus zimmermani; Delamare-Deboutteville, 1970: 47, fig. 46-47 (male).

Zorotypus zimmermani; Weidner, 1970: 2, fig. 7 (male).

Zorotypus zimmermani; Shetlar, 1974: 9.

Zorotypus zimmermani; Matsuda, 1976: 167, fig. 40b-c (male).

Zorotypus zimmermani; Weidner, 1976: 176.

Zorotypus zimmermani; New, 1978: 362.

Zorotypus zimmermani; Huang, 1981a: 1089.

Zorotypus zimmermani [sic]; Huang, 1982: 270.

Zorotypus zimmermani; Poinar, 1988: 257.

Zorotypus zimmermanni [sic]; Choe, in press.

Distribution: Fiji.

Zorotypus sp. Costa Lima

Zorotypus sp. Costa Lima, 1938: fig. 155.

Distribution: Brazil.

Zorotypus sp. Denis

[*Zorotypus* sp.] Denis, 1932: 109 (adult, nymph).

Distribution: Vietnam (Indochina [Dalat]).

Zorotypus sp. de Zayas

[*Zorotypus* sp.] de Zayas, 1974: 46, fig. 33a, 34a,b (nymph, adult).

Distribution: Cuba.

Genus *Menonia* George

Menonia George, 1936: 86 (Type-species: *Menonia cochinchensis* George, monotypy).

Menonia; Gurney, 1938: 74 (transferred to Gryllidae).

Memonia [sic]; Denis, 1949: 553.

Minomia [sic]; Shetlar, 1974: 8.

Menomia [sic]; Shetlar, 1974: 8.

Although originally established in the order Zoraptera for the single species *Menonia cochinchensis* by George, the genus *Menonia* does not belong to the Zoraptera and was transferred to the Gryllidae (Orthoptera) by Gurney (1938).

Menonia cochinchensis George

Menonia cochinchensis George, 1936: 86, fig. 1-2.

Menonia cochinchensis; Gurney, 1938: 74.

Menonia cochinchensis; Huang, 1974: 423.

Menomia [sic] *cochinchensis*; Shetlar, 1974: 8.

Distribution: South India.

General Non-Specific References to Zoraptera

Crampton, 1916: 252 (phylogeny).

Crampton, 1919: 65 (phylogeny).

Crampton, 1920a: 119 (phylogeny).

Karny, 1923b: 34 (phylogeny).

Wheeler, 1928: 149.

Tillyard, 1935: 266 (relationship to Permian order Copeognatha).

Wilson & Doner, 1937: 100 (classification).

Crampton, 1938: 173 (phylogeny).

Burgeon & Basilewsky, 1951: 198.

Delamare-Deboutteville, 1952: 148 (morphology).

Brues, Melander, & Carpenter, 1954: 130 (classification).

Ross, 1955: 201 (evolution).

Wilson, 1959: 441 (New Guinea; "zorapteran" stage of rotting wood).

Königsmann, 1960: 707 (phylogeny).

Wille, 1960: 111 (phylogeny).
 Alam, 1962: 64 (phylogeny).
 Bickley in Duckworth, 1966: 173 (Maryland).
 Sharov, 1968: 17 (evolution).
 Araujo, 1970: 537 (Guyana; association with termites)
 Kukulová-Peck, 1973: 56 (classification).
 Enghoff, 1976: 45 (parthenogenesis unknown).
 Hamilton, 1978: 160.
 Boudreaux, 1979: 215 (phylogeny).
 Matsuda, 1979: 151 (neotony).
 Skaife, 1979: 79.
 Hinton, 1981: 507 (eggs).
 Kristensen, 1981: 149 (phylogeny).
 Brown, 1982: 393.
 Fisher & Hespeneheide, 1982: 723 (Panama; prey of robber fly).
 Roonwal, 1985: 227 (wing microsculpturing).
 Roonwal & Rathore, 1985: 519 (wing microsculpturing).
 Hölldobler & Wilson, 1986: 50 (prey of ants).
 Wilson & Hölldobler, 1986: 77 (prey of ants).

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