

A Record of Changes in
Mosquito Taxonomy in the United States of America 1955 - 1972

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ABSTRACT—Many changes have taken place in mosquito systematics in the United States since Carpenter and LaCasse published their book, Mosquitoes of North America, in 1955. Fifty-three changes are listed under eight headings along with the literature citations in which they appeared.

Very many changes have taken place in mosquito systematics in the United States since Carpenter and LaCasse published their Mosquitoes of North America in 1955. The following outline covers the major additions and changes which have occurred. They are supported by the appropriate references to the literature citations.

A. Newly Described Species and Subspecies

1. Aedes atropalpus nielseni O'Meara & Craig (1970,476)..
[Subgenus not designated.]
2. Aedes (Ochlerotatus) barri Rueger (1958,34).
3. Aedes (Protomacleaya) brelandi Zavortink (1972,25).
4. Aedes (Protomacleaya) burgeri Zavortink (1972,42).
5. Aedes (Ochlerotatus) communis nevadensis Chapman & Barr (1964,444).
6. Aedes (Ochlerotatus) deserticola Zavortink (1969b,1).
7. Aedes (Ochlerotatus) monticola Belkin & McDonald (1957,179).
8. Aedes (Abraedes) papago Zavortink (1970,3).
9. Anopheles (Anopheles) judithae Zavortink (1969a,28).
10. Culex (Melanoconion) cedecei Stone & Hair (1968,39).
11. Culiseta (Culicella) minnesotae Barr (1957,163).
12. Deinocerites mathesoni Belkin & Hogue (1959,426).
13. Mansonia (Mansonia) dyari Belkin, Heinemann & Page (1970,109).

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B. Mosquito Species Placed in Synonymy

1. Aedes (Ochlerotatus) atropalpus nielseni O'Meara & Craig = Aedes (Ochlerotatus) epactius Dyar & Knab - Zavortink (1972,100).
2. Aedes (Ochlerotatus) cacothius Dyar = Aedes (Ochlerotatus) ventrovittis Dyar - Nielsen (1969,530).
3. Culex (Culex) stigmatosoma Dyar = Culex (Culex) peus Speiser - Stone (1958,236).
4. Culex (Culex) virgultus Theobald = Culex (Culex) declarator Dyar & Knab - Stone (1956,341).
5. Culiseta (Culiseta) maccrackenae Dyar & Knab = Culiseta (Culiseta) particeps (Adams) - Stone (1958,236).
6. Orthopodomyia californica Bohart = Orthopodomyia signifera (Coquillett) - Zavortink (1968,40).

C. Mosquito Species Resurrected from Synonymy

1. Aedes (Ochlerotatus) aloponotum Dyar - Stone, Knight & Starcke (1959,138).
2. Aedes (Protomacleaya) hendersoni Cockerell - Breland (1960,601).
3. Aedes (Ochlerotatus) melanimon Dyar - Barr (1955,170).
4. Aedes (Ochlerotatus) sierrensis (Ludlow) - Belkin & McDonald (1956,344).
5. Anopheles (Anopheles) perplexens Ludlow - Bellamy (1956,516).
6. Psorophora (Grabhamia) columbiae (Dyar & Knab) - Belkin, Heinemann & Page (1970,137).

D. Changes in Specific/Subspecific Mosquito Names

1. Aedes (Ochlerotatus) idahoensis (Theobald) = Aedes (Ochlerotatus) spencerii idahoensis (Theobald) - Nielsen & Rees (1959,47).
2. Anopheles pseudopunctipennis franciscanus McCracken - Anopheles franciscanus McCracken - Smithson (1972,502).
3. Culex (Melanoconion) cedecei Stone & Hair = Culex (Melanoconion) opisthopus Komp - Belkin, Heinemann and Page (1970,82).
4. Culiseta (Culicella) minnesotae Barr = Culiseta (Culicella) silvestris minnesotae Barr - Maslov (1964,209 or 103).

5. Culiseta (Culicella) morsitans (Theobald) = Culiseta (Culicella) morsitans dyari (Coquillett) - Maslov (1964, 209 or 103).
6. Psorophora (Janthinosoma) longipalpis Roth = Psorophora (Janthinosoma) longipalpis Randolph & O'Neill - Stone (1961,246).

E. Supra-Specific Changes in Mosquito Names

1. Genus Aedes, Subgenus Abraedes-subg. n. - Zavortink (1970,2).
2. Genus Aedes, New World species of Subgenus Finlaya to Subgenus Protomacleaya. The following United States species included in Protomacleaya:

<u>Aedes brelandi</u> Zavortink	<u>Aedes triseriatus</u> (Say)
<u>Aedes burgeri</u> Zavortink	<u>Aedes zoosophus</u> Dyar & Knab
<u>Aedes hendersoni</u> Cockerell	Zavortink (1972,3).
3. Genus Aedes, New World species of Subgenus Finlaya to Subgenus Ochlerotatus:

<u>Aedes atropalpus</u> (Coquillett)	<u>Aedes sierrensis</u> (Ludlow)
<u>Aedes epactius</u> Dyar & Knab	<u>Aedes varipalpus</u> (Coquillett)
Zavortink (1972,3).	Belkin & McDonald (1957,189).
4. Genus Aedes, Subgenus Kompia resurrected for Aedes purpureipes Aitken-Mattingly (1961,16).
5. Subgenus Coquillettidia elevated to generic rank - Ronderos & Bachmann (1963,48-51).

F. Species Concept and Geographical Distribution Changed

1. Aedes hendersoni Cockerell: Aedes triseriatus (Say) - Zavortink (1972,23).
2. Aedes atropalpus (Coquillett): Aedes epactius Dyar & Knab - Zavortink (1972,99).
3. Aedes varipalpus (Coquillett): Aedes sierrensis (Ludlow) - Arnell & Nielsen (1972,26).
4. Mansonia dyari Belkin, Heinemann & Page: Mansonia indubitans Dyar & Shannon - Belkin, Heinemann & Page (1970,111).
5. Psorophora columbiae (Dyar & Knab): Psorophora confinnis (Lynch Arribalzaga) - Belkin, Heinemann & Page (1970,137).

G. Mosquito Species Added to Fauna of the United States

1. Aedes (Ochlerotatus) epactius Dyar & Knab - Zavortink (1972,100).
2. Aedes (Aedimorphus) vexans nocturnus (Theobald) - Joyce & Nakagawa (1964,273).
3. Culex (Tinolestes) latisquama (Coquillett) - Stone (1968,384).
4. Deinocerites pseudes Dyar & Knab - Peyton, Reinert & Peterson (1964,449).
5. Haemagogus equinus Theobald - Trapido & Galindo (1956,634).
6. Orthopodomyia kummi Edwards - McDonald & Belkin (1960, 249).
7. Psorophora (Janthinosoma) mexicana (Bellardi) - Joyce (1945,86).
8. Toxorhynchites (Toxorhynchites) amboinensis (Doleschall) - Steffan (1968,149).
9. Toxorhynchites (Toxorhynchites) brevipalpus Theobald - Nakagawa (1963,292).

H. Mosquito species deleted from Fauna of the United States

1. Aedes kompi Vargas and Downs - Zavortink (1972,45).
2. Mansonia indubitans Dyar and Shannon - Belkin, Heinemann & Page (1970,111).
3. Psorophora confinnis (Lynch Arribalzaga) - Belkin, Heinemann & Page (1970,137).

SELECTED LITERATURE ON MOSQUITO TAXONOMY FOR UNITED STATES 1955-1972

- Arnell, J. H. & L. T. Nielsen. 1972. Mosquito Studies (Diptera, Culicidae) XXVII. The varipalpus group of Aedes (Ochlerotatus). Cont. Amer. Ent. Inst. 8(2):1-48.
- Barr, A. R. 1955. The resurrection of Aedes melanimon Dyar. Mosq. News 15:170-172.
- Barr, A. R. 1957. A new species of Culiseta (Diptera: Culicidae) from North America. Proc. Ent. Soc. Wash. 59:163-167.
- Belkin, J. N. & C. L. Hogue. 1959. A review of the crabhole mosquitoes of the genus Deinocerites (Diptera, Culicidae). Univ. Cal. Pub. Ent. 14(6):411-458.

- Belkin, J. N. & W. A. McDonald. 1956. Aedes sierrensis (Ludlow, 1905), a change in name for the western tree-hole mosquito of the Pacific slope. Proc. Ent. Soc. Wash. 58:344.
- Belkin, J. N. & W. A. McDonald. 1957. A new species of Aedes (Ochlerotatus) from tree holes in Southern Arizona and a discussion of the varipalpus complex (Diptera: Culicidae). Ann. Ent. Soc. Amer. 50:179-191.
- Belkin, J. N., S. J. Heinemann & W. A. Page. 1970. Mosquito studies (Diptera, Culicidae) XXI. The Culicidae of Jamaica. Contr. Amer. Ent. Inst. 6(1):1-458.
- Bellamy, R. E. 1956. An investigation of the taxonomic status of Anopheles perplexens Ludlow. Ann. Ent. Soc. Amer. 49:515-529.
- Breland, O. P. 1960. Restoration of the name, Aedes hendersoni Cockerell, and its elevation to full specific rank (Diptera: Culicidae). Ann Ent. Soc. Amer. 53:600-606.
- Chapman, H. C. & A. R. Barr. 1964. Aedes communis nevadensis, a new subspecies of mosquito from Western North America (Diptera: Culicidae). Mosq. News 24:439-447.
- Galindo, P. 1969. Notes on the systematics of Culex (Melanoconion) taeniopus Dyar and Knab and related species, gathered during arbovirus investigations in Panama. Mosq. Syst. Newsl. 1(4):82-89.
- Joyce, C. R. 1945. The occurrence of Psorophora mexicana (Bellardi) in the United States. Mosq. News 5:86.
- Joyce, C. R. & P. Y. Nakagawa. 1964. New immigrant mosquito in Hawaii. U. S. Pub. Hlth. Repts. 79:24.
- Maslov, A. V. 1964. On the systematics of bloodsucking mosquitoes of the group Culiseta (Diptera, Culicidae). Ent. Obozr. 43:193-217. (Ent. Rev. 97-107).
- Mattingly, P. F. 1961. The culicine mosquitoes of the Indomalayan Area. Part V. Genus Aedes Meigen, subgenera Mucidus Theobald, Ochlerotatus Lynch Arribalzaga, and Neomelanoconion Newstead. British Museum, London, 62 pp.
- McDonald, W. A. & J. N. Belkin. 1960. Orthopodomyia kummi new to the United States (Diptera: Culicidae). Proc. Ent. Soc. Wash. 62:249-250.
- Nakagawa, P. V. 1963. Status of Toxorhynchites in Hawaii. Proc. Hawaii. Ent. Soc. 18(2):291-293.
- Nielsen, L. T. 1969. Aedes cacothius Dyar, a synonym of Aedes ventrovittis Dyar. Proc. Ent. Soc. Wash. 71:530.
- Nielsen, L. T. & D. M. Rees. 1959. The mosquitoes of Utah. A revised list. Mosq. News 19:45-47.

- O'Meara, G. F. & G. B. Craig, Jr. 1970. A new subspecies of Aedes atropalpus (Coquillett) from Southwestern United States (Diptera: Culicidae). Proc. Ent. Soc. Wash. 72(4):475-479.
- Peyton, E. L., J. F. Reinert & N. E. Peterson. 1964. The occurrence of Deinocerites pseudus Dyar and Knab in the United States, with additional notes on the biology of Deinocerites species in Texas. Mosq. News 24:449-458.
- Ronderos, R. A. & A. O. Bachman. 1962(1963). A proposito del complejo Mansonia (Diptera-Culicidae). Rev. Soc. Ent. Argentina 25:45-51.
- Rueger, M. E. 1958. Aedes (Ochlerotatus) barri, a new species of mosquito from Minnesota (Diptera, Culicidae). Jour. Kans. Ent. Soc. 31:34-46.
- Smithson, T. W. 1972. Species rank for Anopheles franciscanus based on failure of hybridization with Anopheles pseudopunctipennis pseudopunctipennis. Jour. Med. Ent. 9(6):501-505.
- Steffan, W. A. 1968. Hawaiian Toxorhynchites (Diptera: Culicidae) Proc. Hawaii. Ent. Soc. 20(1):141-155.
- Stone, A. 1956. Corrections in the taxonomy and nomenclature of mosquitoes. (Diptera, Culicidae). Proc. Ent. Soc. Wash. 58:333-344.
- Stone, A. 1958. Types of mosquitoes described by C. F. Adams in 1903 (Diptera, Culicidae). Jour. Kans. Ent. Soc. 31(3):235-237.
- Stone, A. 1961. A correction in mosquito nomenclature. Proc. Ent. Soc. Wash. 63(4):246.
- Stone, A. 1968. A new mosquito record for the United States. Proc. Ent. Soc. Wash. 70:384.
- Stone, A. & J. A. Hair. 1968. A new Culex (Melanoconion) from Florida (Diptera, Culicidae). Mosq. News 28:39-41.
- Stone, A., K. L. Knight & H. Starcke. 1959. A synoptic catalogue of the mosquitoes of the world. Thomas Say Found. Vol. 6, 358 pp.
- Trapido, H. & P. Galindo. 1956. Genus Haemagogus in the United States. Science 123:634.
- Zavortink, T. J. 1968. Mosquito Studies (Diptera, Culicidae). VIII. A prodrome of the genus Orthopodomyia. Contr. Amer. Ent. Inst. 3:1-221.
- Zavortink, T. J. 1969a. Mosquito Studies (Diptera, Culicidae) XV. A new species of treehole breeding Anopheles from the Southwestern United States. Contr. Amer. Ent. Inst. 4(4):27-34.

- Zavortink, T. J. 1969b. Mosquito Studies (Diptera, Culicidae) XVI.
A new species of treehole breeding Aedes (Ochlerotatus) from
Southern California. Contr. Amer. Ent. Inst. 5(1):1-5.
- Zavortink, T. J. 1970. Mosquito Studies (Diptera, Culicidae) XXII.
A new subgenus and species of Aedes from Arizona. Contr. Amer.
Ent. Inst. 7(1):1-9.
- Zavortink, T. J. 1972. Mosquito Studies (Diptera, Culicidae) XXVIII.
The new world species formerly placed in Aedes (Finlaya). Contr.
Amer. Ent. Inst. 8(3):1-206.