

Culex, Aedes, Mansonia
(insect: dipteran)

Overview

Arthropods are coelomate metameric invertebrate animals with a chitinous exoskeleton and jointed limbs. They undergo protostomial embryonic development and grow by cuticular moulting (ecdysis). Three main subphyla are recognized: Chelicerata, Crustacea and Hexapoda. Insects are hexapods with three pairs of uniramous legs, three tagmata (head, thorax, abdomen), ectognathous mouthparts with whole-limb mandibles, and one pair of antennae. Diptera (true flies) have two pairs of wings, but the hindwings are reduced to stabilizing halteres. All species are holometabolans and exhibit complete metamorphosis whereby vermiform larval stages undergo pupation and transform into free-flying adults. Several major parasitic groups are recognized: nematocerans (small slender bodies, long filamentous antennae, narrow wings) and brachycerans (larger bodies, short stout antennae, broad wings); the latter being divided into the Tabanomorpha (larval head capsule sclerotized) and the Muscomorpha (larval head not sclerotized, circular-seamed (cyclorrhaphous) pupae). Nematocerans include the culicids (mosquitoes), ceratopogonids (midges); simuliids (black flies) and psychodids (sand flies): only the females are parasitic and have piercing-sucking mouthparts. Culicids have elongated mouthparts adapted for piercing plants and animals. Male mosquitoes feed on plant nectar and juices, whereas females also feed on blood from vertebrate hosts to obtain nutrients for egg production. Eggs are laid in or near water and both the larval and pupal stages are aquatic and mobile. Four genera are of considerable biomedical importance, both culicine (*Culex, Aedes, Mansonia*) and anopheline (*Anopheles*) mosquitoes being voracious feeders and transmission vectors for other diseases. Adult culicine mosquitoes have transparent or speckled wings, short palps, rest with a flattened abdomen, usually lay eggs in rafts and the larvae have siphons. Mosquito bites are responsible for blood loss, annoyance, inflammation and hypersensitivity reactions. Around 835 *Culex* spp., 950 *Aedes* spp. and 27 *Mansonia* spp. have been described worldwide, with particular species implicated in the transmission of arboviruses, avian malaria, filarial nematodes and canine heartworm.

Classification:

Domain: Eukaryota (membrane-bound nucleus)
Supergroup: Amorphea (unikonts with single flagellum, or nonflagellated amoebae)
Kingdom: Metazoa (multicellular eukaryotes, heterotrophs, notably animals)
Group: Protostomia (triploblastic, spiral cleavage)
Subgroup: Ecdysozoa (cuticle moulted = ecdysis)
Phylum: Arthropoda (chitinous exoskeleton, segmented body, jointed limbs, haemocoel)
Subphylum: Hexapoda (three tagmata, three pairs uniramous legs, whole-limb mandibles, Malpighian tubules)
Class: Insecta (ectognathous mouthparts (bases lie outside head capsule), single pair antennae, many with wings)
Superorder: Holometabola (Endopterygota) (young do not resemble adults, pupae, with internally developing wings)
Order: Diptera (true flies, single pair of forewings, hindwings modified into halteres, vermiform larvae)
Suborder: Nematocera (midges/mosquitoes, long filamentous antennae, aquatic larvae/pupae)
Family: Culicidae (mosquitoes, elongate mouthparts form proboscis, slender wings with scales on veins/margins)
Subfamily: Culicinae (scutellum with trilobed posterior margin, scaly abdomen, larva with prominent air-tube)
Genus: *Culex* (parasitic on skin of mammals/birds)
Genus: *Aedes* (parasitic on skin of mammals/birds)
Genus: *Mansonia* (parasitic on skin of mammals/birds)
Species: various species annoy vertebrate hosts, cause blood loss and dermal lesions, and transmit other diseases

Parasite biodiversity and host range: Most Metazoa are multicellular triploblastic animals with differentiated tissues, many being bilaterally symmetrical with a body cavity. Most invertebrate animals are protostomes as their embryonic development involves spiral determinate cleavage. Those that moult their external cuticles during their life-cycles (process known as ecdysis) are grouped together in the unique clade Ecdysozoa, including the nematodes (roundworms), onychophorans (velvet worms), tardigrades (water bears) and arthropods (myriapods, chelicerates, crustaceans and hexapods). Arthropods have small segmented bodies encased in chitinous exoskeletons with articulated limbs. Most species are free-living in terrestrial and aquatic habitats, although a small range are ectoparasitic on other animals, some feeding on the blood or skin of vertebrates. Five subphyla are recognized: Chelicerata, Crustacea, Hexapoda, Myriapoda and Trilobita. Insects are hexapods with six legs, three distinct body parts, two antennae and mouthparts with whole-limb mandibles. Insects are the most biodiverse group on the planet, with millions of species described in numerous taxa. Notorious ectoparasitic species belong to four orders in two superorders: the Hemipteroidea (Exopterygota) containing the orders Hemiptera (bugs) and Phthiraptera (lice); and the Holometabola (Endopterygota) containing the orders Siphonaptera (fleas) and Diptera ('true' flies). Flies are small winged holometabolans that undergo complete (holometabolous) metamorphosis with vermiform larvae undergoing pupation in silk cocoons. Thousands of dipteran species have been described throughout the world, most being free-living saprophages (detritivores) but some being parasitic either as adults biting and feeding on hosts (often haematophagous) or producing larvae that invade host tissues (condition known as myiasis). Two major suborders are recognized: the Nematocera (with small bodies, long filamentous antennae, narrow wings and aquatic larvae and pupae); and the Brachycera (with large bodies, short stout antennae often with arista and broad wings).

Major parasitic dipteran families	Biodiversity	Parasitic stages	Status	Pathogenesis*	Disease transmission
Suborder: Nematocera (small midges/mosquitoes, thread-horned with long filamentous segmented antennae (= nemato-cera), aquatic life-cycles (larval/pupal stages associated with water), female adults require blood meal before they can lay eggs) (34 families)					
Culicidae (mosquitoes)	3 subfamilies, 70 genera, 3,500 species	adult ♀	obligate	blood-sucking	viral, protozoal, helminth
Psychodidae (moth flies, sand flies)	5 subfamilies, 150 genera, 3,000 species	adult ♀	obligate	blood-feeding	viral, bacterial, protozoal
Simuliidae (black flies)	3 subfamilies, 30 genera, 2,000 species	adult ♀	obligate	blood-feeding	protozoal, helminth
Ceratopogonidae (biting midges)	4 subfamilies, 110 genera, 6,000 species	adult ♀	obligate	blood-feeding	viral, protozoal, helminth
Suborder: Brachycera (large tabanid/March flies, with stout and fewer antennal segments (= brachy-cera), antennae often with arista, females with slashing-sponging mouthparts to pierce skin and feed on pool of blood (telmophagy)) (120 families)					
Infraorder: Tabanomorpha (larval head capsule incomplete posteriorly (only anterior parts sclerotized))					
Tabanidae (horse flies, deer flies)	3-5 subfamilies, 133 genera, 4,300 species	adult ♀ [+ larvae]	obligate [accidental]	blood-feeding [GI, UG, TR myiasis]	viral, bacterial, protozoal, helminth
Infraorder: Muscomorpha (Cyclorrhapha) (aristate antennae, setose bodies, cyclorrhaphous pupa)					
Section: Calyptratae (calypters cover halteres)					
Superfamily: Muscoidea (synanthropic flies)					
Muscidae (house flies, stable flies)	9-10 subfamilies, 190 genera, 4,200 species	adult ♀, ♂ [+ larvae]	obligate [accidental]	biting, blood-feeding [CU, GI, TR myiasis]	bacterial, helminth
Superfamily: Oestroidea (cause larval myiasis) (6 families)					
Calliphoridae (blow flies)	11 subfamilies, 75 genera, 1,100 species	larvae	facultative, obligate	CU, GI, NP, AU, UG TR, myiasis	-
Sarcophagidae (flesh flies)	3 subfamilies, 108 genera, 2,500 species	larvae	facultative, obligate	TR, GI, CU myiasis	-
Oestridae (bot flies, warble flies)	5 subfamilies, 25 genera, 150 species	larvae	obligate	CU, GI, NP, OC myiasis	-
Superfamily: Hippoboscoidea (pupa-bearers)					
Glossinidae (tsetse flies)	1 genus, 3 species-groups, 25 species	adult ♀, ♂	obligate	blood	protozoal
Hippoboscidae (louse flies, keds)	1-3 subfamilies, 21 genera, 212 species	adult ♀, ♂	obligate	blood	viral, protozoal, helminth

*type of myiasis: AU = auricular; CU = cutaneous; GI = gastro-intestinal; NP = naso-pharyngeal; OC = ocular; TR = traumatic; UG = uro-genital.

The suborder Nematocera comprises small slender flies that are ‘thread-horned’ i.e. they possess long filamentous antennae composed of many articulating segments (= nemato-cera). Adults have long narrow wings (with many branching veins) and specialized mouthparts (short or long) with a protective sheath (labium and labellae) protecting feeding stylets (labrum, mandibles, maxillae and hypopharynx) and flanked by 4-5 segmented palps (usually pendulous but slender in mosquitoes). Many species have aquatic life-cycles (larval/pupal stages associated with water) and all undergo complete metamorphosis whereby adults eclose from puparia through longitudinal slits (rather than circular caps like Cyclorhapha). The suborder contains 7 infraorders: Axymyiomorpha (larvae in decomposing wood); Bibionomorpha (gnats, lovebugs); Blephariceromorpha (mountain midges); Culicomorpha (mosquitoes, midges, black flies); Psychodomorpha (moth flies); Ptychopteromorpha (primitive crane flies); and Tipulomorpha (crane flies). The infraorder Culicomorpha contains 2 superfamilies: Chironomoidea (biting, non-biting and trickle midges, black flies); and Culicoidea (midges, mosquitoes). The superfamily Culicoidea contains 4 families: Chaoboridae (phantom midges); Corethrellidae (frog-biting midges); Dixidae (meniscus midges); and Culicidae (mosquitoes). The family Culicidae are characterized by adults with thin elongate bodies with long mouthparts forming a conspicuous forward-projecting proboscis, slender wings with scales covering wing veins and at least 10 veins reaching the wing margins, and long filamentous antennae (males with plumose arista, females with fewer shorter hairs). Several thousand mosquito species have been described in around 70 genera in 3 subfamilies: Anophelinae with 3 genera (*Anopheles*, *Bironella*, *Chagasia*); Toxorhynchitinae with 1 genus (*Toxorhynchites*); and Culicinae with 9 tribes and over 30 genera (including *Aedes*, *Culex*, *Mansonia*); with another 15 unplaced genera and 5 fossil genera.

Subfamily	Genera*	Preferred hosts	Site	Transmission
Culicinae	<i>Culex</i> (<i>Cx.</i>)	mammals, birds	skin	free-flying adults seek hosts
	<i>Aedes</i> (<i>Ae.</i>)	mammals, birds	skin	free-flying adults seek hosts
	<i>Mansonia</i> (<i>Ma.</i>)	mammals, birds	skin	free-flying adults seek hosts
Anophelinae	<i>Anopheles</i> (<i>An.</i>)	mammals, birds	skin	free-flying adults seek hosts

*Genus name given with internationally-recognized 2-letter abbreviation.

Culicine mosquitoes are characterized by adults having a scutellum with a trilobed posterior margin, a scaly abdomen and larval stages with prominent air-tubes. When resting, adult culicine mosquitoes do not raise their abdomens in the air. The adult females of some species are ectoparasitic and feed on the blood of vertebrate hosts. Generally, mosquitoes are not highly host specific but will feed preferentially on certain hosts. Female mosquitoes may feed on humans, domesticated animals (cattle, horses, goats, etc), birds (incl. chickens), wild mammals (such as deer and rabbits), reptiles (snakes and lizards) and amphibians (frogs and toads). Mosquitoes are attracted to their prey by carbon-dioxide expelled in respiration. In the tribe Culicini, members of the genus *Culex* (syn. *Phytotematomyia*, *Sirivanakarnius*) have medium-sized brown bodies and wings with prominent veins and light narrow scales. Over 835 species have been described in 26 subgenera. Most *Culex* spp. prefer domestic and wild birds over humans and livestock, although some species target larger animals such as pigs and cattle. In the tribe Aedini, members of the genus *Aedes* (syn. *Bohartius*, *Coetzeemyia*, *Cornetius*, *Heteraspidion*, *Huangmyia*, *Lepidotomyia*, *Mukwaya*, *Reinertia*, *Xyele*, *Zoromorphus*) have distinctive black and white markings on their bodies and legs, and wings with prominent veins and light narrow scales. Over 950 species have been described in some 80 subgenera. Unlike most other mosquitoes, they are active and bite only during the daytime, particularly early in the morning and in the evening just before dusk. In the tribe Mansoniini, members of the genus *Mansonia* (syn. *Panoplites*) are big black or brown mosquitoes with speckles on their wings and legs. Some 27 species have been described, most classified into 2 subgenera). These mosquitoes breed in ponds and lakes containing certain types of floating water plants (such as water lettuce and water hyacinths). Adult *Culex*, *Aedes* and *Mansonia* mosquitoes cause considerable annoyance to many animal species and humans, with mosquito swarms capable of causing significant blood loss from individuals. Moreover, adult mosquitoes are very effective vectors for blood-borne infectious diseases caused by various viral, bacterial, protozoal and nematode pathogens, including yellow fever, dengue, encephalitis, canine heartworm, lymphatic filariasis (leading to elephantiasis) and malaria (in animals but not humans) (summarized below).

Mosquito species (regional exemplars)	Hosts	Vectorial capacity	Distribution
Aedes			
<i>Ae. aegypti, africanus, albopictus, bromeliae, cordellieri, furcifer, luteocephalus, metallicus, opok, polynesiensis, pseudoscutellaris, rotumae, scutellaris, taylori, vittatus</i>	primates (incl. humans), rodents, ungulates	togaviruses (Chikungunya, Ross River), flaviviruses (yellow fever, dengue)	Eurasia, Africa, Americas, Australasia
<i>Ae. circumluteolus, mcintoshi</i>	ungulates	flaviviruses (Wesselsbron)	Africa
<i>Ae. vexans</i>	humans, pigs, lagomorphs	bunyaviruses (Tahyna)	Eurasia
<i>Ae. futunae, polynesiensis, pseudoscutellaris, tabu, tongae, upolensis</i>	humans, rodents	togaviruses (Ross River); filarial nematodes (<i>Wuchereria</i>)	Asia
<i>Ae. albifasciatus</i>	mammals, birds	togaviruses (western equine encephalomyelitis)	Americas
<i>Aedes</i> spp.	mammals, birds	haemoprotezoa (avian malaria); filarial nematodes (<i>Dirofilaria</i>)	cosmopolitan
Culex			
<i>Cx. bitaeniorhynchus, fuscocephala, gelidus, pallens, pseudovishnui, quinquefasciatus, sitiens, tritaeniorhynchus, vishnui</i>	humans, pigs, birds	flaviviruses (Japanese encephalitis); filarial nematodes (<i>Wuchereria</i>)	Asia
<i>Cx. annulirostris, bitaeniorhynchus</i>	humans, rodents	togaviruses (Ross River), flaviviruses (Murray Valley encephalitis); leporivirus (myxoma); filarial nematodes (<i>Wuchereria</i>)	Australasia
<i>Cx. pipiens, theileri</i>	humans, ungulates	bunyaviruses (Rift Valley fever)	Africa
<i>Cx. cedecei, nigripalpus, ocosa, parocossa, taeniopus, tarsalis</i>	humans, birds, horses, lagomorphs, rodents, bats	togaviruses (eastern, western and Venezuelan equine encephalomyelitis), bunyaviruses (California encephalitis)	Americas
<i>Cx. molestus, pallens, quinquefasciatus</i>	humans	filarial nematodes (<i>Wuchereria</i>)	Americas, Africa, Asia
<i>Cx. nigripalpis, pipiens, quinquefasciatus, tarsalis, univittatus</i>	humans, birds	togaviruses (Sindbis), flaviviruses (St Louis encephalitis, West Nile)	cosmopolitan
<i>Culex</i> spp.	mammals, birds, reptiles	haemoprotezoa (malaria) filarial nematodes (<i>Dirofilaria</i>)	cosmopolitan
Mansonia			
<i>Ma. annulata, bonneae, dives, indiana, uniformis</i>	humans	filarial nematodes (<i>Wuchereria, Brugia</i>)	Asia
<i>Ma. titillans</i>	humans, equids, rodents	togaviruses (Venezuelan equine encephalomyelitis); filarial nematodes (<i>Wuchereria</i>)	Americas

Full species lists (compilations of several databases)

Aedes species	Subgenus
<i>Ae. abnormalis</i>	<i>Aedimorphus</i>
<i>Ae. aboriginis</i>	<i>Ochlerotatus</i>
<i>Ae. abserratus</i>	<i>Ochlerotatus</i>
<i>Ae. aculeatus</i>	<i>Ochlerotatus</i>
<i>Ae. adami</i>	<i>Catageiomyia</i>
<i>Ae. adersi</i>	<i>Diceromyia</i>
<i>Ae. aegypti</i>	<i>Stegomyia</i>
<i>Ae. aenigmaticus</i>	<i>Ochlerotatus</i>
<i>Ae. aerarius</i>	<i>Aedimorphus</i>
<i>Ae. africanus</i>	<i>Stegomyia</i>
<i>Ae. agastyai</i>	<i>Tewarius</i>
<i>Ae. agrihanensis</i>	<i>Stegomyia</i>
<i>Ae. aitkeni</i>	<i>Protomacleaya</i>
<i>Ae. akkeshiensis</i>	<i>Ochlerotatus</i>
<i>Ae. albescens</i>	<i>Rusticoidus</i>
<i>Ae. albicosta</i>	<i>Neomelaniconion</i>
<i>Ae. albifasciatus</i>	<i>Ochlerotatus</i>
<i>Ae. albilabris</i>	<i>Rampamyia</i>
<i>Ae. albineus</i>	<i>Ochlerotatus</i>
<i>Ae. albiradius</i>	<i>Neomelaniconion</i>
<i>Ae. alboannulatus</i>	<i>Dobrotworskyius</i>
<i>Ae. alboapicus</i>	<i>Protomacleaya</i>
<i>Ae. albocephalus</i>	<i>Polyleptiomyia</i>
<i>Ae. albocinctus</i>	<i>Hopkinsius</i>
<i>Ae. albodorsalis</i>	<i>Aedimorphus</i>
<i>Ae. albolateralis</i>	<i>Downsiomyia</i>
<i>Ae. albolineatus</i>	<i>Scutomyia</i>
<i>Ae. albomarginatus</i>	<i>Pseudarmigeres</i>
<i>Ae. alboniveus</i>	<i>Downsiomyia</i>
<i>Ae. albonotatus</i>	<i>Howardina</i>
<i>Ae. albopictus</i>	<i>Stegomyia</i>
<i>Ae. alboscutellatus</i>	<i>Aedimorphus</i>
<i>Ae. albotaeniatus</i>	<i>Danielsia</i>
<i>Ae. albothorax</i>	<i>Neomelaniconion</i>
<i>Ae. alboventralis</i>	<i>Aedimorphus</i>
<i>Ae. alcasidi</i>	<i>Stegomyia</i>
<i>Ae. alektorovi</i>	<i>Bruceharrisonius</i>
<i>Ae. alexandrei</i>	<i>Aedes</i>
<i>Ae. alius</i>	<i>Gilesius</i>
<i>Ae. allotecnon</i>	<i>Howardina</i>
<i>Ae. alocasicola</i>	<i>Finlaya</i>
<i>Ae. alongi</i>	<i>Bothaella</i>
<i>Ae. aloponotum</i>	<i>Ochlerotatus</i>
<i>Ae. aloreensis</i>	<i>Stegomyia</i>
<i>Ae. alternans</i>	<i>Mucidus</i>
<i>Ae. alticola</i>	Unassigned
<i>Ae. amabilis</i>	<i>Protomacleaya</i>
<i>Ae. amaltheus</i>	<i>Stegomyia</i>
<i>Ae. amateuri</i>	<i>Ochlerotatus</i>
<i>Ae. ambreensis</i>	<i>Ochlerotatus</i>
<i>Ae. ambremontis</i>	<i>Paulianius</i>
<i>Ae. amesii</i>	<i>Lorrainea</i>
<i>Ae. ananae</i>	<i>Finlaya</i>
<i>Ae. andamanensis</i>	Unassigned
<i>Ae. andersoni</i>	<i>Ochlerotatus</i>
<i>Ae. andrewsi</i>	<i>Stegomyia</i>
<i>Ae. anggiensis</i>	<i>Patmarksia</i>

<i>Ae. angustivittatus</i>	<i>Ochlerotatus</i>
<i>Ae. angustus</i>	<i>Stegomyia</i>
<i>Ae. annandalei</i>	<i>Stegomyia</i>
<i>Ae. annulipes</i>	<i>Ochlerotatus</i>
<i>Ae. annulirostris</i>	<i>Christophersomyia</i>
<i>Ae. antipodeus</i>	<i>Ochlerotatus</i>
<i>Ae. aobae</i>	<i>Stegomyia</i>
<i>Ae. apicoannulatus</i>	<i>Elpeytonius</i>
<i>Ae. apicoargenteus</i>	<i>Stegomyia</i>
<i>Ae. arborealis</i>	<i>Howardina</i>
<i>Ae. arboricolus</i>	<i>Scutomyia</i>
<i>Ae. argenteitarsis</i>	<i>Patmarksia</i>
<i>Ae. argenteopunctatus</i>	<i>Catageiomyia</i>
<i>Ae. argenteoscutellatus</i>	<i>Aedimorphus</i>
<i>Ae. argenteoventralis</i>	<i>Pseudarmigeres</i>
<i>Ae. argenteus</i>	Unassigned
<i>Ae. argyrites</i>	<i>Howardina</i>
<i>Ae. argyronotum</i>	<i>Patmarksia</i>
<i>Ae. argyrothorax</i>	<i>Protomacleaya</i>
<i>Ae. arundinariae</i>	Unassigned
<i>Ae. ashworthi</i>	<i>Halaedes</i>
<i>Ae. assamensis</i>	<i>Phagomyia</i>
<i>Ae. atactavittatus</i>	<i>Ochlerotatus</i>
<i>Ae. atlanticus</i>	<i>Ochlerotatus</i>
<i>Ae. atropalpus</i>	<i>Georgecraigius</i>
<i>Ae. aurantius</i>	<i>Mucidus</i>
<i>Ae. auratus</i>	<i>Ochlerotatus</i>
<i>Ae. aureolineatus</i>	<i>Howardina</i>
<i>Ae. aureostriatus</i>	<i>Bruceharrisonius</i>
<i>Ae. auridorsum</i>	<i>Molpemyia</i>
<i>Ae. aurifer</i>	<i>Ochlerotatus</i>
<i>Ae. aurimargo</i>	<i>Leptosomatomyia</i>
<i>Ae. aurites</i>	<i>Howardina</i>
<i>Ae. aurivittatus</i>	<i>Howardina</i>
<i>Ae. auronitens</i>	Unassigned
<i>Ae. aurotaeniatus</i>	<i>Belkinus</i>
<i>Ae. aurovenatus</i>	<i>Neomelaniconion</i>
<i>Ae. australiensis</i>	Unassigned
<i>Ae. australis</i>	<i>Halaedes</i>
<i>Ae. avistylus</i>	<i>Finlaya</i>
<i>Ae. axitiosus</i>	<i>Downsiomyia</i>
<i>Ae. bahamensis</i>	<i>Howardina</i>
<i>Ae. baisasi</i>	<i>Geoskusea</i>
<i>Ae. bambiotai</i>	<i>Aedimorphus</i>
<i>Ae. bambusae</i>	<i>Stegomyia</i>
<i>Ae. bambusicolus</i>	<i>Scutomyia</i>
<i>Ae. bananea</i>	<i>Diceromyia</i>
<i>Ae. bancoi</i>	<i>Aedimorphus</i>
<i>Ae. bancroftianus</i>	<i>Protomacleaya</i>
<i>Ae. banksi</i>	<i>Collessius</i>
<i>Ae. barnardi</i>	<i>Hopkinsius</i>
<i>Ae. barraudi</i>	<i>Paraedes</i>
<i>Ae. becki</i>	<i>Geoskusea</i>
<i>Ae. bedfordi</i>	<i>Catageiomyia</i>
<i>Ae. behningi</i>	<i>Ochlerotatus</i>
<i>Ae. bejaranoi</i>	<i>Ochlerotatus</i>
<i>Ae. bekkui</i>	<i>Edwardsaedes</i>
<i>Ae. belleci</i>	<i>Neomelaniconion</i>

<i>Ae. bequaerti</i>	<i>Neomelaniconion</i>
<i>Ae. bergerardi</i>	<i>Neomelaniconion</i>
<i>Ae. berlandi</i>	<i>Ochlerotatus</i>
<i>Ae. berlini</i>	<i>Protomacleaya</i>
<i>Ae. bertrami</i>	<i>Protomacleaya</i>
<i>Ae. bevisi</i>	<i>Aedimorphus</i>
<i>Ae. bhutanensis</i>	Unassigned
<i>Ae. bicristatus</i>	<i>Rusticoidus</i>
<i>Ae. bimaculatus</i>	<i>Ochlerotatus</i>
<i>Ae. biocellatus</i>	Unassigned
<i>Ae. biskraensis</i>	<i>Ochlerotatus</i>
<i>Ae. biunguiculatus</i>	<i>Nyctomyia</i>
<i>Ae. blacklocki</i>	<i>Stegomyia</i>
<i>Ae. bogotanus</i>	<i>Ochlerotatus</i>
<i>Ae. boharti</i>	<i>Scutomyia</i>
<i>Ae. bolensis</i>	<i>Neomelaniconion</i>
<i>Ae. boneti</i>	<i>Bifidistylus</i>
<i>Ae. bonneae</i>	<i>Paraedes</i>
<i>Ae. bougainvillensis</i>	<i>Finlaya</i>
<i>Ae. brazilensis</i>	<i>Protomacleaya</i>
<i>Ae. breedensis</i>	<i>Ochlerotatus</i>
<i>Ae. brelandi</i>	<i>Protomacleaya</i>
<i>Ae. brevis</i>	<i>Howardina</i>
<i>Ae. brevitibia</i>	<i>Alanstonea</i>
<i>Ae. brevivittatus</i>	<i>Howardina</i>
<i>Ae. britteni</i>	Unassigned
<i>Ae. bromeliae</i>	<i>Stegomyia</i>
<i>Ae. brownscutumus</i>	<i>Bothaella</i>
<i>Ae. brucei</i>	<i>Paulianius</i>
<i>Ae. brunhesi</i>	<i>Zavortinkius</i>
<i>Ae. brygooi</i>	<i>Zavortinkius</i>
<i>Ae. buenaventura</i>	<i>Protomacleaya</i>
<i>Ae. burgeri</i>	<i>Protomacleaya</i>
<i>Ae. burjaticus</i>	<i>Ochlerotatus</i>
<i>Ae. burnetti</i>	<i>Finlaya</i>
<i>Ae. burnsi</i>	<i>Stegomyia</i>
<i>Ae. burpengaryensis</i>	<i>Ochlerotatus</i>
<i>Ae. busckii</i>	<i>Howardina</i>
<i>Ae. butleri</i>	Unassigned
<i>Ae. buxtoni</i>	<i>Patmarksia</i>
<i>Ae. caballus</i>	<i>Ochlerotatus</i>
<i>Ae. cacharanus</i>	<i>Finlaya</i>
<i>Ae. cacozelus</i>	<i>Ochlerotatus</i>
<i>Ae. caecus</i>	<i>Aedimorphus</i>
<i>Ae. calabyi</i>	<i>Macleaya</i>
<i>Ae. calcariae</i>	<i>Ochlerotatus</i>
<i>Ae. calceatus</i>	<i>Stegomyia</i>
<i>Ae. caliginosus</i>	<i>Aedimorphus</i>
<i>Ae. calumnior</i>	<i>Ochlerotatus</i>
<i>Ae. campana</i>	<i>Protomacleaya</i>
<i>Ae. campestris</i>	<i>Ochlerotatus</i>
<i>Ae. camptorhynchus</i>	<i>Ochlerotatus</i>
<i>Ae. canadensis</i>	<i>Ochlerotatus</i>
<i>Ae. cancricomes</i>	<i>Canraedes</i>
<i>Ae. candidoscutellum</i>	Unassigned
<i>Ae. cantans</i>	<i>Ochlerotatus</i>
<i>Ae. cantator</i>	<i>Ochlerotatus</i>
<i>Ae. capensis</i>	<i>Albuginosus</i>
<i>Ae. carteri</i>	<i>Neomelaniconion</i>
<i>Ae. cartroni</i>	<i>Skusea</i>
<i>Ae. casali</i>	<i>Protomacleaya</i>

<i>Ae. caspius</i>	<i>Ochlerotatus</i>
<i>Ae. cataphylla</i>	<i>Ochlerotatus</i>
<i>Ae. cavaticus</i>	<i>Isoaedes</i>
<i>Ae. cavernicola</i>	<i>Borichinda</i>
<i>Ae. celebicus</i>	<i>Lorrainea</i>
<i>Ae. centropunctatus</i>	<i>Aedimorphus</i>
<i>Ae. chamboni</i>	<i>Catageomyia</i>
<i>Ae. chaussieri</i>	<i>Stegomyia</i>
<i>Ae. chelli</i>	<i>Ochlerotatus</i>
<i>Ae. chemulpoensis</i>	<i>Stegomyia</i>
<i>Ae. cherrapunjiensis</i>	<i>Hulecoeteomyia</i>
<i>Ae. chionodes</i>	<i>Christophersomyia</i>
<i>Ae. chionotum</i>	<i>Protomacleaya</i>
<i>Ae. christophersi</i>	<i>Bruceharrisonius</i>
<i>Ae. chrysolineatus</i>	<i>Hulecoeteomyia</i>
<i>Ae. chrysoscutus</i>	<i>Paraedes</i>
<i>Ae. chungii</i>	<i>Jihlienius</i>
<i>Ae. churchillensis</i>	<i>Ochlerotatus</i>
<i>Ae. ciliaris</i>	Unassigned
<i>Ae. cinereus</i>	<i>Aedes</i>
<i>Ae. circumluteolus</i>	<i>Neomelaniconion</i>
<i>Ae. clelandi</i>	<i>Ochlerotatus</i>
<i>Ae. clintoni</i>	<i>Patmarksia</i>
<i>Ae. clivis</i>	<i>Ochlerotatus</i>
<i>Ae. cogilli</i>	<i>Phagomyia</i>
<i>Ae. collessi</i>	<i>Paraedes</i>
<i>Ae. coluzzii</i>	<i>Ochlerotatus</i>
<i>Ae. comitatus</i>	<i>Ochlerotatus</i>
<i>Ae. communis</i>	<i>Ochlerotatus</i>
<i>Ae. condolenscens</i>	<i>Ochlerotatus</i>
<i>Ae. contiguus</i>	<i>Stegomyia</i>
<i>Ae. continentalis</i>	<i>Ochlerotatus</i>
<i>Ae. cooki</i>	<i>Stegomyia</i>
<i>Ae. cordellieri</i>	<i>Diceromyia</i>
<i>Ae. corneti</i>	<i>Stegomyia</i>
<i>Ae. coulangesi</i>	<i>Paulianius</i>
<i>Ae. cozi</i>	<i>Cornetius</i>
<i>Ae. cozumelensis</i>	<i>Howardina</i>
<i>Ae. craggi</i>	<i>Stegomyia</i>
<i>Ae. crassiforceps</i>	<i>Neomelaniconion</i>
<i>Ae. cretinus</i>	<i>Stegomyia</i>
<i>Ae. crinifer</i>	<i>Ochlerotatus</i>
<i>Ae. croceus</i>	<i>Finlaya</i>
<i>Ae. crossi</i>	Unassigned
<i>Ae. culiciformis</i>	<i>Pseudoskusea</i>
<i>Ae. culicinus</i>	<i>Aedimorphus</i>
<i>Ae. cumminsii</i>	<i>Aedimorphus</i>
<i>Ae. cunabulanus</i>	<i>Ochlerotatus</i>
<i>Ae. curtipes</i>	<i>Canraedes</i>
<i>Ae. cyprioides</i>	<i>Ochlerotatus</i>
<i>Ae. cyprius</i>	<i>Ochlerotatus</i>
<i>Ae. daggyi</i>	<i>Geoskusea</i>
<i>Ae. dahlae</i>	<i>Ochlerotatus</i>
<i>Ae. dahuricus</i>	<i>Aedes</i>
<i>Ae. daitensis</i>	<i>Stegomyia</i>
<i>Ae. daliensis</i>	<i>Geoskusea</i>
<i>Ae. dalzieli</i>	<i>Aedimorphus</i>
<i>Ae. daryi</i>	<i>Protomacleaya</i>
<i>Ae. dasyorrhus</i>	<i>Lorrainea</i>
<i>Ae. davidi</i>	<i>Aedimorphus</i>
<i>Ae. deboeri</i>	<i>Stegomyia</i>

<i>Ae. deccanus</i>	<i>Phagomyia</i>
<i>Ae. decticus</i>	<i>Ochlerotatus</i>
<i>Ae. deficiens</i>	<i>Ochlerotatus</i>
<i>Ae. demeilloni</i>	<i>Stegomyia</i>
<i>Ae. denderensis</i>	<i>Stegomyia</i>
<i>Ae. dendrophilus</i>	<i>Stegomyia</i>
<i>Ae. dentatus</i>	<i>Aedimorphus</i>
<i>Ae. derooki</i>	<i>Patmarksia</i>
<i>Ae. deserticola</i>	<i>Jarnellius</i>
<i>Ae. desmotes</i>	<i>Stegomyia</i>
<i>Ae. detritus</i>	<i>Ochlerotatus</i>
<i>Ae. dialloi</i>	<i>Catageiomyia</i>
<i>Ae. diantaeus</i>	<i>Ochlerotatus</i>
<i>Ae. diazi</i>	<i>Protomacleaya</i>
<i>Ae. dissimiliterodes</i>	<i>Kenknightsia</i>
<i>Ae. dissimilis</i>	<i>Kenknightsia</i>
<i>Ae. dmitryi</i>	<i>Aedes</i>
<i>Ae. dobodurus</i>	<i>Patmarksia</i>
<i>Ae. dobrotworskyi</i>	<i>Finlaya</i>
<i>Ae. domesticus</i>	<i>Aedimorphus</i>
<i>Ae. doonii</i>	<i>Bruceharrisonius</i>
<i>Ae. dorsalis</i>	<i>Ochlerotatus</i>
<i>Ae. dorseyi</i>	<i>Downsiomyia</i>
<i>Ae. dufouri</i>	<i>Ochlerotatus</i>
<i>Ae. duplex</i>	<i>Ochlerotatus</i>
<i>Ae. dupreei</i>	<i>Ochlerotatus</i>
<i>Ae. durbanensis</i>	<i>Aedimorphus</i>
<i>Ae. dybasi</i>	<i>Stegomyia</i>
<i>Ae. dzeta</i>	<i>Ochlerotatus</i>
<i>Ae. ealaensis</i>	<i>Stegomyia</i>
<i>Ae. eatoni</i>	Unassigned
<i>Ae. ebogoensis</i>	<i>Aedimorphus</i>
<i>Ae. echinus</i>	<i>Dahlia</i>
<i>Ae. ecuadoriensis</i>	<i>Howardina</i>
<i>Ae. edgari</i>	<i>Ochlerotatus</i>
<i>Ae. edwardsi</i>	<i>Stegomyia</i>
<i>Ae. eidsvoldensis</i>	<i>Ochlerotatus</i>
<i>Ae. elchoensis</i>	<i>Macleaya</i>
<i>Ae. eldridgei</i>	<i>Bothaella</i>
<i>Ae. eleanorae</i>	<i>Howardina</i>
<i>Ae. ellinorae</i>	<i>Neomelaniconion</i>
<i>Ae. elsiae</i>	<i>Collessius</i>
<i>Ae. embuensis</i>	<i>Hopkinsius</i>
<i>Ae. epactius</i>	<i>Georgecraigius</i>
<i>Ae. eritreae</i>	<i>Aedimorphus</i>
<i>Ae. esoensis</i>	<i>Aedes</i>
<i>Ae. ethiopiensis</i>	<i>Stegomyia</i>
<i>Ae. eucephalaesus</i>	<i>Ochlerotatus</i>
<i>Ae. euedes</i>	Unassigned
<i>Ae. euiris</i>	<i>Ochlerotatus</i>
<i>Ae. euplocamus</i>	<i>Ochlerotatus</i>
<i>Ae. excrucians</i>	<i>Ochlerotatus</i>
<i>Ae. explorator</i>	Unassigned
<i>Ae. falabreguesi</i>	<i>Catageiomyia</i>
<i>Ae. fascipalpis</i>	<i>Diceromyia</i>
<i>Ae. feegradei</i>	<i>Phagomyia</i>
<i>Ae. fengi</i>	<i>Luius</i>
<i>Ae. ferinus</i>	<i>Mucidus</i>
<i>Ae. fijiensis</i>	<i>Finlaya</i>
<i>Ae. filicis</i>	<i>Catageiomyia</i>
<i>Ae. fimbripes</i>	<i>Geoskusea</i>

<i>Ae. fitchii</i>	<i>Ochlerotatus</i>
<i>Ae. flavescens</i>	<i>Ochlerotatus</i>
<i>Ae. flavicollis</i>	<i>Diceromyia</i>
<i>Ae. flavifrons</i>	<i>Ochlerotatus</i>
<i>Ae. flavimargo</i>	<i>Neomelaniconion</i>
<i>Ae. flavipennis</i>	<i>Finlaya</i>
<i>Ae. flavopictus</i>	<i>Stegomyia</i>
<i>Ae. fluviatilis</i>	<i>Georgecraigius</i>
<i>Ae. fontenillei</i>	<i>Neomelaniconion</i>
<i>Ae. formosensis</i>	<i>Hulecoeteomyia</i>
<i>Ae. fowleri</i>	<i>Aedimorphus</i>
<i>Ae. franciscoi</i>	<i>Petermattinglyius</i>
<i>Ae. franclemonti</i>	<i>Finlaya</i>
<i>Ae. fraseri</i>	<i>Stegomyia</i>
<i>Ae. freycinetiae</i>	<i>Finlaya</i>
<i>Ae. fryeri</i>	<i>Coetzeemyia</i>
<i>Ae. fulgens</i>	<i>Zavortinkius</i>
<i>Ae. fulvithorax</i>	<i>Howardina</i>
<i>Ae. fulvus</i>	<i>Ochlerotatus</i>
<i>Ae. fumidus</i>	<i>Lorrainea</i>
<i>Ae. furcifer</i>	<i>Diceromyia</i>
<i>Ae. fuscinervis</i>	<i>Neomelaniconion</i>
<i>Ae. fuscipalpis</i>	<i>Finlaya</i>
<i>Ae. fuscitarsis</i>	<i>Finlaya</i>
<i>Ae. futunae</i>	<i>Stegomyia</i>
<i>Ae. gabriel</i>	<i>Protomacleaya</i>
<i>Ae. gaffigani</i>	<i>Kenknightsia</i>
<i>Ae. gahnicola</i>	<i>Finlaya</i>
<i>Ae. galindoi</i>	<i>Protomacleaya</i>
<i>Ae. galloisi</i>	<i>Stegomyia</i>
<i>Ae. galloisioides</i>	<i>Stegomyia</i>
<i>Ae. ganapathi</i>	<i>Downsiomyia</i>
<i>Ae. gandaensis</i>	<i>Stegomyia</i>
<i>Ae. gandarai</i>	<i>Polyleptiomyia</i>
<i>Ae. gani</i>	<i>Finlaya</i>
<i>Ae. gardnerii</i>	<i>Stegomyia</i>
<i>Ae. geminus</i>	<i>Aedes</i>
<i>Ae. geniculatus</i>	<i>Dahlia</i>
<i>Ae. geoffroyi</i>	<i>Zavortinkius</i>
<i>Ae. geoskusea</i>	<i>Levua</i>
<i>Ae. gibbinsi</i>	<i>Aedimorphus</i>
<i>Ae. gilcolladoi</i>	<i>Dahlia</i>
<i>Ae. gilli</i>	<i>Himalaius</i>
<i>Ae. gilliesi</i>	<i>Albuginosus</i>
<i>Ae. gombakensis</i>	<i>Christophersomyia</i>
<i>Ae. gonguensis</i>	<i>Jihlienius</i>
<i>Ae. gouldi</i>	<i>Aedimorphus</i>
<i>Ae. grabhami</i>	<i>Howardina</i>
<i>Ae. gracilelineatus</i>	Unassigned
<i>Ae. grahamii</i>	<i>Mucidus</i>
<i>Ae. grantii</i>	<i>Stegomyia</i>
<i>Ae. grassei</i>	<i>Paulianius</i>
<i>Ae. greenii</i>	<i>Bruceharrisonius</i>
<i>Ae. grenieri</i>	<i>Catageiomyia</i>
<i>Ae. gressitti</i>	<i>Finlaya</i>
<i>Ae. griffithi</i>	<i>Ayurakitia</i>
<i>Ae. grjebinei</i>	<i>Pseudalbuginosus</i>
<i>Ae. grossbecki</i>	<i>Ochlerotatus</i>
<i>Ae. guamensis</i>	<i>Stegomyia</i>
<i>Ae. guatemala</i>	<i>Howardina</i>
<i>Ae. gubernatoris</i>	<i>Phagomyia</i>

<i>Ae. guerrero</i>	<i>Howardina</i>
<i>Ae. gurneri</i>	<i>Pseudarmigeres</i>
<i>Ae. gurneyi</i>	<i>Stegomyia</i>
<i>Ae. gutzevichi</i>	<i>Ochlerotatus</i>
<i>Ae. hakanssoni</i>	<i>Stegomyia</i>
<i>Ae. hakusanensis</i>	<i>Ochlerotatus</i>
<i>Ae. hancocki</i>	<i>Vansomerenis</i>
<i>Ae. hansfordi</i>	<i>Stegomyia</i>
<i>Ae. harbachi</i>	<i>Kenknightsia</i>
<i>Ae. harinasutai</i>	<i>Downsiomyia</i>
<i>Ae. harperi</i>	<i>Danielsia</i>
<i>Ae. harrisoni</i>	<i>Ochlerotatus</i>
<i>Ae. harveyi</i>	<i>Hulecoeteomyia</i>
<i>Ae. hastatus</i>	<i>Ochlerotatus</i>
<i>Ae. hatorii</i>	<i>Collessius</i>
<i>Ae. haworthi</i>	<i>Albuginosus</i>
<i>Ae. hebrideus</i>	<i>Stegomyia</i>
<i>Ae. heischi</i>	<i>Stegomyia</i>
<i>Ae. helenae</i>	<i>Bothaella</i>
<i>Ae. hendersoni</i>	<i>Protomacleaya</i>
<i>Ae. hensilli</i>	<i>Stegomyia</i>
<i>Ae. hesperonotus</i>	<i>Ochlerotatus</i>
<i>Ae. heteropus</i>	<i>Protomacleaya</i>
<i>Ae. hexodontus</i>	<i>Ochlerotatus</i>
<i>Ae. hirsuta</i>	<i>Paulianius</i>
<i>Ae. hirsutus</i>	<i>Aedimorphus</i>
<i>Ae. hodgkini</i>	<i>Ochlerotatus</i>
<i>Ae. hogsbackensis</i>	<i>Stegomyia</i>
<i>Ae. hoguei</i>	<i>Stegomyia</i>
<i>Ae. hokkaidensis</i>	<i>Ochlerotatus</i>
<i>Ae. hollandius</i>	<i>Patmarksia</i>
<i>Ae. hollingsheadi</i>	<i>Finlaya</i>
<i>Ae. holocinctus</i>	<i>Aedimorphus</i>
<i>Ae. homoeopus</i>	<i>Protomacleaya</i>
<i>Ae. hoogstraali</i>	<i>Scutomyia</i>
<i>Ae. hopkinsi</i>	<i>Catageiomyia</i>
<i>Ae. horotoi</i>	<i>Finlaya</i>
<i>Ae. horrescens</i>	<i>Stegomyia</i>
<i>Ae. hortator</i>	<i>Sallumia</i>
<i>Ae. huangae</i>	<i>Zavortinkius</i>
<i>Ae. hui</i>	<i>Finlaya</i>
<i>Ae. humeralis</i>	<i>Macleaya</i>
<i>Ae. hungaricus</i>	<i>Ochlerotatus</i>
<i>Ae. hurlbuti</i>	<i>Bruceharrisonius</i>
<i>Ae. hylaius</i>	<i>Neomelaniconion</i>
<i>Ae. ibis</i>	<i>Christophersomyia</i>
<i>Ae. idanus</i>	<i>Protomacleaya</i>
<i>Ae. idjenensis</i>	<i>Downsiomyia</i>
<i>Ae. impatibilis</i>	<i>Scutomyia</i>
<i>Ae. imperfectus</i>	<i>Ochlerotatus</i>
<i>Ae. impiger</i>	<i>Ochlerotatus</i>
<i>Ae. implicatus</i>	<i>Ochlerotatus</i>
<i>Ae. impostor</i>	<i>Protomacleaya</i>
<i>Ae. imprimens</i>	<i>Edwardsaedes</i>
<i>Ae. inaequalis</i>	<i>Howardina</i>
<i>Ae. incomptus</i>	<i>Ochlerotatus</i>
<i>Ae. increpitus</i>	<i>Ochlerotatus</i>
<i>Ae. indonesiae</i>	<i>Canraedes</i>
<i>Ae. inermis</i>	<i>Downsiomyia</i>
<i>Ae. inexpectatus</i>	<i>Ochlerotatus</i>
<i>Ae. infirmatus</i>	<i>Ochlerotatus</i>

<i>Ae. ingrami</i>	<i>Hopkinsius</i>
<i>Ae. inquinatus</i>	<i>Phagomyia</i>
<i>Ae. insolens</i>	<i>Catageiomyia</i>
<i>Ae. insolitus</i>	<i>Protomacleaya</i>
<i>Ae. intermedius</i>	<i>Ochlerotatus</i>
<i>Ae. interruptus</i>	<i>Zavortinkius</i>
<i>Ae. intrudens</i>	<i>Ochlerotatus</i>
<i>Ae. ioliota</i>	<i>Howardina</i>
<i>Ae. irritans</i>	<i>Catageiomyia</i>
<i>Ae. iwi</i>	<i>Phagomyia</i>
<i>Ae. iyengari</i>	<i>Petermattinglyius</i>
<i>Ae. jacobinae</i>	<i>Ochlerotatus</i>
<i>Ae. jambulingami</i>	Unassigned
<i>Ae. jamesi</i>	<i>Aedimorphus</i>
<i>Ae. jamoti</i>	<i>Neomelaniconion</i>
<i>Ae. japonicus</i>	<i>Hulecoeteomyia</i>
<i>Ae. jorgi</i>	<i>Ochlerotatus</i>
<i>Ae. josephinae</i>	<i>Finlaya</i>
<i>Ae. josiahae</i>	<i>Stegomyia</i>
<i>Ae. jugraensis</i>	<i>Hulecoeteomyia</i>
<i>Ae. juppi</i>	<i>Ochlerotatus</i>
<i>Ae. kabaenensis</i>	<i>Geoskusea</i>
<i>Ae. kanarensis</i>	<i>Dendroskusea</i>
<i>Ae. kapretwae</i>	<i>Albuginosus</i>
<i>Ae. karooensis</i>	<i>Aedimorphus</i>
<i>Ae. karwari</i>	<i>Kenknightsia</i>
<i>Ae. kasachstanicus</i>	<i>Ochlerotatus</i>
<i>Ae. katherinensis</i>	<i>Stegomyia</i>
<i>Ae. keefei</i>	Unassigned
<i>Ae. keniensis</i>	<i>Stegomyia</i>
<i>Ae. kennethi</i>	<i>Albuginosus</i>
<i>Ae. kenyae</i>	<i>Stegomyia</i>
<i>Ae. kesseli</i>	<i>Stegomyia</i>
<i>Ae. khazani</i>	<i>Phagomyia</i>
<i>Ae. kiangsiensis</i>	<i>Phagomyia</i>
<i>Ae. kivuensis</i>	<i>Stegomyia</i>
<i>Ae. kleini</i>	<i>Bothaella</i>
<i>Ae. knabi</i>	<i>Protomacleaya</i>
<i>Ae. knighti</i>	<i>Finlaya</i>
<i>Ae. kochi</i>	<i>Finlaya</i>
<i>Ae. kohkutensis</i>	<i>Canraedes</i>
<i>Ae. kolhapuriensis</i>	Unassigned
<i>Ae. kompi</i>	<i>Protomacleaya</i>
<i>Ae. koreicoides</i>	Unassigned
<i>Ae. koreicus</i>	<i>Hulecoeteomyia</i>
<i>Ae. krombeini</i>	<i>Stegomyia</i>
<i>Ae. krymmontanus</i>	<i>Rusticoidus</i>
<i>Ae. kummi</i>	<i>Pseudarmigeres</i>
<i>Ae. lacteus</i>	<i>Downsiomyia</i>
<i>Ae. laffooni</i>	<i>Scutomyia</i>
<i>Ae. laguna</i>	<i>Jarnellius</i>
<i>Ae. lamborni</i>	<i>Bifidistylus</i>
<i>Ae. lambrechtii</i>	<i>Skusea</i>
<i>Ae. lamelliferus</i>	<i>Lorrainea</i>
<i>Ae. langata</i>	<i>Stegomyia</i>
<i>Ae. laniger</i>	<i>Mucidus</i>
<i>Ae. laoagensis</i>	<i>Finlaya</i>
<i>Ae. lasaensis</i>	<i>Ochlerotatus</i>
<i>Ae. lauriei</i>	Unassigned
<i>Ae. ledgeri</i>	<i>Stegomyia</i>
<i>Ae. leeii</i>	<i>Howardina</i>

<i>Ae. lesoni</i>	<i>Aedimorphus</i>
<i>Ae. leonis</i>	<i>Downsiomyia</i>
<i>Ae. lepchanus</i>	<i>Danielsia</i>
<i>Ae. lepidonotus</i>	<i>Rusticoidus</i>
<i>Ae. lepidus</i>	<i>Ochlerotatus</i>
<i>Ae. leptolabis</i>	<i>Aedimorphus</i>
<i>Ae. lerozeboomi</i>	<i>Kenknightia</i>
<i>Ae. leucarthritis</i>	<i>Aedimorphus</i>
<i>Ae. leucomelas</i>	<i>Ochlerotatus</i>
<i>Ae. leucomeres</i>	<i>Kenknightia</i>
<i>Ae. lewelleni</i>	<i>Finlaya</i>
<i>Ae. lewnielsenii</i>	<i>Protomacleaya</i>
<i>Ae. lilii</i>	<i>Stegomyia</i>
<i>Ae. lineatopennis</i>	<i>Neomelaniconion</i>
<i>Ae. linesi</i>	<i>Ochlerotatus</i>
<i>Ae. litoreus</i>	<i>Downsiomyia</i>
<i>Ae. littlechildi</i>	<i>Macleaya</i>
<i>Ae. litwakae</i>	<i>Kenknightia</i>
<i>Ae. lokojoensis</i>	<i>Catageiomyia</i>
<i>Ae. longifilamentus</i>	<i>Ochlerotatus</i>
<i>Ae. longiforceps</i>	<i>Geoskusea</i>
<i>Ae. longipalpis</i>	<i>Zavortinkius</i>
<i>Ae. longirostris</i>	<i>Rhinoskusea</i>
<i>Ae. longiseta</i>	<i>Aedimorphus</i>
<i>Ae. lophoventralis</i>	<i>Phagomyia</i>
<i>Ae. lorraineae</i>	<i>Howardina</i>
<i>Ae. lottei</i>	<i>Catageiomyia</i>
<i>Ae. lowisii</i>	<i>Aedimorphus</i>
<i>Ae. lucianus</i>	<i>Mucidus</i>
<i>Ae. lunulatus</i>	<i>Geoskusea</i>
<i>Ae. luridus</i>	<i>Neomelaniconion</i>
<i>Ae. luteifemur</i>	<i>Ochlerotatus</i>
<i>Ae. luteocephalus</i>	<i>Stegomyia</i>
<i>Ae. luteolateralis</i>	<i>Neomelaniconion</i>
<i>Ae. luteostriatus</i>	<i>Vansomerenis</i>
<i>Ae. luteus</i>	<i>Finlaya</i>
<i>Ae. luzonensis</i>	<i>Kenknightia</i>
<i>Ae. macdougalli</i>	<i>Collessius</i>
<i>Ae. macfarlanei</i>	<i>Collessius</i>
<i>Ae. macintoshii</i>	<i>Ochlerotatus</i>
<i>Ae. mackerrasi</i>	<i>Patmarksia</i>
<i>Ae. macmillani</i>	<i>Macleaya</i>
<i>Ae. madagascarensis</i>	<i>Paulianius</i>
<i>Ae. maehleri</i>	<i>Stegomyia</i>
<i>Ae. maffii</i>	<i>Finlaya</i>
<i>Ae. malayensis</i>	<i>Stegomyia</i>
<i>Ae. malikuli</i>	<i>Stegomyia</i>
<i>Ae. mallochi</i>	Unassigned
<i>Ae. mamodjoensis</i>	<i>Cancraedes</i>
<i>Ae. manhi</i>	<i>Bothaella</i>
<i>Ae. mansouri</i>	<i>Aedimorphus</i>
<i>Ae. mariae</i>	<i>Acartomyia</i>
<i>Ae. marinkellei</i>	<i>Howardina</i>
<i>Ae. marshallensis</i>	<i>Stegomyia</i>
<i>Ae. marshallii</i>	<i>Albuginosus</i>
<i>Ae. martinetti</i>	<i>Ochlerotatus</i>
<i>Ae. martinezi</i>	<i>Howardina</i>
<i>Ae. mascarensis</i>	<i>Stegomyia</i>
<i>Ae. masculinus</i>	<i>Cancraedes</i>
<i>Ae. masoalensis</i>	<i>Aedimorphus</i>
<i>Ae. masseyi</i>	<i>Stegomyia</i>

<i>Ae. mathioti</i>	<i>Aedimorphus</i>
<i>Ae. mathisi</i>	Unassigned
<i>Ae. mattinglyi</i>	<i>Aedimorphus</i>
<i>Ae. mattinglyorum</i>	<i>Stegomyia</i>
<i>Ae. maxgermaini</i>	<i>Stegomyia</i>
<i>Ae. mcdonaldi</i>	<i>Ochlerotatus</i>
<i>Ae. mcintoshii</i>	<i>Neomelaniconion</i>
<i>Ae. medialis</i>	<i>Huaedes</i>
<i>Ae. mediolineatus</i>	<i>Aedimorphus</i>
<i>Ae. mediopunctatus</i>	<i>Stegomyia</i>
<i>Ae. mediovittatus</i>	<i>Gymnometopa</i>
<i>Ae. medleri</i>	<i>Finlaya</i>
<i>Ae. mefouensis</i>	<i>Diceromyia</i>
<i>Ae. melanimon</i>	<i>Ochlerotatus</i>
<i>Ae. melanopterus</i>	<i>Phagomyia</i>
<i>Ae. menoni</i>	<i>Paraedes</i>
<i>Ae. meprai</i>	<i>Ochlerotatus</i>
<i>Ae. mercurator</i>	<i>Ochlerotatus</i>
<i>Ae. meronephada</i>	<i>Catatassomyia</i>
<i>Ae. mesostictus</i>	Unassigned
<i>Ae. metallicus</i>	<i>Stegomyia</i>
<i>Ae. metoecopus</i>	<i>Protomacleaya</i>
<i>Ae. michaelikati</i>	<i>Pseudarmigeres</i>
<i>Ae. mickevichae</i>	<i>Stegomyia</i>
<i>Ae. micropterus</i>	<i>Dendroskusea</i>
<i>Ae. microstictus</i>	<i>Catageiomyia</i>
<i>Ae. mikrokopion</i>	<i>Downsiomyia</i>
<i>Ae. milleri</i>	<i>Ochlerotatus</i>
<i>Ae. milsoni</i>	<i>Dobrotworskyius</i>
<i>Ae. minutus</i>	<i>Catageiomyia</i>
<i>Ae. mitchellae</i>	<i>Ochlerotatus</i>
<i>Ae. mixtus</i>	<i>Catageiomyia</i>
<i>Ae. mjobergi</i>	<i>Downsiomyia</i>
<i>Ae. mohani</i>	<i>Downsiomyia</i>
<i>Ae. moloensis</i>	<i>Macleaya</i>
<i>Ae. monetus</i>	<i>Zavortinkius</i>
<i>Ae. monocellatus</i>	Unassigned
<i>Ae. monotrichus</i>	<i>Neomelaniconion</i>
<i>Ae. montanus</i>	<i>Rampamyia</i>
<i>Ae. montchadskyi</i>	<i>Ochlerotatus</i>
<i>Ae. monticola</i>	<i>Jarnellius</i>
<i>Ae. moucheti</i>	<i>Skusea</i>
<i>Ae. mpusiensis</i>	<i>Stegomyia</i>
<i>Ae. mubiensis</i>	<i>Aedes</i>
<i>Ae. mucidus</i>	<i>Mucidus</i>
<i>Ae. muelleri</i>	<i>Lewnielsenius</i>
<i>Ae. multiplex</i>	<i>Pseudoskusea</i>
<i>Ae. muroafcete</i>	<i>Stegomyia</i>
<i>Ae. mutilus</i>	<i>Catageiomyia</i>
<i>Ae. mzooi</i>	<i>Zavortinkius</i>
<i>Ae. natalensis</i>	<i>Pseudarmigeres</i>
<i>Ae. nataliae</i>	<i>Aedes</i>
<i>Ae. natronius</i>	<i>Aedimorphus</i>
<i>Ae. neoaffricanus</i>	<i>Stegomyia</i>
<i>Ae. neogalloisi</i>	<i>Stegomyia</i>
<i>Ae. neogeorgianus</i>	<i>Finlaya</i>
<i>Ae. neopandani</i>	<i>Stegomyia</i>
<i>Ae. nevadensis</i>	<i>Ochlerotatus</i>
<i>Ae. ngong</i>	<i>Albuginosus</i>
<i>Ae. nigerrimus</i>	<i>Mucidus</i>
<i>Ae. nigrescens</i>	Unassigned

<i>Ae. nigricephalus</i>	<i>Aedimorphus</i>
<i>Ae. nigrinus</i>	<i>Ochlerotatus</i>
<i>Ae. nigripes</i>	<i>Ochlerotatus</i>
<i>Ae. nigrithorax</i>	<i>Ochlerotatus</i>
<i>Ae. nigrocanus</i>	<i>Ochlerotatus</i>
<i>Ae. nigromaculis</i>	<i>Ochlerotatus</i>
<i>Ae. nigropterus</i>	<i>Neomelaniconion</i>
<i>Ae. nigrorhynchus</i>	<i>Hulecoeteomyia</i>
<i>Ae. nigrostriatus</i>	<i>Aedimorphus</i>
<i>Ae. ningheensis</i>	<i>Collessius</i>
<i>Ae. niphadopsis</i>	<i>Ochlerotatus</i>
<i>Ae. nipponicus</i>	<i>Downsiomyia</i>
<i>Ae. nippononiveus</i>	<i>Downsiomyia</i>
<i>Ae. nishikawai</i>	<i>Downsiomyia</i>
<i>Ae. nivalis</i>	<i>Ochlerotatus</i>
<i>Ae. niveoides</i>	<i>Downsiomyia</i>
<i>Ae. niveoscutum</i>	<i>Protomacleaya</i>
<i>Ae. niveus</i>	<i>Downsiomyia</i>
<i>Ae. njombiensis</i>	<i>Stegomyia</i>
<i>Ae. normanensis</i>	<i>Ochlerotatus</i>
<i>Ae. notoscriptus</i>	<i>Rampamyia</i>
<i>Ae. novalbitarsis</i>	<i>Patmarksia</i>
<i>Ae. novalbopictus</i>	<i>Stegomyia</i>
<i>Ae. novoniveus</i>	<i>Downsiomyia</i>
<i>Ae. nubilus</i>	<i>Ochlerotatus</i>
<i>Ae. nummatus</i>	<i>Tewarius</i>
<i>Ae. nysae</i>	<i>Hopkinsius</i>
<i>Ae. nyounae</i>	<i>Catageiomyia</i>
<i>Ae. oakleyi</i>	<i>Aedimorphus</i>
<i>Ae. obturbator</i>	<i>Ochlerotatus</i>
<i>Ae. occidentalis</i>	<i>Dobrotworskyius</i>
<i>Ae. oceanicus</i>	<i>Finlaya</i>
<i>Ae. ochraceus</i>	<i>Aedimorphus</i>
<i>Ae. okinawanus</i>	Unassigned
<i>Ae. oligopistus</i>	<i>Ochlerotatus</i>
<i>Ae. omorii</i>	<i>Downsiomyia</i>
<i>Ae. opok</i>	<i>Stegomyia</i>
<i>Ae. orbitae</i>	<i>Aedimorphus</i>
<i>Ae. oreophilus</i>	Unassigned
<i>Ae. osornoi</i>	<i>Howardina</i>
<i>Ae. ostentatio</i>	<i>Paraedes</i>
<i>Ae. ovazzai</i>	<i>Aedimorphus</i>
<i>Ae. pachyurus</i>	<i>Aedimorphus</i>
<i>Ae. pagei</i>	<i>Paraedes</i>
<i>Ae. painei</i>	Unassigned
<i>Ae. palauensis</i>	<i>Stegomyia</i>
<i>Ae. palawanicus</i>	<i>Canraedes</i>
<i>Ae. pallidostratus</i>	<i>Aedimorphus</i>
<i>Ae. pallirostris</i>	Unassigned
<i>Ae. palmarum</i>	<i>Patmarksia</i>
<i>Ae. palpalis</i>	<i>Neomelaniconion</i>
<i>Ae. pampangensis</i>	<i>Aedimorphus</i>
<i>Ae. panchgangee</i>	Unassigned
<i>Ae. pandani</i>	<i>Stegomyia</i>
<i>Ae. papago</i>	<i>Abraedes</i>
<i>Ae. papuensis</i>	<i>Patmarksia</i>
<i>Ae. paradissimilis</i>	<i>Kenknightia</i>
<i>Ae. patersoni</i>	<i>Ochlerotatus</i>
<i>Ae. patriciae</i>	<i>Stegomyia</i>
<i>Ae. paullusi</i>	<i>Stegomyia</i>
<i>Ae. pecori</i>	<i>Kenknightia</i>

<i>Ae. pectinatus</i>	<i>Ochlerotatus</i>
<i>Ae. pecuniosus</i>	<i>Molpemyia</i>
<i>Ae. peipingensis</i>	Unassigned
<i>Ae. pemaensis</i>	<i>Skusea</i>
<i>Ae. penghuensis</i>	<i>Canraedes</i>
<i>Ae. pennai</i>	<i>Ochlerotatus</i>
<i>Ae. perdita</i>	<i>Aedes</i>
<i>Ae. periskelatus</i>	<i>Dendroskusea</i>
<i>Ae. perkinsi</i>	<i>Ochlerotatus</i>
<i>Ae. pernotatus</i>	<i>Stegomyia</i>
<i>Ae. perplexus</i>	<i>Stegomyia</i>
<i>Ae. perryi</i>	<i>Geoskusea</i>
<i>Ae. pertinax</i>	<i>Ochlerotatus</i>
<i>Ae. perventor</i>	<i>Sallumia</i>
<i>Ae. pexus</i>	<i>Downsiomyia</i>
<i>Ae. phaecasiatus</i>	<i>Ochlerotatus</i>
<i>Ae. phaeonotus</i>	<i>Ochlerotatus</i>
<i>Ae. phillipi</i>	<i>Zavortinkius</i>
<i>Ae. phoeniciae</i>	<i>Acartomyia</i>
<i>Ae. phyllolabis</i>	<i>Catageiomyia</i>
<i>Ae. pia</i>	<i>Stegomyia</i>
<i>Ae. pillai</i>	<i>Rhinoskusea</i>
<i>Ae. pingpaensis</i>	<i>Edwardsaedes</i>
<i>Ae. pionips</i>	<i>Ochlerotatus</i>
<i>Ae. pipersalatus</i>	<i>Aedimorphus</i>
<i>Ae. plagosus</i>	Unassigned
<i>Ae. platylepidus</i>	<i>Scutomyia</i>
<i>Ae. plumiferus</i>	<i>Phagomyia</i>
<i>Ae. podographicus</i>	<i>Protomacleaya</i>
<i>Ae. pogonurus</i>	<i>Neomelaniconion</i>
<i>Ae. poicilius</i>	<i>Finlaya</i>
<i>Ae. pollinctor</i>	<i>Zavortinkius</i>
<i>Ae. polynesiensis</i>	<i>Stegomyia</i>
<i>Ae. portonovoensis</i>	<i>Rhinoskusea</i>
<i>Ae. postspiraculosus</i>	<i>Pseudoskusea</i>
<i>Ae. poweri</i>	<i>Stegomyia</i>
<i>Ae. procax</i>	<i>Ochlerotatus</i>
<i>Ae. prominens</i>	<i>Phagomyia</i>
<i>Ae. protolepis</i>	Unassigned
<i>Ae. provocans</i>	<i>Rusticoidus</i>
<i>Ae. pseudalbolineatus</i>	<i>Scutomyia</i>
<i>Ae. pseudalbopictus</i>	<i>Stegomyia</i>
<i>Ae. pseudoafricanus</i>	<i>Stegomyia</i>
<i>Ae. pseudodominicii</i>	<i>Howardina</i>
<i>Ae. pseudonigeria</i>	<i>Stegomyia</i>
<i>Ae. pseudoniveus</i>	<i>Downsiomyia</i>
<i>Ae. pseudonormanensis</i>	<i>Ochlerotatus</i>
<i>Ae. pseudonummatus</i>	<i>Tewarius</i>
<i>Ae. pseudoscutellaris</i>	<i>Stegomyia</i>
<i>Ae. pseudotaeniatus</i>	<i>Collessius</i>
<i>Ae. pseudotarsalis</i>	<i>Catageiomyia</i>
<i>Ae. pubescens</i>	<i>Aedimorphus</i>
<i>Ae. pulchrithorax</i>	<i>Vansomerenis</i>
<i>Ae. pulchriventer</i>	<i>Gilesius</i>
<i>Ae. pulcritarsis</i>	<i>Ochlerotatus</i>
<i>Ae. pullatus</i>	<i>Ochlerotatus</i>
<i>Ae. pulverulentus</i>	<i>Indusius</i>
<i>Ae. punctifemoris</i>	<i>Aedimorphus</i>
<i>Ae. punctipes</i>	<i>Petermattinglyius</i>
<i>Ae. punctocostalis</i>	<i>Neomelaniconion</i>
<i>Ae. punctodes</i>	<i>Ochlerotatus</i>

<i>Ae. punctor</i>	<i>Ochlerotatus</i>
<i>Ae. punctothoracis</i>	<i>Catageiomyia</i>
<i>Ae. purpuraceus</i>	<i>Ochlerotatus</i>
<i>Ae. purpureifemur</i>	<i>Ochlerotatus</i>
<i>Ae. purpureipes</i>	<i>Kompia</i>
<i>Ae. purpureus</i>	<i>Molpemyia</i>
<i>Ae. purpuriventris</i>	<i>Ochlerotatus</i>
<i>Ae. quadripunctis</i>	<i>Mucidus</i>
<i>Ae. quadrivittatus</i>	<i>Howardina</i>
<i>Ae. quasiferinus</i>	<i>Mucidus</i>
<i>Ae. quasirubithorax</i>	Unassigned
<i>Ae. quasirusticus</i>	<i>Rusticoidus</i>
<i>Ae. quasiscutellaris</i>	<i>Stegomyia</i>
<i>Ae. quasiunivittatus</i>	<i>Aedimorphus</i>
<i>Ae. quinquelineatus</i>	<i>Rampamyia</i>
<i>Ae. ramachandrai</i>	<i>Dendroskusea</i>
<i>Ae. ramirezi</i>	<i>Aztecaedes</i>
<i>Ae. ratcliffei</i>	<i>Ochlerotatus</i>
<i>Ae. raymondi</i>	<i>Ochlerotatus</i>
<i>Ae. reali</i>	<i>Catageiomyia</i>
<i>Ae. refiki</i>	<i>Rusticoidus</i>
<i>Ae. reginae</i>	<i>Dendroskusea</i>
<i>Ae. reinerti</i>	<i>Hulecoeteomyia</i>
<i>Ae. rempeli</i>	<i>Ochlerotatus</i>
<i>Ae. reubena</i>	<i>Tewarius</i>
<i>Ae. rhungkiangensis</i>	<i>Stegomyia</i>
<i>Ae. rhyacophilus</i>	<i>Ochlerotatus</i>
<i>Ae. rickenbachi</i>	<i>Aedimorphus</i>
<i>Ae. rimandoi</i>	Unassigned
<i>Ae. riparioides</i>	<i>Ochlerotatus</i>
<i>Ae. riparius</i>	<i>Ochlerotatus</i>
<i>Ae. riversi</i>	<i>Stegomyia</i>
<i>Ae. rizali</i>	<i>Hulecoeteomyia</i>
<i>Ae. roai</i>	Unassigned
<i>Ae. robinsoni</i>	<i>Stegomyia</i>
<i>Ae. rodhaini</i>	<i>Paulianius</i>
<i>Ae. rossicus</i>	<i>Aedes</i>
<i>Ae. rotanus</i>	<i>Stegomyia</i>
<i>Ae. rotumae</i>	<i>Stegomyia</i>
<i>Ae. rubiginosus</i>	Unassigned
<i>Ae. rubrithorax</i>	<i>Dobrotworskyius</i>
<i>Ae. rupestris</i>	<i>Dobrotworskyius</i>
<i>Ae. rusticus</i>	<i>Rusticoidus</i>
<i>Ae. ruwenzori</i>	<i>Stegomyia</i>
<i>Ae. sagax</i>	<i>Ochlerotatus</i>
<i>Ae. saimedres</i>	<i>Stegomyia</i>
<i>Ae. saipanensis</i>	<i>Stegomyia</i>
<i>Ae. sallumae</i>	<i>Ochlerotatus</i>
<i>Ae. samoanus</i>	<i>Finlaya</i>
<i>Ae. sampi</i>	<i>Stegomyia</i>
<i>Ae. sandrae</i>	<i>Protomacleaya</i>
<i>Ae. saperoi</i>	<i>Downsiomyia</i>
<i>Ae. sapiens</i>	<i>Ochlerotatus</i>
<i>Ae. sasai</i>	<i>Aedes</i>
<i>Ae. savoryi</i>	<i>Tanakaius</i>
<i>Ae. saxicola</i>	<i>Hulecoeteomyia</i>
<i>Ae. scanloni</i>	<i>Diceromyia</i>
<i>Ae. scapularis</i>	<i>Ochlerotatus</i>
<i>Ae. scatophagoides</i>	<i>Mucidus</i>
<i>Ae. schicki</i>	<i>Protomacleaya</i>
<i>Ae. schizopinax</i>	<i>Ochlerotatus</i>

<i>Ae. schlosseri</i>	<i>Finlaya</i>
<i>Ae. schroederi</i>	<i>Protomacleaya</i>
<i>Ae. schtakelbergi</i>	<i>Ochlerotatus</i>
<i>Ae. schwetzi</i>	<i>Stegomyia</i>
<i>Ae. scutellaris</i>	<i>Stegomyia</i>
<i>Ae. scutellatum</i>	<i>Ochlerotatus</i>
<i>Ae. scutoscriptus</i>	<i>Stegomyia</i>
<i>Ae. seampi</i>	<i>Stegomyia</i>
<i>Ae. seatoi</i>	<i>Stegomyia</i>
<i>Ae. sedaensis</i>	<i>Ochlerotatus</i>
<i>Ae. segermanae</i>	<i>Stegomyia</i>
<i>Ae. semlikiensis</i>	<i>Aedimorphus</i>
<i>Ae. senyavinensis</i>	<i>Aedimorphus</i>
<i>Ae. seoulensis</i>	<i>Hopkinsius</i>
<i>Ae. septemstriatus</i>	<i>Howardina</i>
<i>Ae. serafini</i>	<i>Ochlerotatus</i>
<i>Ae. sergievi</i>	<i>Ochlerotatus</i>
<i>Ae. serratus</i>	<i>Ochlerotatus</i>
<i>Ae. sexlineatus</i>	<i>Howardina</i>
<i>Ae. seychellensis</i>	<i>Polylepidomyia</i>
<i>Ae. shannoni</i>	<i>Ochlerotatus</i>
<i>Ae. shehzadae</i>	<i>Downsiomyia</i>
<i>Ae. sherki</i>	<i>Hulecoeteomyia</i>
<i>Ae. shorti</i>	<i>Collessius</i>
<i>Ae. sibiricus</i>	<i>Stegomyia</i>
<i>Ae. sierrensis</i>	<i>Jarnellius</i>
<i>Ae. silvestris</i>	<i>Ochlerotatus</i>
<i>Ae. simanini</i>	<i>Ochlerotatus</i>
<i>Ae. simlensis</i>	<i>Himalaius</i>
<i>Ae. simplex</i>	<i>Canraedes</i>
<i>Ae. simpsoni</i>	<i>Stegomyia</i>
<i>Ae. simulans</i>	<i>Elpeytonius</i>
<i>Ae. sinensis</i>	<i>Downsiomyia</i>
<i>Ae. sinkiangensis</i>	<i>Ochlerotatus</i>
<i>Ae. sintoni</i>	Unassigned
<i>Ae. smithburni</i>	<i>Catageiomyia</i>
<i>Ae. soleatus</i>	<i>Stegomyia</i>
<i>Ae. sollicitans</i>	<i>Ochlerotatus</i>
<i>Ae. solomonis</i>	<i>Finlaya</i>
<i>Ae. sorsogonensis</i>	<i>Finlaya</i>
<i>Ae. spencerii</i>	<i>Ochlerotatus</i>
<i>Ae. spilotus</i>	<i>Ochlerotatus</i>
<i>Ae. spinosipes</i>	<i>Macleaya</i>
<i>Ae. spinosus</i>	<i>Howardina</i>
<i>Ae. squamiger</i>	<i>Ochlerotatus</i>
<i>Ae. stanleyi</i>	Unassigned
<i>Ae. stenei</i>	<i>Howardina</i>
<i>Ae. stenoetrus</i>	<i>Aedimorphus</i>
<i>Ae. stenoscutus</i>	<i>Catageiomyia</i>
<i>Ae. stensoni</i>	<i>Phagomyia</i>
<i>Ae. sticticus</i>	<i>Ochlerotatus</i>
<i>Ae. stigmaticus</i>	<i>Ochlerotatus</i>
<i>Ae. stimulans</i>	<i>Ochlerotatus</i>
<i>Ae. stokesi</i>	<i>Albuginosus</i>
<i>Ae. stonei</i>	<i>Finlaya</i>
<i>Ae. stoneorum</i>	<i>Macleaya</i>
<i>Ae. stramineus</i>	<i>Ochlerotatus</i>
<i>Ae. strelitziae</i>	<i>Stegomyia</i>
<i>Ae. stricklandi</i>	<i>Ochlerotatus</i>
<i>Ae. subalbirostris</i>	<i>Ochlerotatus</i>
<i>Ae. subalbitarsis</i>	<i>Patmarksia</i>

<i>Ae. subalbopictus</i>	<i>Stegomyia</i>
<i>Ae. subargenteus</i>	<i>Stegomyia</i>
<i>Ae. subauridorsum</i>	Unassigned
<i>Ae. subbasalis</i>	<i>Dobrotworskyius</i>
<i>Ae. subdentatus</i>	<i>Aedimorphus</i>
<i>Ae. subdiversus</i>	<i>Rusticoidus</i>
<i>Ae. subniveus</i>	<i>Downsiomyia</i>
<i>Ae. subtrichurus</i>	<i>Rusticoidus</i>
<i>Ae. sudanensis</i>	<i>Mucidus</i>
<i>Ae. suffusus</i>	Unassigned
<i>Ae. sumidero</i>	<i>Protomacleaya</i>
<i>Ae. surcoufi</i>	<i>Ochlerotatus</i>
<i>Ae. sychytus</i>	<i>Ochlerotatus</i>
<i>Ae. syntheticus</i>	<i>Aedimorphus</i>
<i>Ae. tabu</i>	<i>Stegomyia</i>
<i>Ae. taeniarostris</i>	<i>Neomelaniconion</i>
<i>Ae. taeniorhynchoides</i>	<i>Aedimorphus</i>
<i>Ae. taeniorhynchus</i>	<i>Ochlerotatus</i>
<i>Ae. tahoensis</i>	<i>Ochlerotatus</i>
<i>Ae. taiwanus</i>	<i>Bruceharrisonius</i>
<i>Ae. tarsalis</i>	<i>Catageiomyia</i>
<i>Ae. tauffliebi</i>	<i>Aedimorphus</i>
<i>Ae. taylori</i>	<i>Diceromyia</i>
<i>Ae. teesdalei</i>	<i>Albuginosus</i>
<i>Ae. tehuantepec</i>	<i>Protomacleaya</i>
<i>Ae. terrens</i>	<i>Protomacleaya</i>
<i>Ae. thailandensis</i>	<i>Paraedes</i>
<i>Ae. thelcter</i>	<i>Ochlerotatus</i>
<i>Ae. theobaldi</i>	<i>Ochlerotatus</i>
<i>Ae. thibaulti</i>	<i>Ochlerotatus</i>
<i>Ae. thomsoni</i>	<i>Christophersiomyia</i>
<i>Ae. thornstoni</i>	<i>Protomacleaya</i>
<i>Ae. thurmanae</i>	<i>Cancraedes</i>
<i>Ae. timorensis</i>	<i>Geoskusea</i>
<i>Ae. tiptoni</i>	<i>Paulianius</i>
<i>Ae. togoi</i>	<i>Tanakaius</i>
<i>Ae. tongae</i>	<i>Stegomyia</i>
<i>Ae. tonkinensis</i>	<i>Collessius</i>
<i>Ae. tonkingi</i>	<i>Mucidus</i>
<i>Ae. tonsus</i>	<i>Geoskusea</i>
<i>Ae. tormentor</i>	<i>Ochlerotatus</i>
<i>Ae. tortilis</i>	<i>Ochlerotatus</i>
<i>Ae. toxopeusi</i>	Unassigned
<i>Ae. tremulus</i>	<i>Macleaya</i>
<i>Ae. treubi</i>	<i>Alanstonea</i>
<i>Ae. triceriatus</i>	Unassigned
<i>Ae. tricholabis</i>	<i>Aedimorphus</i>
<i>Ae. trichurus</i>	<i>Rusticoidus</i>
<i>Ae. trimaculatus</i>	<i>Aedimorphus</i>
<i>Ae. triseriatus</i>	<i>Protomacleaya</i>
<i>Ae. trivittatus</i>	<i>Ochlerotatus</i>
<i>Ae. trukensis</i>	<i>Aedimorphus</i>
<i>Ae. tsiliensis</i>	Unassigned
<i>Ae. tubbutiensis</i>	<i>Dobrotworskyius</i>
<i>Ae. tulagiensis</i>	<i>Stegomyia</i>

<i>Ae. tulliae</i>	<i>Macleaya</i>
<i>Ae. turneri</i>	<i>Ochlerotatus</i>
<i>Ae. tutuilae</i>	<i>Finlaya</i>
<i>Ae. unicinctus</i>	<i>Jihlienius</i>
<i>Ae. unidentatus</i>	Unassigned
<i>Ae. unilineatus</i>	<i>Stegomyia</i>
<i>Ae. upatensis</i>	<i>Ochlerotatus</i>
<i>Ae. upolensis</i>	<i>Stegomyia</i>
<i>Ae. usambara</i>	<i>Stegomyia</i>
<i>Ae. valeryi</i>	<i>Aedes</i>
<i>Ae. vanemdeni</i>	<i>Howardina</i>
<i>Ae. vanus</i>	<i>Downsiomyia</i>
<i>Ae. vargasi</i>	<i>Protomacleaya</i>
<i>Ae. variepictus</i>	<i>Huaedes</i>
<i>Ae. varipalpus</i>	<i>Jarnellius</i>
<i>Ae. varuae</i>	<i>Stegomyia</i>
<i>Ae. veeniae</i>	<i>Caageiomyia</i>
<i>Ae. ventrovittis</i>	<i>Ochlerotatus</i>
<i>Ae. versicolor</i>	Unassigned
<i>Ae. vexans</i>	<i>Aedimorphus</i>
<i>Ae. vigilax</i>	<i>Ochlerotatus</i>
<i>Ae. vinsoni</i>	<i>Stegomyia</i>
<i>Ae. vittatus</i>	<i>Fredwardsius</i>
<i>Ae. vittiger</i>	<i>Ochlerotatus</i>
<i>Ae. wadai</i>	<i>Stegomyia</i>
<i>Ae. w-album</i>	<i>Stegomyia</i>
<i>Ae. walkeri</i>	<i>Howardina</i>
<i>Ae. wallacei</i>	<i>Finlaya</i>
<i>Ae. wardangensis</i>	<i>Halaedes</i>
<i>Ae. wardi</i>	<i>Rhinoskusea</i>
<i>Ae. washinoi</i>	<i>Ochlerotatus</i>
<i>Ae. wasselli</i>	Unassigned
<i>Ae. watasei</i>	<i>Phagomyia</i>
<i>Ae. watteni</i>	<i>Downsiomyia</i>
<i>Ae. wattensis</i>	<i>Macleaya</i>
<i>Ae. wauensis</i>	<i>Huaedes</i>
<i>Ae. wellmanii</i>	<i>Hopkinsius</i>
<i>Ae. wendyae</i>	<i>Catageiomyia</i>
<i>Ae. whartoni</i>	<i>Petermattinglyius</i>
<i>Ae. whitmorei</i>	<i>Howardina</i>
<i>Ae. wigglesworthi</i>	<i>Aedimorphus</i>
<i>Ae. wilkersoni</i>	<i>Kenknightia</i>
<i>Ae. woodi</i>	<i>Stegomyia</i>
<i>Ae. yamadai</i>	<i>Aedes</i>
<i>Ae. yangambiensis</i>	<i>Catageiomyia</i>
<i>Ae. yunnanensis</i>	<i>Hulecoeteomyia</i>
<i>Ae. yvonmeae</i>	<i>Catageiomyia</i>
<i>Ae. zammitii</i>	<i>Acartomyia</i>
<i>Ae. zavortinki</i>	<i>Protomacleaya</i>
<i>Ae. zethus</i>	<i>Paulianius</i>
<i>Ae. zoosophus</i>	<i>Protomacleaya</i>

Culex species	Subgenus
<i>Cx. abnormalis</i>	<i>Culex</i>
<i>Cx. abominator</i>	<i>Melanoconion</i>
<i>Cx. abonnenci</i>	<i>Melanoconion</i>
<i>Cx. accelerans</i>	<i>Aedinus</i>
<i>Cx. acharistus</i>	<i>Culex</i>
<i>Cx. acrostichalis</i>	<i>Eumelanomyia</i>
<i>Cx. aculeatus</i>	<i>Lophoceraomyia</i>
<i>Cx. acutipalpus</i>	<i>Lophoceraomyia</i>
<i>Cx. adairi</i>	<i>Lasiosiphon</i>
<i>Cx. adamesi</i>	<i>Melanoconion</i>
<i>Cx. adami</i>	<i>Eumelanomyia</i>
<i>Cx. adersianus</i>	<i>Eumelanomyia</i>
<i>Cx. aestivus</i>	<i>Lophoceraomyia</i>
<i>Cx. aikenii</i>	Unassigned
<i>Cx. airozai</i>	<i>Phenacomyia</i>
<i>Cx. akritos</i>	<i>Melanoconion</i>
<i>Cx. alani</i>	<i>Culex</i>
<i>Cx. albertianus</i>	<i>Eumelanomyia</i>
<i>Cx. albinensis</i>	<i>Melanoconion</i>
<i>Cx. albinervis</i>	<i>Oculeomyia</i>
<i>Cx. albipes</i>	<i>Microculex</i>
<i>Cx. albirostris</i>	Unassigned
<i>Cx. albiventris</i>	<i>Eumelanomyia</i>
<i>Cx. alcocki</i>	<i>Melanoconion</i>
<i>Cx. aliciae</i>	<i>Melanoconion</i>
<i>Cx. alienus</i>	<i>Culex</i>
<i>Cx. alinkios</i>	<i>Melanoconion</i>
<i>Cx. alis</i>	<i>Culex</i>
<i>Cx. alogistus</i>	<i>Melanoconion</i>
<i>Cx. alorensis</i>	<i>Lophoceraomyia</i>
<i>Cx. alphas</i>	Unassigned
<i>Cx. amaniensis</i>	<i>Eumelanomyia</i>
<i>Cx. amazonensis</i>	<i>Aedinus</i>
<i>Cx. ameliae</i>	<i>Culex</i>
<i>Cx. americanus</i>	Unassigned
<i>Cx. amitis</i>	<i>Melanoconion</i>
<i>Cx. andersoni</i>	<i>Culex</i>
<i>Cx. andreas</i>	<i>Eumelanomyia</i>
<i>Cx. andricus</i>	<i>Melanoconion</i>
<i>Cx. anduzei</i>	<i>Carrollia</i>
<i>Cx. anips</i>	<i>Melanoconion</i>
<i>Cx. annulioris</i>	<i>Oculeomyia</i>
<i>Cx. annulirostris</i>	<i>Culex</i>
<i>Cx. annuliventris</i>	<i>Culex</i>
<i>Cx. annulus</i>	<i>Culex</i>
<i>Cx. anoplicitus</i>	<i>Melanoconion</i>
<i>Cx. antennatus</i>	<i>Culex</i>
<i>Cx. antillummagnorum</i>	<i>Micraedes</i>
<i>Cx. antunesi</i>	<i>Carrollia</i>
<i>Cx. aphyllactus</i>	<i>Microculex</i>
<i>Cx. aphyllus</i>	<i>Melanoconion</i>
<i>Cx. apicalis</i>	<i>Neoculex</i>
<i>Cx. apicinus</i>	<i>Culex</i>
<i>Cx. apicopilosus</i>	Unassigned
<i>Cx. aquarius</i>	<i>Culex</i>
<i>Cx. arawak</i>	<i>Micraedes</i>
<i>Cx. arbieeni</i>	<i>Maillotia</i>
<i>Cx. arboricolus</i>	<i>Melanoconion</i>

<i>Cx. archeus</i>	<i>Culex</i>
<i>Cx. argenteopunctatus</i>	<i>Culex</i>
<i>Cx. arizonensis</i>	<i>Neoculex</i>
<i>Cx. articularis</i>	<i>Culex</i>
<i>Cx. asteliae</i>	<i>Culex</i>
<i>Cx. astridianus</i>	<i>Culex</i>
<i>Cx. atracus</i>	<i>Lophoceraomyia</i>
<i>Cx. atratus</i>	<i>Melanoconion</i>
<i>Cx. atriceps</i>	<i>Culex</i>
<i>Cx. aurantapex</i>	<i>Oceleomyia</i>
<i>Cx. aureonotatus</i>	<i>Melanoconion</i>
<i>Cx. aureus</i>	<i>Microculex</i>
<i>Cx. australicus</i>	<i>Culex</i>
<i>Cx. avianus</i>	<i>Maillotia</i>
<i>Cx. axillicolus</i>	<i>Acallyntrum</i>
<i>Cx. azurini</i>	<i>Culiciomyia</i>
<i>Cx. azymus</i>	<i>Microculex</i>
<i>Cx. babahoyensis</i>	<i>Carrollia</i>
<i>Cx. bahamensis</i>	<i>Culex</i>
<i>Cx. bahiensis</i>	<i>Melanoconion</i>
<i>Cx. bahri</i>	<i>Culiciomyia</i>
<i>Cx. bailyi</i>	<i>Culiciomyia</i>
<i>Cx. baisasi</i>	<i>Eumelanomyia</i>
<i>Cx. bamborum</i>	<i>Anoedioparpa</i>
<i>Cx. bandoengensis</i>	<i>Lophoceraomyia</i>
<i>Cx. banksensis</i>	<i>Culex</i>
<i>Cx. barkerii</i>	<i>Lophoceraomyia</i>
<i>Cx. barraudi</i>	<i>Culex</i>
<i>Cx. barrinus</i>	<i>Culiciomyia</i>
<i>Cx. bastagarius</i>	<i>Melanoconion</i>
<i>Cx. batesi</i>	<i>Melanoconion</i>
<i>Cx. becki</i>	<i>Lophoceraomyia</i>
<i>Cx. bejaranoi</i>	<i>Melanoconion</i>
<i>Cx. belemensis</i>	<i>Anoedioparpa</i>
<i>Cx. belkini</i>	<i>Acallyntrum</i>
<i>Cx. bengalensis</i>	<i>Lophoceraomyia</i>
<i>Cx. bequaerti</i>	<i>Melanoconion</i>
<i>Cx. bergi</i>	<i>Lophoceraomyia</i>
<i>Cx. bernardi</i>	<i>Lophoceraomyia</i>
<i>Cx. beta</i>	<i>Culex</i>
<i>Cx. bhutanensis</i>	Unassigned
<i>Cx. bicki</i>	<i>Acallyntrum</i>
<i>Cx. bicklei</i>	<i>Culex</i>
<i>Cx. bicornutus</i>	<i>Lophoceraomyia</i>
<i>Cx. bidens</i>	<i>Culex</i>
<i>Cx. bifoliolatus</i>	<i>Melanoconion</i>
<i>Cx. bigoti</i>	Unassigned
<i>Cx. bihaicolus</i>	<i>Carrollia</i>
<i>Cx. bihamatus</i>	<i>Culex</i>
<i>Cx. bilineatus</i>	Unassigned
<i>Cx. binigrolineatus</i>	<i>Acallyntrum</i>
<i>Cx. biscaynensis</i>	<i>Micraedes</i>
<i>Cx. bisulcatus</i>	<i>Micraedes</i>
<i>Cx. bitaeniorhynchus</i>	<i>Oculeomyia</i>
<i>Cx. boharti</i>	<i>Neoculex</i>
<i>Cx. bokorensis</i>	<i>Eumelanomyia</i>
<i>Cx. bolii</i>	<i>Lophoceraomyia</i>
<i>Cx. boninensis</i>	<i>Sirivanakarnius</i>
<i>Cx. bonneae</i>	<i>Culex</i>

<i>Cx. bonnei</i>	<i>Carrollia</i>
<i>Cx. bougainvillensis</i>	<i>Acallyntrum</i>
<i>Cx. brachiatus</i>	<i>Melanoconion</i>
<i>Cx. brami</i>	<i>Culex</i>
<i>Cx. brenguesi</i>	<i>Eumelanomyia</i>
<i>Cx. brethesi</i>	<i>Culex</i>
<i>Cx. breviculus</i>	<i>Tinolestes</i>
<i>Cx. brevipalpis</i>	<i>Eumelanomyia</i>
<i>Cx. brevipalpus</i>	<i>Lophoceraomyia</i>
<i>Cx. brevispinosus</i>	<i>Culex</i>
<i>Cx. browni</i>	<i>Anoedioporpa</i>
<i>Cx. brumpti</i>	<i>Culex</i>
<i>Cx. bukavuensis</i>	<i>Culex</i>
<i>Cx. buxtoni</i>	<i>Lophoceraomyia</i>
<i>Cx. cairnsensis</i>	Unassigned
<i>Cx. calabarensis</i>	<i>Eumelanomyia</i>
<i>Cx. calopus</i>	Unassigned
<i>Cx. calurus</i>	<i>Culex</i>
<i>Cx. cambournaci</i>	<i>Culiciomyia</i>
<i>Cx. campilunati</i>	<i>Eumelanomyia</i>
<i>Cx. camposi</i>	<i>Culex</i>
<i>Cx. canaanensis</i>	<i>Anoedioporpa</i>
<i>Cx. cantans</i>	Unassigned
<i>Cx. capensis</i>	Unassigned
<i>Cx. carcinophilus</i>	<i>Melanoconion</i>
<i>Cx. carcinoxenus</i>	<i>Culex</i>
<i>Cx. caribeus</i>	<i>Melanoconion</i>
<i>Cx. carioca</i>	<i>Microculex</i>
<i>Cx. carleti</i>	<i>Culex</i>
<i>Cx. carolinensis</i>	<i>Lophoceraomyia</i>
<i>Cx. castaneus</i>	<i>Lophoceraomyia</i>
<i>Cx. castelli</i>	<i>Culex</i>
<i>Cx. castor</i>	<i>Eumelanomyia</i>
<i>Cx. castrensis</i>	<i>Eumelanomyia</i>
<i>Cx. castroi</i>	<i>Phytotelmatomyia</i>
<i>Cx. cataractarum</i>	<i>Eumelanomyia</i>
<i>Cx. cauchensis</i>	<i>Tinolestes</i>
<i>Cx. caudatus</i>	<i>Melanoconion</i>
<i>Cx. caudelli</i>	<i>Melanoconion</i>
<i>Cx. cedecei</i>	<i>Melanoconion</i>
<i>Cx. ceramensis</i>	<i>Culiciomyia</i>
<i>Cx. cerqueirai</i>	<i>Carrollia</i>
<i>Cx. chaetovernalis</i>	<i>Neoculex</i>
<i>Cx. chaguanco</i>	<i>Anoedioporpa</i>
<i>Cx. changuinolae</i>	<i>Melanoconion</i>
<i>Cx. chauveti</i>	<i>Eumelanomyia</i>
<i>Cx. cheesmanae</i>	<i>Neoculex</i>
<i>Cx. cheni</i>	<i>Culiciomyia</i>
<i>Cx. chidesteri</i>	<i>Culex</i>
<i>Cx. chitae</i>	<i>Culex</i>
<i>Cx. chorleyi</i>	<i>Culex</i>
<i>Cx. christiani</i>	<i>Lophoceraomyia</i>
<i>Cx. chryselatus</i>	<i>Microculex</i>
<i>Cx. chrysothorax</i>	Unassigned
<i>Cx. cinctellus</i>	<i>Lophoceraomyia</i>
<i>Cx. cinerellus</i>	<i>Culiciomyia</i>
<i>Cx. clarki</i>	<i>Melanoconion</i>
<i>Cx. clastrieri</i>	<i>Aedinus</i>
<i>Cx. coeruleus</i>	<i>Lophoceraomyia</i>
<i>Cx. collessi</i>	<i>Lophoceraomyia</i>
<i>Cx. columnaris</i>	Unassigned

<i>Cx. comatus</i>	<i>Melanoconion</i>
<i>Cx. commevynensis</i>	<i>Melanoconion</i>
<i>Cx. comminator</i>	<i>Melanoconion</i>
<i>Cx. comorensis</i>	<i>Culex</i>
<i>Cx. comptus</i>	Unassigned
<i>Cx. confundior</i>	<i>Melanoconion</i>
<i>Cx. conservator</i>	<i>Anoedioporpa</i>
<i>Cx. consimilis</i>	Unassigned
<i>Cx. consolator</i>	<i>Microculex</i>
<i>Cx. conspirator</i>	<i>Melanoconion</i>
<i>Cx. contei</i>	<i>Melanoconion</i>
<i>Cx. copenamensis</i>	<i>Melanoconion</i>
<i>Cx. corentynensis</i>	<i>Melanoconion</i>
<i>Cx. corniger</i>	<i>Phenacomyia</i>
<i>Cx. cornutus</i>	<i>Oculeomyia</i>
<i>Cx. coronator</i>	<i>Culex</i>
<i>Cx. corrigani</i>	<i>Anoedioporpa</i>
<i>Cx. cottlei</i>	<i>Lophoceraomyia</i>
<i>Cx. covagarciai</i>	<i>Culex</i>
<i>Cx. crassicomus</i>	<i>Lophoceraomyia</i>
<i>Cx. crassistylus</i>	<i>Neoculex</i>
<i>Cx. creole</i>	<i>Melanoconion</i>
<i>Cx. crinicauda</i>	<i>Culex</i>
<i>Cx. cristovaoi</i>	<i>Melanoconion</i>
<i>Cx. crowei</i>	<i>Lophoceraomyia</i>
<i>Cx. crybda</i>	<i>Melanoconion</i>
<i>Cx. cubiculi</i>	<i>Lophoceraomyia</i>
<i>Cx. cubitatus</i>	<i>Lophoceraomyia</i>
<i>Cx. cubuculi</i>	Unassigned
<i>Cx. curtipalpis</i>	<i>Lophoceraomyia</i>
<i>Cx. curvibrachius</i>	<i>Culex</i>
<i>Cx. cuyanus</i>	<i>Culex</i>
<i>Cx. cylindricus</i>	<i>Lophoceraomyia</i>
<i>Cx. damascenoi</i>	<i>Anoedioporpa</i>
<i>Cx. damnatorum</i> (fossil)	Unassigned
<i>Cx. daumastocampa</i>	<i>Microculex</i>
<i>Cx. davisii</i>	<i>Microculex</i>
<i>Cx. decens</i>	<i>Culex</i>
<i>Cx. declarator</i>	<i>Culex</i>
<i>Cx. decorator</i>	Unassigned
<i>Cx. delfinadoe</i>	<i>Culiciomyia</i>
<i>Cx. delpontei</i>	<i>Melanoconion</i>
<i>Cx. delys</i>	<i>Culex</i>
<i>Cx. demeilloni</i>	<i>Culex</i>
<i>Cx. demissus</i>	<i>Lophoceraomyia</i>
<i>Cx. derivator</i>	<i>Neoculex</i>
<i>Cx. deserticola</i>	<i>Maillotia</i>
<i>Cx. diamphidius</i>	<i>Melanoconion</i>
<i>Cx. diengensis</i>	<i>Culex</i>
<i>Cx. digoelensis</i>	<i>Lophoceraomyia</i>
<i>Cx. diplophyllum</i>	<i>Culex</i>
<i>Cx. dispectus</i>	<i>Culiciomyia</i>
<i>Cx. distinguendus</i>	<i>Melanoconion</i>
<i>Cx. dohenyi</i>	<i>Culex</i>
<i>Cx. dolichophyllus</i>	<i>Melanoconion</i>
<i>Cx. dolosus</i>	<i>Culex</i>
<i>Cx. douglasi</i>	<i>Neoculex</i>
<i>Cx. dubitans</i>	<i>Microculex</i>
<i>Cx. dumbletoni</i>	<i>Neoculex</i>
<i>Cx. dunni</i>	<i>Melanoconion</i>
<i>Cx. duplicator</i>	<i>Culex</i>

<i>Cx. dureti</i>	<i>Melanoconion</i>
<i>Cx. durhami</i>	<i>Lophoceraomyia</i>
<i>Cx. duttoni</i>	<i>Culex</i>
<i>Cx. dyius</i>	<i>Melanoconion</i>
<i>Cx. eastor</i>	<i>Melanoconion</i>
<i>Cx. eduardoi</i>	<i>Culex</i>
<i>Cx. educator</i>	<i>Melanoconion</i>
<i>Cx. edwardsi</i>	<i>Culex</i>
<i>Cx. egcymon</i>	<i>Melanoconion</i>
<i>Cx. eknomios</i>	<i>Melanoconion</i>
<i>Cx. eldridgei</i>	<i>Belkinomyia</i>
<i>Cx. elephas</i>	<i>Melanoconion</i>
<i>Cx. elevator</i>	<i>Melanoconion</i>
<i>Cx. ellinorae</i>	Unassigned
<i>Cx. elongatus</i>	<i>Microculex</i>
<i>Cx. eminentia</i>	<i>Lophoceraomyia</i>
<i>Cx. ensiformis</i>	<i>Melanoconion</i>
<i>Cx. epanastasis</i>	<i>Melanoconion</i>
<i>Cx. epidesmus</i>	<i>Oceleomyia</i>
<i>Cx. epirus</i>	Unassigned
<i>Cx. equinoxialis</i>	<i>Melanoconion</i>
<i>Cx. erethyzonfer</i>	<i>Micraedes</i>
<i>Cx. erikae</i> (fossil)	Unassigned
<i>Cx. ernanii</i>	<i>Melanoconion</i>
<i>Cx. ernsti</i>	<i>Melanoconion</i>
<i>Cx. erraticus</i>	<i>Melanoconion</i>
<i>Cx. erythrothorax</i>	<i>Culex</i>
<i>Cx. eukrines</i>	<i>Lophoceraomyia</i>
<i>Cx. europaeus</i>	<i>Neoculex</i>
<i>Cx. evansae</i>	<i>Melanoconion</i>
<i>Cx. fairchildi</i>	<i>Melanoconion</i>
<i>Cx. fasciatus</i>	Unassigned
<i>Cx. fasciolatus</i>	Unassigned
<i>Cx. fasyi</i>	<i>Culex</i>
<i>Cx. faurani</i>	<i>Melanoconion</i>
<i>Cx. femineus</i>	<i>Eumelanomyia</i>
<i>Cx. fergusonii</i>	<i>Neoculex</i>
<i>Cx. fernandezi</i>	<i>Culex</i>
<i>Cx. ferreri</i>	<i>Melanoconion</i>
<i>Cx. fimbriforceps</i>	<i>Eumelanomyia</i>
<i>Cx. flabellifer</i>	<i>Melanoconion</i>
<i>Cx. flavicornis</i>	<i>Lophoceraomyia</i>
<i>Cx. flavovirens</i>	Unassigned
<i>Cx. flavus</i> (fossil)	Unassigned
<i>Cx. flochi</i>	<i>Melanoconion</i>
<i>Cx. foliaceus</i>	<i>Culex</i>
<i>Cx. foliafer</i>	<i>Melanoconion</i>
<i>Cx. foliatus</i>	<i>Eumelanomyia</i>
<i>Cx. fragilis</i>	<i>Culiciomyia</i>
<i>Cx. fraudatrix</i>	<i>Lophoceraomyia</i>
<i>Cx. fulleri</i>	<i>Lophoceraomyia</i>
<i>Cx. furlongi</i>	<i>Culiciomyia</i>
<i>Cx. fuscicinctus</i>	<i>Culiciomyia</i>
<i>Cx. fuscocephala</i>	<i>Culex</i>
<i>Cx. gagnei</i>	<i>Lophoceraomyia</i>
<i>Cx. gairus</i>	<i>Microculex</i>
<i>Cx. galindoi</i>	<i>Melanoconion</i>
<i>Cx. galliardi</i>	<i>Eumelanomyia</i>
<i>Cx. galvaoui</i>	<i>Melanoconion</i>
<i>Cx. gameti</i>	<i>Culex</i>
<i>Cx. gamma</i>	<i>Neoculex</i>

<i>Cx. ganapathi</i>	<i>Lophoceraomyia</i>
<i>Cx. garcesi</i>	<i>Melanoconion</i>
<i>Cx. garciai</i>	<i>Culex</i>
<i>Cx. garioui</i>	<i>Eumelanomyia</i>
<i>Cx. gaudeator</i>	<i>Microculex</i>
<i>Cx. gaufini</i>	<i>Neoculex</i>
<i>Cx. gelidus</i>	<i>Culex</i>
<i>Cx. geminus</i>	<i>Oculeomyia</i>
<i>Cx. germaini</i>	<i>Eumelanomyia</i>
<i>Cx. gibbulus</i>	<i>Lophoceraomyia</i>
<i>Cx. giganteus</i>	<i>Oculeomyia</i>
<i>Cx. gilliesi</i>	<i>Culiciomyia</i>
<i>Cx. globocoxitus</i>	<i>Culex</i>
<i>Cx. glyptosalpinx</i>	<i>Melanoconion</i>
<i>Cx. gnomatos</i>	<i>Melanoconion</i>
<i>Cx. gossi</i>	<i>Lophoceraomyia</i>
<i>Cx. gracicornis</i>	<i>Lophoceraomyia</i>
<i>Cx. grahamii</i>	<i>Culex</i>
<i>Cx. grandiosus</i>	Unassigned
<i>Cx. gravitator</i>	<i>Melanoconion</i>
<i>Cx. grenieri</i>	<i>Culiciomyia</i>
<i>Cx. gressitti</i>	<i>Lophoceraomyia</i>
<i>Cx. guayasi</i>	<i>Culex</i>
<i>Cx. guedesii</i>	<i>Melanoconion</i>
<i>Cx. guerreroi</i>	<i>Carrollia</i>
<i>Cx. guiarti</i>	<i>Culex</i>
<i>Cx. guizhouensis</i>	<i>Culex</i>
<i>Cx. guttatus</i>	Unassigned
<i>Cx. guyanensis</i>	<i>Aedinus</i>
<i>Cx. habilitator</i>	<i>Culex</i>
<i>Cx. hackeri</i>	<i>Eumelanomyia</i>
<i>Cx. hainanensis</i>	Unassigned
<i>Cx. halifaxii</i>	Unassigned
<i>Cx. hamoni</i>	<i>Eumelanomyia</i>
<i>Cx. hancocki</i>	<i>Culex</i>
<i>Cx. harleyi</i>	<i>Culiciomyia</i>
<i>Cx. harrisoni</i>	<i>Culiciomyia</i>
<i>Cx. hayashii</i>	<i>Eumelanomyia</i>
<i>Cx. hedys</i>	<i>Microculex</i>
<i>Cx. helenae</i>	<i>Eumelanomyia</i>
<i>Cx. hepperi</i>	<i>Phytotelmatomyia</i>
<i>Cx. herrerae</i>	<i>Melanoconion</i>
<i>Cx. hewitti</i>	<i>Lophoceraomyia</i>
<i>Cx. hilli</i>	<i>Lophoceraomyia</i>
<i>Cx. hinglungensis</i>	<i>Eumelanomyia</i>
<i>Cx. hirtipalpis</i>	<i>Lophoceraomyia</i>
<i>Cx. hopkinsi</i>	<i>Culex</i>
<i>Cx. horridus</i>	<i>Eumelanomyia</i>
<i>Cx. hortensis</i>	<i>Maillotia</i>
<i>Cx. huangae</i>	<i>Culex</i>
<i>Cx. humilis</i>	Unassigned
<i>Cx. hurlbuti</i>	<i>Lophoceraomyia</i>
<i>Cx. hutchinsoni</i>	<i>Culex</i>
<i>Cx. idottus</i>	<i>Melanoconion</i>
<i>Cx. ikelos</i>	<i>Melanoconion</i>
<i>Cx. imitator</i>	<i>Microculex</i>
<i>Cx. impositor</i>	<i>Lophoceraomyia</i>
<i>Cx. impudicus</i>	<i>Neoculex</i>
<i>Cx. inadmiraibilis</i>	<i>Melanoconion</i>
<i>Cx. inatomii</i>	<i>Barraudius</i>
<i>Cx. incognitus</i>	<i>Culex</i>

<i>Cx. incomptus</i>	<i>Lophoceraomyia</i>
<i>Cx. inconspicuus</i>	<i>Eumelanomyia</i>
<i>Cx. inculus</i>	<i>Lophoceraomyia</i>
<i>Cx. indecorabilis</i>	<i>Melanoconion</i>
<i>Cx. inextricabilis</i>	<i>Melanoconion</i>
<i>Cx. infantulus</i>	<i>Lophoceraomyia</i>
<i>Cx. inflictus</i>	<i>Culex</i>
<i>Cx. infoliatius</i>	<i>Carrollia</i>
<i>Cx. infula</i>	<i>Oculeomyia</i>
<i>Cx. ingrami</i>	<i>Culex</i>
<i>Cx. inhibitor</i>	<i>Melanoconion</i>
<i>Cx. inimitabilis</i>	<i>Microculex</i>
<i>Cx. innovator</i>	<i>Melanoconion</i>
<i>Cx. inornatus</i>	Unassigned
<i>Cx. insequens</i>	Unassigned
<i>Cx. insigniforceps</i>	<i>Carrollia</i>
<i>Cx. insignis</i>	<i>Eumelanomyia</i>
<i>Cx. insularis</i>	<i>Lophoceraomyia</i>
<i>Cx. interfor</i>	<i>Culex</i>
<i>Cx. intermedius</i>	<i>Microculex</i>
<i>Cx. interrogator</i>	<i>Culex</i>
<i>Cx. intonsus</i>	<i>Melanoconion</i>
<i>Cx. intricatus</i>	<i>Melanoconion</i>
<i>Cx. invidiosus</i>	<i>Culex</i>
<i>Cx. invocator</i>	<i>Melanoconion</i>
<i>Cx. iolambdis</i>	<i>Melanoconion</i>
<i>Cx. iphis</i>	<i>Eumelanomyia</i>
<i>Cx. iridescens</i>	<i>Carrollia</i>
<i>Cx. isabelae</i>	<i>Melanoconion</i>
<i>Cx. iyengari</i>	<i>Culex</i>
<i>Cx. jacksoni</i>	<i>Culex</i>
<i>Cx. jalisco</i>	<i>Micraedes</i>
<i>Cx. janitor</i>	<i>Culex</i>
<i>Cx. javanensis</i>	<i>Culiciomyia</i>
<i>Cx. jefferyi</i>	<i>Eumelanomyia</i>
<i>Cx. jenningsi</i>	<i>Microculex</i>
<i>Cx. jenseni</i>	<i>Lophoceraomyia</i>
<i>Cx. jocasta</i>	<i>Melanoconion</i>
<i>Cx. johni</i>	<i>Neoculex</i>
<i>Cx. johnnyi</i>	<i>Melanoconion</i>
<i>Cx. johnsoni</i>	<i>Melanoconion</i>
<i>Cx. josephineae</i>	<i>Lophoceraomyia</i>
<i>Cx. jubifer</i>	<i>Melanoconion</i>
<i>Cx. judaicus</i>	<i>Neoculex</i>
<i>Cx. kanyamwerima</i>	<i>Eumelanomyia</i>
<i>Cx. katezari</i>	Unassigned
<i>Cx. kaviengensis</i>	<i>Lophoceraomyia</i>
<i>Cx. kazanjii</i>	<i>Melanoconion</i>
<i>Cx. kesseli</i>	<i>Culex</i>
<i>Cx. khazani</i>	<i>Eumelanomyia</i>
<i>Cx. kilara</i>	<i>Eumelanomyia</i>
<i>Cx. kinabaluensis</i>	<i>Oculeomyia</i>
<i>Cx. kingianus</i>	<i>Eumelanomyia</i>
<i>Cx. kiriensis</i>	<i>Eumelanomyia</i>
<i>Cx. kompi</i>	<i>Carrollia</i>
<i>Cx. kowiroensis</i>	<i>Lophoceraomyia</i>
<i>Cx. kuhnsi</i>	<i>Lophoceraomyia</i>
<i>Cx. kukenan</i>	<i>Microculex</i>
<i>Cx. kummi</i>	<i>Melanoconion</i>
<i>Cx. kusaiensis</i>	<i>Lophoceraomyia</i>
<i>Cx. kyotoensis</i>	<i>Culiciomyia</i>

<i>Cx. lacertosus</i>	<i>Melanoconion</i>
<i>Cx. lactator</i>	<i>Phenacomyia</i>
<i>Cx. laffooni</i>	<i>Lophoceraomyia</i>
<i>Cx. lahillei</i>	<i>Culex</i>
<i>Cx. lairdi</i>	<i>Lophoceraomyia</i>
<i>Cx. lakei</i>	<i>Lophoceraomyia</i>
<i>Cx. lampangensis</i>	<i>Culiciomyia</i>
<i>Cx. lanei</i>	<i>Microculex</i>
<i>Cx. lanzaroi</i>	Unassigned
<i>Cx. laplantei</i>	<i>Eumelanomyia</i>
<i>Cx. lasiopalpis</i>	<i>Lophoceraomyia</i>
<i>Cx. laticinctus</i>	<i>Culex</i>
<i>Cx. laticlasper</i>	<i>Culex</i>
<i>Cx. latifoliatius</i>	<i>Eumelanomyia</i>
<i>Cx. latisquama</i>	<i>Tinolestes</i>
<i>Cx. latus</i>	<i>Neoculex</i>
<i>Cx. laureli</i>	<i>Eumelanomyia</i>
<i>Cx. lavatae</i>	<i>Lophoceraomyia</i>
<i>Cx. leei</i>	<i>Lophoceraomyia</i>
<i>Cx. leonardi</i>	<i>Neoculex</i>
<i>Cx. levicastilloi</i>	<i>Culex</i>
<i>Cx. liberiensis</i>	<i>Culiciomyia</i>
<i>Cx. limacifer</i>	<i>Melanoconion</i>
<i>Cx. lineatus</i>	<i>Afroculex</i>
<i>Cx. litoralis</i>	<i>Culex</i>
<i>Cx. litwakae</i>	<i>Culex</i>
<i>Cx. longicornis</i>	<i>Oculeomyia</i>
<i>Cx. longisetosus</i>	Unassigned
<i>Cx. longistylus</i>	Unassigned
<i>Cx. longitubus</i>	Unassigned
<i>Cx. lopesi</i>	<i>Melanoconion</i>
<i>Cx. lucaris</i>	<i>Lophoceraomyia</i>
<i>Cx. lucifugus</i>	<i>Melanoconion</i>
<i>Cx. lugens</i>	Unassigned
<i>Cx. luteopleurus</i>	<i>Anoedioporpa</i>
<i>Cx. luzonensis</i>	<i>Oculeomyia</i>
<i>Cx. lygrus</i>	<i>Culex</i>
<i>Cx. macdonaldi</i>	<i>Lophoceraomyia</i>
<i>Cx. macfieii</i>	<i>Culiciomyia</i>
<i>Cx. machadoi</i>	<i>Phytotelmatomyia</i>
<i>Cx. macrostylus</i>	<i>Eumelanomyia</i>
<i>Cx. maculatus</i>	Unassigned
<i>Cx. madininensis</i>	<i>Melanoconion</i>
<i>Cx. malariager (fossil)</i>	Unassigned
<i>Cx. malayensis</i>	<i>Eumelanomyia</i>
<i>Cx. malayi</i>	<i>Eumelanomyia</i>
<i>Cx. mammilifer</i>	<i>Lophoceraomyia</i>
<i>Cx. manusensis</i>	<i>Eumelanomyia</i>
<i>Cx. maplei</i>	<i>Culiciomyia</i>
<i>Cx. maracayensis</i>	<i>Culex</i>
<i>Cx. marksae</i>	<i>Lophoceraomyia</i>
<i>Cx. marquesensis</i>	<i>Culex</i>
<i>Cx. martinezi</i>	<i>Melanoconion</i>
<i>Cx. martinii</i>	<i>Neoculex</i>
<i>Cx. mattinglyi</i>	<i>Culex</i>
<i>Cx. mauensis</i>	<i>Culex</i>
<i>Cx. maxi</i>	<i>Culex</i>
<i>Cx. maxinocca</i>	<i>Melanoconion</i>
<i>Cx. megafolius</i>	<i>Eumelanomyia</i>
<i>Cx. megaonychus</i>	<i>Culiciomyia</i>
<i>Cx. mesodenticulatus</i>	<i>Melanoconion</i>

<i>Cx. metempsychus</i>	<i>Carrollia</i>
<i>Cx. miaolingensis</i>	<i>Eumelanomyia</i>
<i>Cx. micolo</i>	<i>Eumelanomyia</i>
<i>Cx. microphyllus</i>	<i>Microculex</i>
<i>Cx. microtaeniata</i>	Unassigned
<i>Cx. mijanae</i>	<i>Eumelanomyia</i>
<i>Cx. millironi</i>	<i>Neoculex</i>
<i>Cx. milloti</i>	<i>Culiciomyia</i>
<i>Cx. milwardi</i>	<i>Melanoconion</i>
<i>Cx. mimeticus</i>	<i>Culex</i>
<i>Cx. mimuloides</i>	<i>Culex</i>
<i>Cx. mimulus</i>	<i>Culex</i>
<i>Cx. mindanaoensis</i>	Unassigned
<i>Cx. minjensis</i>	<i>Lophoceraomyia</i>
<i>Cx. minor</i>	<i>Lophoceraomyia</i>
<i>Cx. minutissimus</i>	<i>Lophoceraomyia</i>
<i>Cx. minutus</i>	Unassigned
<i>Cx. miraculosus</i>	<i>Culex</i>
<i>Cx. mirificus</i>	<i>Culex</i>
<i>Cx. misionensis</i>	<i>Melanoconion</i>
<i>Cx. miyagii</i>	<i>Acallyntrum</i>
<i>Cx. modestus</i>	<i>Barraudius</i>
<i>Cx. mohani</i>	<i>Eumelanomyia</i>
<i>Cx. molestus</i>	Unassigned
<i>Cx. mollis</i>	<i>Culex</i>
<i>Cx. mongiro</i>	<i>Culiciomyia</i>
<i>Cx. moucheti</i>	<i>Kitzmilleria</i>
<i>Cx. mulrennani</i>	<i>Melanoconion</i>
<i>Cx. mundulus</i>	<i>Culex</i>
<i>Cx. murrelli</i>	<i>Culex</i>
<i>Cx. muruae</i>	<i>Lophoceraomyia</i>
<i>Cx. musarum</i>	<i>Culex</i>
<i>Cx. muspratti</i>	<i>Culiciomyia</i>
<i>Cx. mutator</i>	<i>Melanoconion</i>
<i>Cx. nailoni</i>	<i>Culiciomyia</i>
<i>Cx. nakuruensis</i>	<i>Culex</i>
<i>Cx. navalis</i>	<i>Lophoceraomyia</i>
<i>Cx. neavei</i>	<i>Culex</i>
<i>Cx. nebulosus</i>	<i>Culiciomyia</i>
<i>Cx. neglectus</i>	<i>Microculex</i>
<i>Cx. nicaroensis</i>	<i>Nicaromyia</i>
<i>Cx. nicceriensis</i>	<i>Melanoconion</i>
<i>Cx. niger</i>	<i>Lophoceraomyia</i>
<i>Cx. nigricorpus</i>	Unassigned
<i>Cx. nigrimacula</i>	Unassigned
<i>Cx. nigripalpus</i>	<i>Culex</i>
<i>Cx. nigropunctatus</i>	<i>Culiciomyia</i>
<i>Cx. nilgircus</i>	Unassigned
<i>Cx. ninagongoensis</i>	<i>Culex</i>
<i>Cx. novaeguineae</i>	Unassigned
<i>Cx. oblita</i>	Unassigned
<i>Cx. obscurus</i>	<i>Acalloemyia</i>
<i>Cx. ocellatus</i>	Unassigned
<i>Cx. ocosa</i>	<i>Melanoconion</i>
<i>Cx. oedipus</i>	<i>Melanoconion</i>
<i>Cx. okinawae</i>	<i>Eumelanomyia</i>
<i>Cx. olimpioi</i>	<i>Melanoconion</i>
<i>Cx. omani</i>	<i>Culex</i>
<i>Cx. orbostiensis</i>	<i>Lophoceraomyia</i>
<i>Cx. oresbius</i>	<i>Eumelanomyia</i>
<i>Cx. orfilai</i>	<i>Melanoconion</i>

<i>Cx. orientalis</i>	<i>Culex</i>
<i>Cx. originator</i>	<i>Anoedioporpa</i>
<i>Cx. ornatothoracis</i>	<i>Culex</i>
<i>Cx. orstom</i>	<i>Eumelanomyia</i>
<i>Cx. otachati</i>	<i>Eumelanomyia</i>
<i>Cx. ousqua</i>	<i>Culex</i>
<i>Cx. oweni</i>	<i>Lophoceraomyia</i>
<i>Cx. pacificus</i>	<i>Culex</i>
<i>Cx. paioji</i>	<i>Lophoceraomyia</i>
<i>Cx. pajoti</i>	<i>Culex</i>
<i>Cx. palaciosi</i>	<i>Melanoconion</i>
<i>Cx. pallidiceps</i>	<i>Acallyntrum</i>
<i>Cx. pallidothorax</i>	<i>Culiciomyia</i>
<i>Cx. pallipes</i>	Unassigned
<i>Cx. palpalis</i>	<i>Culex</i>
<i>Cx. pandani</i>	<i>Culiciomyia</i>
<i>Cx. panocossa</i>	<i>Melanoconion</i>
<i>Cx. papuensis</i>	<i>Culiciomyia</i>
<i>Cx. paracrybda</i>	<i>Melanoconion</i>
<i>Cx. paraculeatus</i>	<i>Lophoceraomyia</i>
<i>Cx. paramaxi</i>	<i>Culex</i>
<i>Cx. patientiae</i>	<i>Melanoconion</i>
<i>Cx. pavlovskyi</i>	<i>Melanoconion</i>
<i>Cx. peccator</i>	<i>Melanoconion</i>
<i>Cx. pedicellus</i>	<i>Neoculex</i>
<i>Cx. pedroi</i>	<i>Melanoconion</i>
<i>Cx. penai</i>	<i>Melanoconion</i>
<i>Cx. perexiguus</i>	<i>Culex</i>
<i>Cx. pereyrai</i>	<i>Melanoconion</i>
<i>Cx. perfidiosus</i>	<i>Culex</i>
<i>Cx. perfuscus</i>	<i>Culex</i>
<i>Cx. peringueyi</i>	<i>Maillotia</i>
<i>Cx. perkinsi</i>	<i>Acallyntrum</i>
<i>Cx. perplexus</i>	<i>Culex</i>
<i>Cx. perryi</i>	<i>Lophoceraomyia</i>
<i>Cx. pervigilans</i>	<i>Culex</i>
<i>Cx. petersi</i>	<i>Lophoceraomyia</i>
<i>Cx. peytoni</i>	<i>Lophoceraomyia</i>
<i>Cx. phangngae</i>	<i>Eumelanomyia</i>
<i>Cx. philipi</i>	<i>Culex</i>
<i>Cx. philippinensis</i>	<i>Culex</i>
<i>Cx. phlabistus</i>	<i>Melanoconion</i>
<i>Cx. phlogistus</i>	<i>Melanoconion</i>
<i>Cx. pholeter</i>	<i>Lophoceraomyia</i>
<i>Cx. phyllados</i>	<i>Melanoconion</i>
<i>Cx. pifanoi</i>	<i>Melanoconion</i>
<i>Cx. pilifemoralis</i>	<i>Lophoceraomyia</i>
<i>Cx. pilosus</i>	<i>Melanoconion</i>
<i>Cx. pinarocampa</i>	<i>Culex</i>
<i>Cx. pipiens</i>	<i>Culex</i>
<i>Cx. plectoporpe</i>	<i>Melanoconion</i>
<i>Cx. pleuristriatus</i>	<i>Microculex</i>
<i>Cx. plicatus</i>	<i>Culex</i>
<i>Cx. pluvialis</i>	<i>Eumelanomyia</i>
<i>Cx. poicilipes</i>	<i>Oculeomyia</i>
<i>Cx. portesi</i>	<i>Melanoconion</i>
<i>Cx. postspiraculosus</i>	<i>Neoculex</i>
<i>Cx. productus</i>	<i>Melanoconion</i>
<i>Cx. propinquus</i>	<i>Culex</i>
<i>Cx. prosecutor</i>	<i>Culex</i>
<i>Cx. protorhinus</i> (fossil)	Unassigned

<i>Cx. pruina</i>	<i>Culex</i>
<i>Cx. psatharus</i>	<i>Melanoconion</i>
<i>Cx. pseudoandreas</i>	<i>Eumelanomyia</i>
<i>Cx. pseudoanthinosoma</i>	<i>Culex</i>
<i>Cx. pseudomelanoconia</i>	<i>Neoculex</i>
<i>Cx. pseudopruina</i>	<i>Culex</i>
<i>Cx. pseudornatus</i>	<i>Lophoceraomyia</i>
<i>Cx. pseudorubithoracis</i>	<i>Lophoceraomyia</i>
<i>Cx. pseudosinensis</i>	<i>Oculeomyia</i>
<i>Cx. pseudostigmatosoma</i>	<i>Culex</i>
<i>Cx. pseudosubaequalis</i>	Unassigned
<i>Cx. pseudovishnui</i>	<i>Culex</i>
<i>Cx. pulicarius</i>	Unassigned
<i>Cx. pulidoi</i>	<i>Microculex</i>
<i>Cx. pullus</i>	<i>Culiciomyia</i>
<i>Cx. punctiscapularis</i>	Unassigned
<i>Cx. pusillus</i>	<i>Barraudius</i>
<i>Cx. putumayensis</i>	<i>Melanoconion</i>
<i>Cx. quadrifoliatus</i>	<i>Melanoconion</i>
<i>Cx. quadripalpis</i>	<i>Lophoceraomyia</i>
<i>Cx. quasiguiarti</i>	<i>Culex</i>
<i>Cx. quasihibridus</i>	<i>Melanoconion</i>
<i>Cx. quasioriginator</i>	<i>Anoedioporpa</i>
<i>Cx. quettensis</i>	<i>Maillotia</i>
<i>Cx. quinquefasciatus</i>	<i>Culex</i>
<i>Cx. quintetti</i>	<i>Eumelanomyia</i>
<i>Cx. quiquefasciatus</i>	Unassigned
<i>Cx. quitensis</i>	<i>Culex</i>
<i>Cx. rabanicolus</i>	<i>Melanoconion</i>
<i>Cx. rabelloi</i>	<i>Melanoconion</i>
<i>Cx. rachoui</i>	<i>Melanoconion</i>
<i>Cx. raghavanii</i>	<i>Lophoceraomyia</i>
<i>Cx. rajah</i>	<i>Culiciomyia</i>
<i>Cx. rajaneae</i>	<i>Lophoceraomyia</i>
<i>Cx. ramakrishnii</i>	<i>Culiciomyia</i>
<i>Cx. ramalingami</i>	<i>Culiciomyia</i>
<i>Cx. rausseoi</i>	<i>Carrollia</i>
<i>Cx. reducens</i>	<i>Microculex</i>
<i>Cx. reevesi</i>	<i>Neoculex</i>
<i>Cx. reginae</i>	<i>Microculex</i>
<i>Cx. reidi</i>	<i>Lophoceraomyia</i>
<i>Cx. rejector</i>	<i>Microculex</i>
<i>Cx. renatoi</i>	<i>Phytotelmatomyia</i>
<i>Cx. reptans</i>	Unassigned
<i>Cx. restrictor</i>	<i>Anoedioporpa</i>
<i>Cx. restuans</i>	<i>Culex</i>
<i>Cx. ribeirensis</i>	<i>Melanoconion</i>
<i>Cx. richardgarciai</i>	<i>Eumelanomyia</i>
<i>Cx. richei</i>	<i>Eumelanomyia</i>
<i>Cx. richeti</i>	<i>Barraudius</i>
<i>Cx. rima</i>	<i>Eumelanomyia</i>
<i>Cx. riojanus</i>	<i>Culex</i>
<i>Cx. romeroi</i>	Unassigned
<i>Cx. ronderosi</i>	<i>Melanoconion</i>
<i>Cx. rooti</i>	<i>Melanoconion</i>
<i>Cx. rorotaensis</i>	<i>Melanoconion</i>
<i>Cx. roseni</i>	<i>Culex</i>
<i>Cx. rotoruae</i>	<i>Culex</i>
<i>Cx. rubensis</i>	<i>Neoculex</i>
<i>Cx. rubinotus</i>	<i>Eumelanomyia</i>
<i>Cx. rubithoracis</i>	<i>Lophoceraomyia</i>

<i>Cx. ruthae</i>	<i>Culiciomyia</i>
<i>Cx. ryukyensis</i>	<i>Culiciomyia</i>
<i>Cx. ryukyuanus</i>	<i>Eumelanomyia</i>
<i>Cx. sacchettae</i>	<i>Melanoconion</i>
<i>Cx. salinarius</i>	<i>Culex</i>
<i>Cx. salisburyensis</i>	<i>Maillotia</i>
<i>Cx. saltanensis</i>	<i>Culex</i>
<i>Cx. samoensis</i>	<i>Oculeomyia</i>
<i>Cx. sandrae</i>	<i>Micraedes</i>
<i>Cx. sangengluoensis</i>	<i>Lophoceraomyia</i>
<i>Cx. saramaccensis</i>	<i>Melanoconion</i>
<i>Cx. sardinerae</i>	<i>Melanoconion</i>
<i>Cx. sasai</i>	<i>Culiciomyia</i>
<i>Cx. scanloni</i>	<i>Culiciomyia</i>
<i>Cx. scheuberi</i>	<i>Culex</i>
<i>Cx. schicki</i>	<i>Micraedes</i>
<i>Cx. schilfgaardei</i>	<i>Lophoceraomyia</i>
<i>Cx. schwetzi</i>	<i>Culex</i>
<i>Cx. scimitar</i>	<i>Culex</i>
<i>Cx. scottii</i>	<i>Culex</i>
<i>Cx. sechani</i>	<i>Culex</i>
<i>Cx. secundus</i>	<i>Carrollia</i>
<i>Cx. secutor</i>	<i>Culex</i>
<i>Cx. sedlacecae</i>	<i>Lophoceraomyia</i>
<i>Cx. selai</i>	<i>Eumelanomyia</i>
<i>Cx. selangorensis</i>	<i>Oculeomyia</i>
<i>Cx. seldeslachtsi</i>	<i>Culex</i>
<i>Cx. semibrunneus</i>	<i>Culiciomyia</i>
<i>Cx. seniori</i>	<i>Lophoceraomyia</i>
<i>Cx. serratimarge</i>	<i>Melanoconion</i>
<i>Cx. seyrigi</i>	<i>Maillotia</i>
<i>Cx. shanahani</i>	<i>Lophoceraomyia</i>
<i>Cx. shebbearei</i>	<i>Culiciomyia</i>
<i>Cx. shoae</i>	<i>Culex</i>
<i>Cx. shopei</i>	<i>Microculex</i>
<i>Cx. silvai</i>	<i>Melanoconion</i>
<i>Cx. simplicicornis</i>	<i>Eumelanomyia</i>
<i>Cx. simpliciforceps</i>	<i>Eumelanomyia</i>
<i>Cx. simpsoni</i>	<i>Culex</i>
<i>Cx. simulator</i>	<i>Melanoconion</i>
<i>Cx. sinaiticus</i>	<i>Culex</i>
<i>Cx. sinensis</i>	<i>Oculeomyia</i>
<i>Cx. singhbhumensis</i>	Unassigned
<i>Cx. singuawaensis</i>	<i>Lophoceraomyia</i>
<i>Cx. siphnulatus</i>	<i>Microculex</i>
<i>Cx. sitiens</i>	<i>Culex</i>
<i>Cx. solitarius</i>	<i>Culex</i>
<i>Cx. solomonis</i>	<i>Lophoceraomyia</i>
<i>Cx. soperi</i>	<i>Carrollia</i>
<i>Cx. spathifurca</i>	<i>Culiciomyia</i>
<i>Cx. spathulatus</i>	<i>Melanoconion</i>
<i>Cx. spec</i>	Unassigned
<i>Cx. sphinx</i>	<i>Culex</i>
<i>Cx. spiculostylus</i>	<i>Culiciomyia</i>
<i>Cx. spiculosus</i>	<i>Lophoceraomyia</i>
<i>Cx. spinifer</i>	Unassigned
<i>Cx. spinosus</i>	<i>Culex</i>
<i>Cx. spissipes</i>	<i>Melanoconion</i>
<i>Cx. squamosus</i>	<i>Oculeomyia</i>
<i>Cx. starckeae</i>	<i>Oculeomyia</i>
<i>Cx. steffani</i>	<i>Lophoceraomyia</i>

<i>Cx. stellatus</i>	<i>Eumelanomyia</i>
<i>Cx. stenolepis</i>	<i>Culex</i>
<i>Cx. stercoreus</i>	Unassigned
<i>Cx. stigmatosoma</i>	<i>Culex</i>
<i>Cx. stonei</i>	<i>Microculex</i>
<i>Cx. striatipes</i>	<i>Culex</i>
<i>Cx. subaequalis</i>	<i>Culiciomyia</i>
<i>Cx. submarginalis</i>	<i>Lophoceraomyia</i>
<i>Cx. suborientalis</i>	Unassigned
<i>Cx. subrima</i>	<i>Eumelanomyia</i>
<i>Cx. subsalisburiensis</i>	<i>Maillotia</i>
<i>Cx. sumatranus</i>	<i>Lophoceraomyia</i>
<i>Cx. summosus</i>	<i>Culex</i>
<i>Cx. sunyaniensis</i>	<i>Eumelanomyia</i>
<i>Cx. surinamensis</i>	<i>Culex</i>
<i>Cx. sursumptor</i>	<i>Melanoconion</i>
<i>Cx. sutili</i>	<i>Microculex</i>
<i>Cx. symbletos</i>	<i>Melanoconion</i>
<i>Cx. szemaoensis</i>	<i>Lophoceraomyia</i>
<i>Cx. taeniopus</i>	<i>Melanoconion</i>
<i>Cx. tamsi</i>	<i>Culex</i>
<i>Cx. tanzaniae</i> (fossil)	Unassigned
<i>Cx. tarsalis</i>	<i>Culex</i>
<i>Cx. tatoi</i>	<i>Culex</i>
<i>Cx. tauffliebi</i>	<i>Eumelanomyia</i>
<i>Cx. tecmarsis</i>	<i>Melanoconion</i>
<i>Cx. telesilla</i>	<i>Culex</i>
<i>Cx. tenagius</i>	<i>Culex</i>
<i>Cx. tenuipalpis</i>	<i>Eumelanomyia</i>
<i>Cx. terebor</i>	<i>Melanoconion</i>
<i>Cx. termi</i>	<i>Culiciomyia</i>
<i>Cx. territans</i>	<i>Neoculex</i>
<i>Cx. terzii</i>	<i>Culex</i>
<i>Cx. thalassius</i>	<i>Culex</i>
<i>Cx. theileri</i>	<i>Culex</i>
<i>Cx. theobaldi</i>	<i>Melanoconion</i>
<i>Cx. thriambus</i>	<i>Culex</i>
<i>Cx. thurmanorum</i>	<i>Culiciomyia</i>
<i>Cx. tianpingensis</i>	<i>Culex</i>
<i>Cx. tigripes</i>	Unassigned
<i>Cx. toroensis</i>	<i>Culex</i>
<i>Cx. torrentium</i>	<i>Culex</i>
<i>Cx. tournieri</i>	<i>Melanoconion</i>
<i>Cx. toviensis</i>	<i>Culex</i>
<i>Cx. tramazayguesi</i>	<i>Allimanta</i>
<i>Cx. traubi</i>	<i>Lophoceraomyia</i>
<i>Cx. tricuspis</i>	<i>Culiciomyia</i>
<i>Cx. trifidus</i>	<i>Melanoconion</i>
<i>Cx. trifilatus</i>	<i>Culex</i>
<i>Cx. trifoliatus</i>	<i>Culex</i>
<i>Cx. trigeminatus</i>	<i>Melanoconion</i>
<i>Cx. trilobulatus</i>	<i>Melanoconion</i>
<i>Cx. trisetosus</i>	<i>Melanoconion</i>
<i>Cx. tritaeniorhynchus</i>	<i>Culex</i>
<i>Cx. tsengi</i>	<i>Culex</i>
<i>Cx. tuberis</i>	<i>Lophoceraomyia</i>
<i>Cx. umbripes</i>	<i>Culex</i>

<i>Cx. uncinatus</i>	<i>Eumelanomyia</i>
<i>Cx. unicornis</i>	<i>Melanoconion</i>
<i>Cx. uniformis</i>	<i>Lophoceraomyia</i>
<i>Cx. univittatus</i>	<i>Culex</i>
<i>Cx. urichii</i>	<i>Carrollia</i>
<i>Cx. usquatissimus</i>	<i>Culex</i>
<i>Cx. usquatus</i>	<i>Culex</i>
<i>Cx. vagans</i>	<i>Culex</i>
<i>Cx. vansomereni</i>	<i>Culex</i>
<i>Cx. variatus</i>	<i>Lophoceraomyia</i>
<i>Cx. variegatus</i>	Unassigned
<i>Cx. vattieri</i>	<i>Eumelanomyia</i>
<i>Cx. vaxus</i>	<i>Melanoconion</i>
<i>Cx. vectensis</i> (fossil)	Unassigned
<i>Cx. ventrilloni</i>	<i>Culex</i>
<i>Cx. versabilis</i>	<i>Lophoceraomyia</i>
<i>Cx. verutus</i>	<i>Culex</i>
<i>Cx. vexillifer</i>	<i>Melanoconion</i>
<i>Cx. vicinus</i>	<i>Culex</i>
<i>Cx. vidali</i>	<i>Melanoconion</i>
<i>Cx. vinckei</i>	<i>Eumelanomyia</i>
<i>Cx. virgultus</i>	Unassigned
<i>Cx. viridis</i>	Unassigned
<i>Cx. viridiventer</i>	<i>Culiciomyia</i>
<i>Cx. vishnui</i>	<i>Culex</i>
<i>Cx. vomerifer</i>	<i>Melanoconion</i>
<i>Cx. vulgaris</i>	Unassigned
<i>Cx. walukasi</i>	<i>Lophoceraomyia</i>
<i>Cx. wamanguae</i>	<i>Lophoceraomyia</i>
<i>Cx. wannonii</i>	<i>Carrollia</i>
<i>Cx. wansonii</i>	<i>Eumelanomyia</i>
<i>Cx. wardi</i>	<i>Lophoceraomyia</i>
<i>Cx. watti</i>	<i>Culex</i>
<i>Cx. wepsterae</i>	<i>Melanoconion</i>
<i>Cx. weschei</i>	<i>Culex</i>
<i>Cx. whartoni</i>	<i>Lophoceraomyia</i>
<i>Cx. whitei</i>	<i>Culex</i>
<i>Cx. whitmorei</i>	<i>Culex</i>
<i>Cx. whittingtoni</i>	<i>Culex</i>
<i>Cx. wigglesworthi</i>	<i>Eumelanomyia</i>
<i>Cx. wilfredi</i>	<i>Lophoceraomyia</i>
<i>Cx. wilsoni</i>	<i>Carrollia</i>
<i>Cx. winchesteri</i> (fossil)	Unassigned
<i>Cx. winkleri</i>	<i>Lophoceraomyia</i>
<i>Cx. worontzowi</i>	<i>Microculex</i>
<i>Cx. xenophobus</i>	<i>Microculex</i>
<i>Cx. yaoi</i>	<i>Culiciomyia</i>
<i>Cx. ybarmis</i>	<i>Melanoconion</i>
<i>Cx. yeageri</i>	<i>Eumelanomyia</i>
<i>Cx. yojoae</i>	<i>Culex</i>
<i>Cx. zeteki</i>	<i>Melanoconion</i>
<i>Cx. zombaensis</i>	<i>Culex</i>

Mansonia species	Subgenera
<i>Ma. africana</i>	<i>Mansonioides</i>
<i>Ma. amazonensis</i>	<i>Mansonia</i>
<i>Ma. annulata</i>	<i>Mansonioides</i>
<i>Ma. annulifera</i>	<i>Mansonioides</i>
<i>Ma. bonneae</i>	<i>Mansonioides</i>
<i>Ma. cerqueirai</i>	<i>Mansonia</i>
<i>Ma. chagasi</i>	<i>Mansonia</i>
<i>Ma. dives</i>	<i>Mansonioides</i>
<i>Ma. dyari</i>	<i>Mansonia</i>
<i>Ma. flaveola</i>	<i>Mansonia</i>
<i>Ma. fonsecai</i>	<i>Mansonia</i>
<i>Ma. humeralis</i>	<i>Mansonia</i>
<i>Ma. iguassuensis</i>	<i>Mansonia</i>
<i>Ma. indiana</i>	<i>Mansonioides</i>

<i>Ma. indubitans</i>	<i>Mansonia</i>
<i>Ma. leberi</i>	<i>Mansonia</i>
<i>Ma. martinii</i> (fossil)	Unassigned
<i>Ma. melanesiensis</i>	<i>Mansonioides</i>
<i>Ma. papuensis</i>	<i>Mansonioides</i>
<i>Ma. pessoai</i>	<i>Mansonia</i>
<i>Ma. pseudotitillans</i>	<i>Mansonia</i>
<i>Ma. septempunctata</i>	<i>Mansonioides</i>
<i>Ma. suarezi</i>	<i>Mansonia</i>
<i>Ma. titillans</i>	<i>Mansonia</i>
<i>Ma. uniformis</i>	<i>Mansonioides</i>
<i>Ma. varivestita</i> (fossil)	Unassigned
<i>Ma. wilsoni</i>	<i>Mansonia</i>

Parasite morphology: Mosquitoes have four developmental stages: eggs, larvae (four instars), pupae, and adults (or imagos). Adult mosquitoes lay ellipsoidal eggs 1-4 mm in length on the surface of freshwater sources. The outer eggshell (chorion) often has intricate surface structures in specific patterns, and *Culex* eggs have a cup-shaped corolla at one end. *Aedes* spp. lay single eggs without lateral floats, *Culex* spp. lay clusters of up to 300 eggs in floating rafts, and *Mansonia* spp. lay star-shaped clusters in floating rafts. Mosquito larvae (wigglers or wigglers) have dark tubular bodies with a small rounded head, globular thorax and elongate segmented abdomen. The head has chewing mouthparts with an anterior mouth brush, 2 lateral antennae and 2 eyes comprised of clusters of lateral ocelli. The thorax is often highly setate and the abdomen terminates in 2 lateral branches, one being the anal segment with long setae in conspicuous brushes and the other being a barrel-shaped siphon containing respiratory spiracles (air tubes) (absent in anopheline larvae). The wigglers swim to the water surface at frequent intervals to breathe through the posterior siphon by adopting a head-down angled posture (whereas anopheline larvae lay parallel to the water surface). The larvae moult four times, and at the fourth instar may reach a length of almost 13 mm. Mosquito pupae (tumblers) have comma-shaped bodies with the head and thorax fused to form a cephalothorax with the abdomen curled underneath. Developing appendages of the adult head and thorax may be observed within the cephalothorax which also contains an air pocket for buoyancy. The dorsal mesothorax bears a pair of respiratory tubes (air trumpets) and the abdomen terminates in a pair of paddle-like projections. Adult mosquitoes are small winged insects with slender bodies up to 15 mm long, elongate mouthparts, thin legs and narrow wings. Their bodies are covered with scales, setae and fine hairs which give distinctive marking for each species. *Aedes* spp. have distinctive black and white markings on their legs and bodies, *Culex* spp. are often covered with brown-black scales giving them a dark appearance, and *Mansonia* spp. are dark brown-black with speckles on their wings and legs. The body is divided into 3 conspicuous regions: a rounded head; an oval thorax; and an elongate segmented abdomen. When at rest, adult culicine mosquitoes do not raise their abdomens in the air (whereas anopheline mosquitoes do). The head bears 2 large fronto-lateral compound eyes (each with hundreds of ommatidial lenses), 2 long filamentous segmented antennae (plumose in males and pilose in females), 2 sensory maxillary palps (short in females and long brush-like in males) (in contrast, female anopheline mosquitoes have long palps) and complex piercing-sucking mouthparts forming a long forward-projecting proboscis (often as long as the head and thorax combined). The proboscis consists of a delicate labium forming a protective sheath for the other stylet-like mouthparts (fascicle comprising labrum, mandibles, hypopharynx and maxillae) and ends in 2 small sensory labella. The mandibles (with pointed tips) and maxillae (with serrated tips) are used to puncture skin, and then the labrum (with curled edges) fits together with the mandibles to form a tubular food canal while the hypopharynx forms a salivary canal. In female mosquitoes, the mouthparts are used to draw up blood from vertebrate hosts or sugar solutions from plants, while in males, the mandibles and maxillae have atrophied so they cannot pierce skin. Food is taken up by the muscular cibarial and pharyngeal pumps into the tubular oesophagus where dilute fluids (plant sugars) are shunted for temporary storage into saccular diverticula (ventral diverticulum often called the crop) whereas nutrient-rich foods (blood) are routed through the proventricular valve to the tubular midgut (for digestion), hindgut (connected to Malpighian excretory tubules), bulbous rectum and terminal anus. The thorax has 2 pairs of respiratory spiracles and is covered by a rigid scutum with a posterior lobe-like scutellum and distinctive bristles (setae absent from prespiracular area for *Aedes* and *Mansonia*, and absent from both prespiracular and postspiracular areas for *Culex*). Dorsally, the thorax is the point of attachment for a pair of slender membranous wings with small squamae framed by prominent veins (distinctive pattern of costa (C), subcosta (Sc), radius (R), media (M), cubitus (Cu) and anal (A) primary veins and branches, with at least 10 veins reaching the wing margins). The wing veins and posterior wing margin are covered with narrow scales, light in colour for *Aedes* and *Culex*, and speckled (mixed light and dark) for *Mansonia* (but never with patches of dark scales like anophelines). A small pair of club-like halteres (highly reduced hindwings) are also present posteriorly and are thought to help stabilize flight. Ventrally, the thorax gives rise to 3 pairs of long thin legs, each consisting of 5 segments (coxa, trochanter, femur, tibia and tarsus) with the terminal tarsi carrying 2 claws and pulvilli surrounding a central pad (empodium). The claws on the forelegs may be simple (*Culex* females), toothed (*Culex* males, *Aedes* males and females) or lacking spurs (*Mansonia*), and the pulvilli may be large (*Culex*), small (*Aedes*, some *Mansonia*) or absent (some *Mansonia*). The abdomen is clearly segmented and capable of massive expansion (to accommodate large meals and developing eggs) due to membranous areas between each set of tergites and sternites. The posterior abdomen may be pointed

(*Aedes*) or blunt (*Culex*, *Mansonia*) and is often densely covered with scales (patterned in *Aedes*, not so in *Culex*). Typically, 7 pairs of spiracles are found along the edges of the abdomen segments, and paired gonads are located within the posterior abdomen. The terminal abdominal segments are often modified by genital structures (ventral gonopores, female postgenital lobes (cerci), and male terminalia (including claspers)). Mature males have 2 testes with tubular vas deferens leading to a seminal vesicle (with lateral accessory glands) connected to a tubular ejaculatory duct that discharges through a retractable aedeagus (penis). Female mosquitoes have 2 ovaries (with polytrophic ovarioles) whose ducts unite to form a common oviduct connected to the gonopore via a genital chamber associated with spermathecae (for sperm storage) and small accessory glands.

Site of infection: All developmental stages are free-living with eggs, larvae and pupae occurring in aquatic habitats and adult mosquitoes flying free over terrestrial habitats. Larval instars feed on organic material in water by filtering or gathering suspended material, scraping or shredding material from substrates and plants, and some species even prey on small aquatic invertebrates. Pupae are non-feeding stages undergoing metamorphosis from grub-like stages to winged insects. Adult mosquitoes of both sexes may feed on sugary solutions (plant nectar) to derive energy for growth and flight, but only female mosquitoes feed on blood from vertebrate hosts (bloodmeal required for sexual maturation and reproduction). Females may feed on a wide variety of hosts (mammals, birds, reptiles, amphibians) that are locally available, although many species have strong host preferences for particular host species (especially ungulates, carnivores, rodents and birds). *Aedes* spp. feed preferentially on small to large mammals (including cattle, sheep, horses and humans) as well as nesting and foraging birds and small reptiles. *Culex* spp. feed mostly on birds but may attack livestock, humans and some reptiles. *Mansonia* spp. feed predominantly on birds and some mammals (including humans). Most species are nocturnal feeders and the greatest biodiversity (species richness) occurs in tropical and subtropical regions followed by temperate zones.

Pathogenesis: Mosquitoes are painful and persistent biters – females may feed several times from the same or different hosts. Female mosquitoes probe host surfaces with their palps and proboscis and then penetrate the skin with their long fascicle of stylets which exsheath from the covering labium. They can penetrate many skin types (thick, thin, dry, moist, scaly), even through light coverings of matted hair, feathers and clothing. They feed on blood from dermal capillary beds, aided by injecting saliva containing potent chemicals that negatively affect vascular constriction, blood clotting, platelet aggregation, angiogenesis and immunity (universally, hematophagous arthropod saliva contains at least one anticlotting, one anti-platelet, and one vasodilatory substance). Mosquito bites become inflamed, characterised by localised rubor (redness), calor (heat), tumor (swelling) and dolor (itching). The bite itself then resolves spontaneously and has few serious consequences to the host unless an allergic reaction results. Some hosts become hypersensitive to mosquito bites and may exhibit immediate reactions within minutes (caused by type I hypersensitivity evident as wheal-and-flare skin inflammation) or delayed reactions occurring 1-2 days later (due to type IV hypersensitivity evident as erythematous lesions caused by cellular immune responses). Some hosts may even develop papular dermatitis with cutaneous oedema, epidermal ulceration, crusting, and alopecia. Mosquitoes are persistent nuisances to their vertebrates hosts which can become highly annoyed and irritated expending significant energy in aversion behaviours to escape predation. Livestock under persistent attack may fail to feed efficiently and exhibit poor growth, lowered weight gain and reduced milk production. In favourable seasons (suitable habitats and conducive climates), mosquito swarms can become so dense that their cumulative feeding may cause significant blood loss, resulting in transient anaemia. Bite sites can be prone to secondary bacterial infections, particularly if the skin is abraded through self-trauma (biting, scratching, rubbing). In addition to acting as voracious parasites in their own right, mosquitoes may also act as biological vectors for the transmission of many infectious diseases; notably those caused by viruses (esp. togaviruses, flaviviruses and bunyaviruses, collectively known as “arbo-viruses” (= arthropod-borne viruses)), protozoa (especially haemosporidia causing malaria*) and nematodes (filarial worms). Mosquitoes are not known to act as biological vectors for bacteria, although some mosquito species have been found to mechanically transfer bacterial species causing tularaemia and anthrax. Epidemiological and experimental studies have revealed *Culex* spp. to be efficient transmitters of yellow fever, West Nile virus, avian malaria, canine heartworm, *Setaria* filarial nematodes, and human lymphatic filariasis (caused by *Wuchereria bancrofti*). *Aedes* spp. transmit yellow fever, dengue, Zika virus, equine encephalitis virus, avian malaria, canine heartworm, and human lymphatic filariasis (caused by *W. bancrofti*), while *Mansonia* spp. transmit human lymphatic filariasis (caused by *W. bancrofti* and *Brugia* species). [*Note that the *Plasmodium* spp. causing malaria in humans are transmitted exclusively by anopheline mosquitoes, while culicine mosquitoes may act as vectors for *Plasmodium* spp. infecting birds, reptiles and some non-human mammals].

Developmental cycle and mode of transmission: Adult mosquitoes are free-flying whereas eggs, larvae and pupae are aquatic. The rate of development and longevity of the aquatic stages depends largely on prevailing environmental conditions, each stage usually taking several days but taking longer (several weeks) in more temperate regions (eggs and/or larvae of some species even overwintering). Female mosquitoes are oviparous and lay eggs in stagnant water or on moist substrates, anywhere from marsh wetlands (esp. *Aedes*) to organically-enriched standing waters (esp. *Culex*) and floating plants (*Mansonia*), including natural reservoirs (terrestrial and arboreal) and even temporary water-filled containers (such as plastic buckets). They are generally absent from large lakes and fast-flowing streams and rivers. Eggs are laid either singly (*Aedes*) or in clusters gathered together into floating rafts (*Culex*, *Mansonia*). Eggs immersed in water often hatch within 24 hours whereas those attached to neighbouring substrates may survive for several weeks to months until sufficient water stimulates hatching. Emergent larvae are free-swimming and feed on organic detritus and aquatic micro-organisms using elaborate mouth structures to filter/gather suspended material, scrape/shred

material from substrates or prey on aquatic micro-organisms. Culicine larvae hang suspended head-down from the water surface and breathe through prominent air tubes emerging from a lateral siphon (in contrast, anopheline larvae lie parallel to the water surface and breathe through posterior spiracles). Larvae pass through 4 instars over 3-20 days depending on the species and water temperature. The last larval stage forms a non-feeding pupal stage in which metamorphosis to an adult occurs over 1-7 days. The pupae usually remain at the water surface and breathe air using prothoracic respiratory siphons, but they can be highly mobile when disturbed. Adult mosquitoes emerge from the pupal case onto the surface of the water or adjacent substrates where they rest until their bodies dry and harden. When resting, culicine mosquitoes typically hold their abdomens parallel to the substrate with their proboscis angled down (in contrast, anopheline mosquitoes hold their proboscis and abdomen in line, oblique to the substrate). Both male and female mosquitoes feed on sugar solutions derived from plants (notably nectar) and mating may occur within 24 hours of emergence. However, the females of most species are anautogenous and require a bloodmeal from a vertebrate host to complete their gonotrophic cycles, although some species are autogenous and may complete their first cycle without feeding on blood. Most mosquitoes feed on hosts at dusk or dawn (crepuscular) or during the night (nocturnal), although some *Aedes* spp. are day-biters. They find hosts using a range of olfactory, visual, thermal and tactile cues (especially, carbon dioxide, lactic acid, octenol, dark/contrasting and moving objects, body warmth, air currents). Some species readily enter dwellings for blood meals (endophagic) and to rest (endophilic). Culicine mosquitoes are generally weak fliers and do not move far, rarely flying over 1-2 km. Adults live from a week or two to several months, depending on the species, gender, season and environmental conditions. Culicine species are usually most abundant during warm summer months.

Differential diagnosis: Host reactions to mosquito bites are nonspecific and vary in onset, duration and severity. Most attacks go unnoticed by the host, although some individual mosquitoes may be observed before, during or after feeding. Hypersensitive individuals may develop dermatitis with persistent wheals and urticaria. The identification of mosquito species relies on the capture and microscopic examination of adults for characteristic morphological features (notably wing scale patterns and length of palps). A variety of molecular biological techniques have endeavored to detect specific gene sequences in mosquito extracts following polymerase chain reaction (PCR) amplification in order to identify possible sources of bloodmeals, indicate phylogenetic relationships between different mosquitoes, and detect infectious micro-organisms carried by mosquitoes.

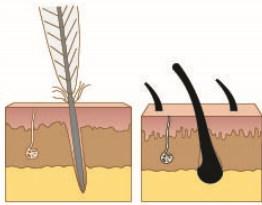
Treatment and control: There are currently no direct treatments for mosquito bites, apart from providing symptomatic relief using corticosteroids, antihistamines and anti-pruritic lotions, especially in allergic patients. Various insecticides have been developed to kill adult mosquitoes, most being available as aerosol sprays containing organophosphates (coumaphos, chlorfenvinphos, diazinon, dioxathion, fenchlorvos, malathion, phosmet, stirofos, trichlorfon), carbamates or pyrethrins (permethrin, cyfluthrin, cypermethrin). Some formulations may also be incorporated into dust-bags or impregnated into eartags which can also be attached to animal collars or halters. Various traps have been developed to bait and immobilize or electrocute flying insects, and a range of insect repellents are available as sprays or lotions, including those containing diethyltoluamide (DEET). Many control programs have been based on spraying structures with insecticides exhibiting long-lasting residual activity, but their success has been compromised by the emergence of insecticide resistance by mosquito populations. Adopting behaviours to avoid mosquito contact have long been used in the management of human and animal populations, particularly housing individuals indoors (houses, barns, stables), installing barriers (doors and windows with screens, bed nets) and covering exposed skin (preferably with clothing impregnated with insect repellents). Reducing mosquito larvae populations has proven very successful, mainly by eliminating potential breeding sites (swamps, ditches, puddles, etc) and spraying water sources with chemicals to kill, smother or starve larvae. Some measure of biological control has also been achieved by using natural predators (mosquito fish and dragonflies) to reduce larval populations, using natural pathogens (microsporidian parasites and *Wolbachia* bacteria) to reduce mosquito fitness, and releasing sterilized males or transgenically modified mosquitoes. Many countries have proactively adopted multiple forms of mosquito control into their public health management programs in attempts to curb the transmission of the many devastating infectious diseases carried by mosquitoes.

Aedes

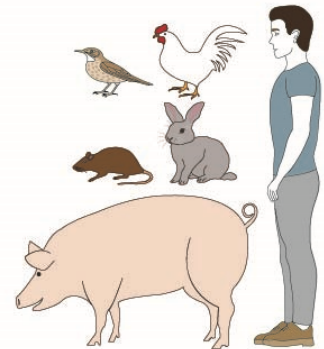
adult mosquitoes
(dorsal) (~ 14 mm)

male

female

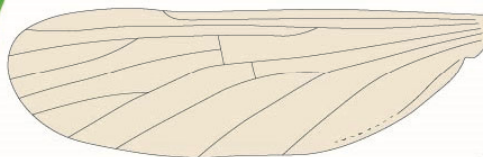


skin
(blood loss, annoyance,
inflammation, allergy)
(vectors for infectious
microbial diseases)

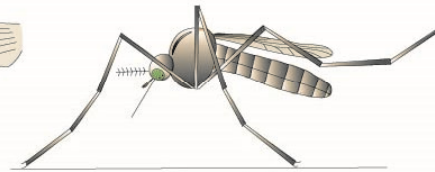


Definitive Hosts
(mammals, birds)

adults free-flying, females transient ectoparasites
(require bloodmeal for reproduction)



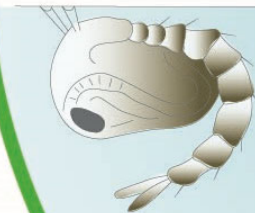
wing venation



resting posture

eclosion

eggs laid
on water
or moist
substrates



pupa
(~ 8 mm)



eggs
(~ 2 mm)

hatch

complete
(holometabolous)
metamorphosis

free-swimming feeding
larval stages ('wigglers')
(~ 10 mm)

development in aquatic habitats,
esp. marsh wetlands



PHIL-9253

Aedes adult



PHIL-20799

Aedes eggs



Aedes larvae



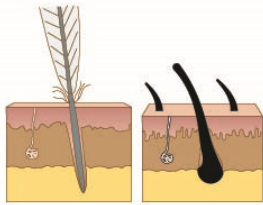
Aedes pupa

Culex

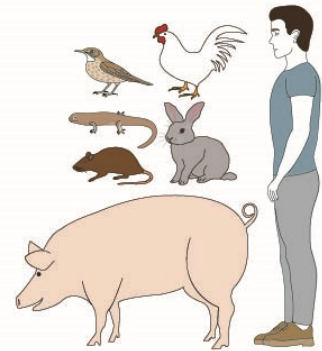
adult mosquitoes
(dorsal) (~ 15 mm)

male

female



skin
(blood loss, annoyance,
inflammation, allergy)
(vectors for infectious
microbial diseases)

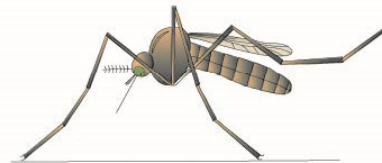


Definitive Hosts
(mammals, birds,
reptiles)

adults free-flying, females transient ectoparasites
(require bloodmeal for reproduction)

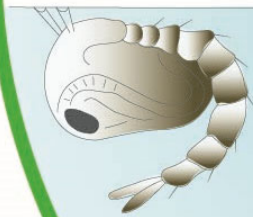


wing venation



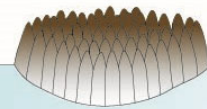
resting posture

eclosion



pupa
(~ 4 mm)

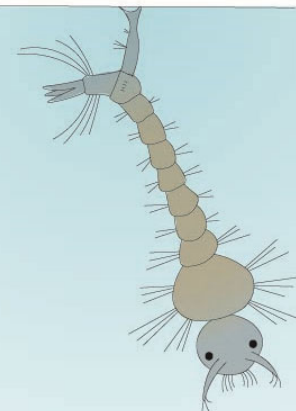
complete
(holometabolous)
metamorphosis



eggs
(~ 2 mm)

eggs laid
on water
or moist
substrates

hatch



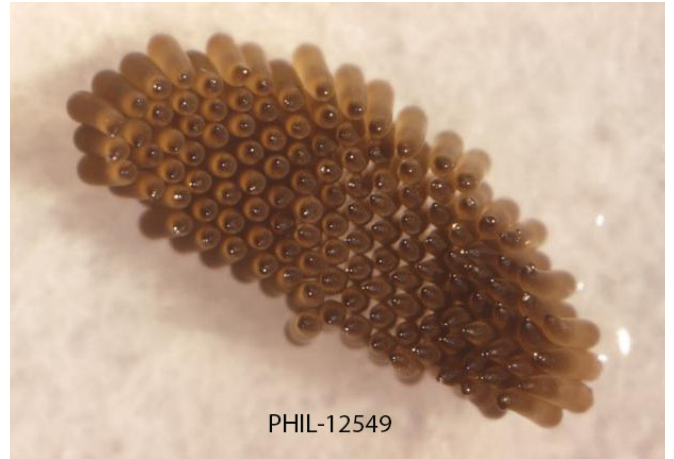
free-swimming feeding
larval stages ('wrigglers')
(~ 10 mm)

development in aquatic habitats,
esp. organically-enriched standing waters



PHIL-26024

Culex adult



PHIL-12549

Culex eggs



PHIL-26020

Culex larvae

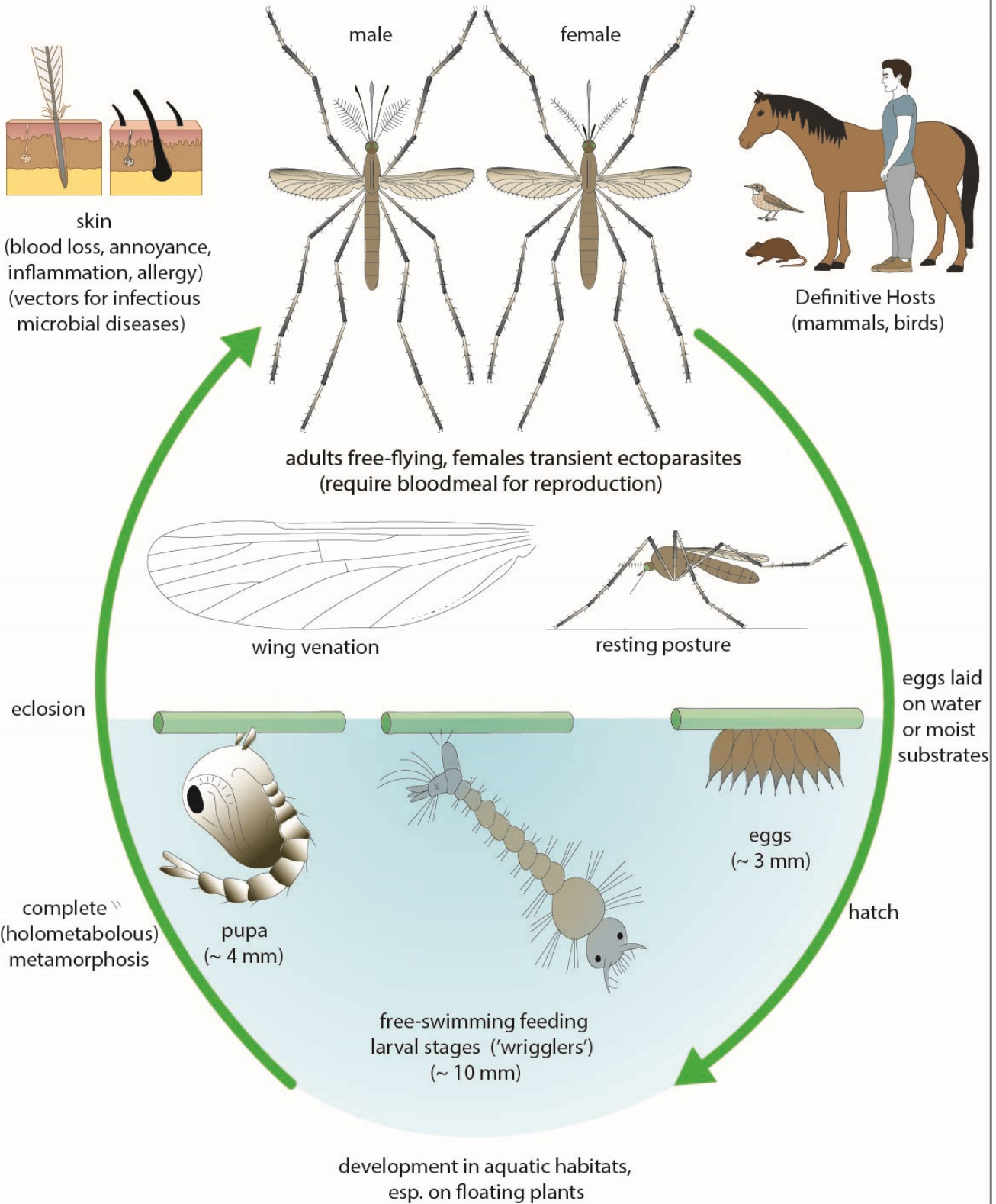


PHIL-26021

Culex pupae

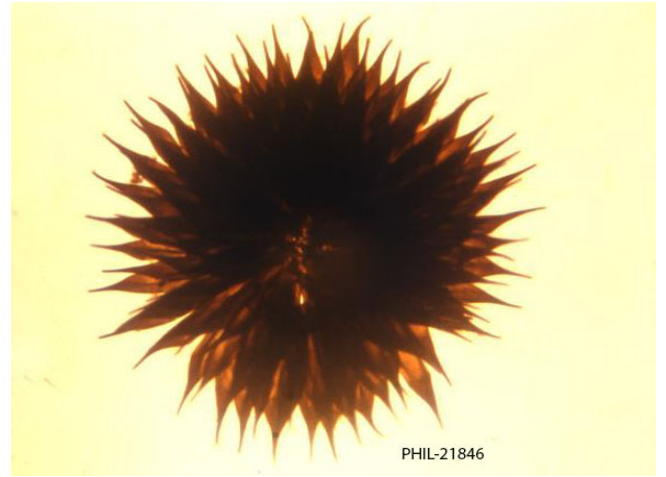
Mansonia

adult mosquitoes
(dorsal) (~ 15 mm)





Mansonia adult



Mansonia adult



Mansonia adult



Mansonia adult