

***Tabanus, Chrysops, Haematopota***  
(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). Tabanomorphans have semiaquatic life cycles where eggs laid on vegetation overhanging mud or shallow water hatch into large predaceous larvae. The adults are large robust flies and include the tabanids (known variously as horse flies, deer flies, doctor flies, clegs or March flies). Most species are not host specific, but exhibit host preferences for different mammalian hosts. Females have slashing-sponging mouthparts to pierce the skin and feed on pools of blood (telmophagy). They are daytime feeders and have painful bites causing significant host annoyance. Various *Chrysops* and *Tabanus* spp. may also act as mechanical or biological vectors for protozoans (trypanosomes), helminths (filarial nematodes), bacteria (anaplasmosis, anthrax) and viruses (hog cholera, equine swamp fever).

## 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: Brachycera (tabanid/March flies, short stout antennae often with arista, telmophagy)  
Infraorder: Tabanomorpha (larval head capsule incomplete posteriorly (only anterior parts sclerotized))  
Family: Tabanidae (large stout horse/deer/March flies, often brightly coloured, painful bite, daytime feeders)  
Genus: *Tabanus* (parasitic on skin of mammals)  
Genus: *Chrysops* (parasitic on skin of mammals)  
Genus: *Haematopota* (parasitic on skin of mammals)  
Species: various species cause irritation

**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 aristae, 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 Brachycera contains 6 infraorders: Asilomorpha (bee flies, robber flies, spider flies), Muscomorpha (previously suborder Cyclorrhapha) (house flies, blow flies, fruit flies), Stratiomyomorpha (soldier flies), Tabanomorpha (horse, deer and snipe flies), Vermileonomorpha (wormlions) and Xylophagomorpha (awl flies); all of which vary considerably in their morphological and biological characteristics. Members of the infraorder Tabanomorpha form pupae from which adults eclose through a longitudinal slit (not a circular cap like Muscomorpha), adults with stout bodies, bulbous faces, short 3-segmented antennae (= brachycera) often bearing feather-like aristae, palps with 2 segments, wings with enlarged thoracic squamae, and semi-aquatic life cycles where eggs laid on vegetation overhanging mud or shallow water hatch into large predaceous larvae with head capsules sclerotized anteriorly (incomplete posteriorly). Two main superfamilies have been recognized: Tabanoidea (horse and deer flies), and Rhagionoidea (snipe flies and an assortment of small affiliated families). Four families are recognized within the

superfamily Tabanoidea, namely, Athericidae (ibis flies), Oreoleptidae (rare mountain fly), Pelecorhynchidae (rare ‘snipe’ flies) and Tabanidae (horse flies), all apparently united by the presence of a venom canal in larval mandibles.

The family Tabanidae contains stout flies with large eyes, the third antennal segment containing 4-8 sections, palps containing an enlarged second segment, wings where the vein R4+5 forks to form large Y across the wing tip, and feet with 3 pads. Over 4,300 tabanid species have been described in over 130 genera classified in 3-5 subfamilies. The family Tabanidae conventionally contains 3 subfamilies: Pangoniinae (long-tongued horse flies with ocelli, and an antennal flagellum bearing 8 annuli), Chrysopsinae (deer flies or banded horse flies with an antennal flagellum bearing a basal plate and 4 annuli and whose females have a shining callus on the frons), and Tabaninae (horse flies lacking ocelli and without spurs on their hind-tibia). Some authorities have added another 2 subfamilies, the Adersiinae (with a single genus) and the Scepcidinae (with 2 genera), but molecular phylogenetic studies have not supported their inclusion. The subfamily Tabaninae contains 54 genera, most classified within 3 tribes: Diachlorini with 33 genera; Haematopotini with 4 genera (including *Haematopota*); Tabanini with 11 genera (including *Tabanus*); and another 6 unplaced genera.

The genus *Tabanus* (syn. *Alliomma*, *Astigmatophthalmus*, *Bellaria*, *Brachypsalidia*, *Callotabanus*, *Chelommia*, *Chelotabanus*, *Gymnochela*, *Hybostraba*, *Lophotabanus*, *Macrocornus*, *Neotabanus*, *Odontotabanus*, *Phyrta*, *Straba*, *Styporhamphis*, *Taeniotabanus*) is characterized by adult flies with clear wings (sometimes dark or banded), 5-segmented antennal flagellum, and legs lacking apical spurs on their tibia. Over 1,440 *Tabanus* spp. have been described, many classified into 4 subgenera. The genus *Haematopota* (syn. *Austenia*, *Chrysopota*, *Chrysozona*, *Haematopata*, *Haematopoda*, *Holcoceria*, *Parahaematopota*, *Potisa*, *Ricardomsia*, *Sterrhocera*, *Tylopelma*) contains over 550 species of flies characterized by mottled wings, and 4-segmented antennal flagellum. The subfamily Chrysopsinae contains 17 genera classified in 3 tribes: Bouvieromyiini with 7 genera; Chrysopsini with 5 genera (including *Chrysops*); and Rhinomyzini with 5 genera. The genus *Chrysops* (syn. *Chrysopsis*, *Euops*, *Heterochrysops*, *Neochrysops*, *Psilochrysops*, *Psylochrysops*) is characterized by flies with wings possessing a dark costal region and a single dark broad transverse band, 5-segmented antennal flagellum, and legs with small apical spurs on their tibia (often hidden by hairs). Over 300 *Chrysops* spp. have been described, many classified into 4 subgenera. While tabanids are cosmopolitan in distribution, many species vary in their host specificity, regional and seasonal occurrence, often bearing common names reflecting their proclivities, such as horse flies, deer flies, March flies, doctor flies, and clegs. Females have slashing-sponging mouthparts to pierce the skin and feed on pools of blood (telmophagy). They are daytime feeders and have painful bites causing significant annoyance to their hosts.

<b>Tabanid flies (regional exemplars)</b>	<b>Host preferences</b>	<b>Clinical signs (Vectorial capacity)</b>	<b>Distribution</b>
<i>Tabanus</i> (horse flies) (e.g. <i>T. atratus</i> , <i>bovinus</i> , <i>lineola</i> , <i>nigrovittatus</i> , <i>par</i> , <i>punctifer</i> , <i>quinquevittatus</i> , <i>similis</i> , <i>sulcifrons</i> , <i>taeniola</i> , <i>thoracinus</i> )	wild and domestic animals, humans	irritation (anthrax, pasteurellosis, trypanosomiasis, anaplasmosis, loasis)	worldwide
<i>Chrysops</i> (deer flies) (e.g. <i>C. caecutiens</i> , <i>dimidiata</i> , <i>discalis</i> , <i>siacea</i> )	wild and domestic animals, humans	irritation (pasteurellosis, trypanosomiasis, loasis)	worldwide
<i>Haematopota</i> (clegs) (e.g. <i>H. americana</i> , <i>brucei</i> , <i>brunnescens</i> , <i>patellicornis</i> , <i>pluvialis</i> )	wild and domestic animals, humans	irritation (anthrax, pasteurellosis, trypanosomiasis, anaplasmosis, loasis)	worldwide, except Australia

## Full species list (compilation of several on-line data-bases)

<b>Tabanus species</b>	<b>Subgenus</b>
<i>T. aptus</i>	Unassigned
<i>T. aar</i>	<i>Tabanus</i>
<i>T. abactor</i>	<i>Tabanus</i>
<i>T. abaculus</i>	<i>Tabanus</i>
<i>T. abaurantiacus</i>	<i>Tabanus</i>
<i>T. abauristriatus</i>	<i>Tabanus</i>
<i>T. abbasalis</i>	<i>Tabanus</i>
<i>T. abbreviatus</i>	<i>Tabanus</i>
<i>T. abditus</i>	<i>Tabanus</i>
<i>T. abdominalis</i>	<i>Tabanus</i>
<i>T. abiens</i>	Unassigned
<i>T. abscondens</i>	<i>Tabanus</i>
<i>T. acallosus</i>	<i>Tabanus</i>
<i>T. acallus</i>	<i>Tabanus</i>
<i>T. accensus</i>	Unassigned
<i>T. accipiter</i>	Unassigned
<i>T. acer</i>	Unassigned
<i>T. acuminaris</i>	<i>Tabanus</i>
<i>T. acutus</i>	<i>Tabanus</i>
<i>T. adiaxolus</i>	Unassigned
<i>T. admelanopygus</i>	Unassigned
<i>T. administrans</i>	<i>Tabanus</i>
<i>T. advena</i>	Unassigned
<i>T. aegrotus</i>	<i>Tabanus</i>
<i>T. aeneus</i>	Unassigned
<i>T. agnoscibilis</i>	<i>Tabanus</i>
<i>T. agrestis</i>	Unassigned
<i>T. aidini</i>	Unassigned
<i>T. alatocinereus</i>	Unassigned
<i>T. albicans</i>	Unassigned
<i>T. albicinctus</i>	<i>Tabanus</i>
<i>T. albicuspis</i>	Unassigned
<i>T. albifacies</i>	Unassigned
<i>T. albifrons</i>	Unassigned
<i>T. albilinea</i>	Unassigned
<i>T. albinus</i>	<i>Agelanius</i>
<i>T. albipes</i>	Unassigned
<i>T. albiscutellus</i>	<i>Tabanus</i>
<i>T. albitibialis</i>	Unassigned
<i>T. albitriangulatis</i>	<i>Tabanus</i>
<i>T. albocapillus</i>	Unassigned
<i>T. albocirculus</i>	Unassigned
<i>T. albocostatus</i>	<i>Tabanus</i>
<i>T. albocreus</i>	Unassigned
<i>T. albofasciatus</i>	<i>Tabanus</i>
<i>T. albopunctatus</i>	<i>Tabanus</i>
<i>T. albosetosus</i>	Unassigned
<i>T. algeriensis</i>	Unassigned
<i>T. altermaculatus</i>	<i>Tabanus</i>
<i>T. alticola</i>	<i>Tabanus</i>
<i>T. alumnus</i>	Unassigned
<i>T. alvarengai</i>	Unassigned
<i>T. amaenus</i>	<i>Tabanus</i>
<i>T. amamiensis</i>	Unassigned
<i>T. amapaensis</i>	Unassigned

<i>T. americanus</i>	<i>Tabanus</i>
<i>T. amoenatus</i>	<i>Tabanus</i>
<i>T. anabates</i>	<i>Tabanus</i>
<i>T. anatolicus</i>	Unassigned
<i>T. andamanensis</i>	Unassigned
<i>T. andamanicus</i>	<i>Tabanus</i>
<i>T. andersoni</i>	Unassigned
<i>T. angustifrons</i>	Unassigned
<i>T. angustilimbatus</i>	<i>Tabanus</i>
<i>T. angustipalpis</i>	<i>Tabanus</i>
<i>T. angustistriatus</i>	<i>Tabanus</i>
<i>T. angustitriangularis</i>	Unassigned
<i>T. angustiventer</i>	<i>Tabanus</i>
<i>T. angustofrons</i>	Unassigned
<i>T. angustus</i>	Unassigned
<i>T. aniptus</i>	Unassigned
<i>T. annamensis</i>	<i>Tabanus</i>
<i>T. annamiticus</i>	<i>Tabanus</i>
<i>T. annamitus</i>	<i>Tabanus</i>
<i>T. anomalus</i>	<i>Tabanus</i>
<i>T. ansarii</i>	Unassigned
<i>T. antarcticus</i>	Unassigned
<i>T. antennarum</i>	Unassigned
<i>T. anthrax</i>	Unassigned
<i>T. antunesi</i>	Unassigned
<i>T. apicalis</i>	Unassigned
<i>T. appendicifer</i>	Unassigned
<i>T. approximatus</i>	Unassigned
<i>T. aquilus</i>	Unassigned
<i>T. arabicus</i>	Unassigned
<i>T. aranti</i>	<i>Tabanus</i>
<i>T. arbucklei</i>	Unassigned
<i>T. arctus</i>	Unassigned
<i>T. ardalus</i>	<i>Tabanus</i>
<i>T. ardens</i>	<i>Tabanus</i>
<i>T. arenicolor</i>	Unassigned
<i>T. arenivagus</i>	Unassigned
<i>T. arfaai</i>	Unassigned
<i>T. argentatus</i>	Unassigned
<i>T. argenteomaculatus</i>	Unassigned
<i>T. argenteus</i>	Unassigned
<i>T. argentifrons</i>	Unassigned
<i>T. argentsignatus</i>	<i>Tabanus</i>
<i>T. argentivittatus</i>	Unassigned
<i>T. arisanus</i>	<i>Tabanus</i>
<i>T. armeniacus</i>	Unassigned
<i>T. armenicus</i>	Unassigned
<i>T. arnaudi</i>	Unassigned
<i>T. atamuradovi</i>	Unassigned
<i>T. ater</i>	Unassigned
<i>T. atratoides</i>	Unassigned
<i>T. atratus</i>	<i>Tabanus</i>
<i>T. atrimaculatus</i>	<i>Tabanus</i>
<i>T. atrimanus</i>	Unassigned
<i>T. atripilosus</i>	<i>Tabanus</i>
<i>T. atripunctatus</i>	<i>Tabanus</i>

<i>T. atrisignatus</i>	<i>Tabanus</i>
<i>T. atristylatus</i>	Unassigned
<i>T. atriventer</i>	<i>Tabanus</i>
<i>T. atrohirtus</i>	<i>Tabanus</i>
<i>T. atropathenicus</i>	Unassigned
<i>T. atropilosus</i>	Unassigned
<i>T. attenuatus</i>	<i>Tabanus</i>
<i>T. attenuis</i>	<i>Tabanus</i>
<i>T. aublanti</i>	<i>Tabanus</i>
<i>T. audyi</i>	<i>Tabanus</i>
<i>T. aurantium</i>	Unassigned
<i>T. aurepiloides</i>	Unassigned
<i>T. aurepilus</i>	Unassigned
<i>T. auribundus</i>	<i>Tabanus</i>
<i>T. auricingulatus</i>	<i>Tabanus</i>
<i>T. auricircus</i>	Unassigned
<i>T. aurifer</i>	<i>Tabanus</i>
<i>T. auriflammus</i>	<i>Tabanus</i>
<i>T. aurilineatus</i>	<i>Tabanus</i>
<i>T. auripilosus</i>	<i>Tabanus</i>
<i>T. auripunctatus</i>	Unassigned
<i>T. aurisegmentatus</i>	<i>Tabanus</i>
<i>T. aurisetosus</i>	<i>Tabanus</i>
<i>T. aurisparsus</i>	<i>Tabanus</i>
<i>T. auristriatus</i>	<i>Tabanus</i>
<i>T. auriventer</i>	<i>Tabanus</i>
<i>T. auriventralis</i>	Unassigned
<i>T. aurivittatus</i>	Unassigned
<i>T. aurora</i>	Unassigned
<i>T. aurotestaceus</i>	<i>Tabanus</i>
<i>T. australicus</i>	Unassigned
<i>T. autumnalis</i>	Unassigned
<i>T. avittatus</i>	<i>Tabanus</i>
<i>T. bactrianus</i>	Unassigned
<i>T. baguiensis</i>	<i>Tabanus</i>
<i>T. bakeri</i>	<i>Tabanus</i>
<i>T. balabacensis</i>	<i>Tabanus</i>
<i>T. ballmeri</i>	Unassigned
<i>T. baohaii</i>	Unassigned
<i>T. baojiensis</i>	Unassigned
<i>T. barbarus</i>	Unassigned
<i>T. barbatus</i>	Unassigned
<i>T. barclayi</i>	Unassigned
<i>T. barnesi</i>	<i>Tabanus</i>
<i>T. basalis</i>	<i>Tabanus</i>
<i>T. bashiri</i>	Unassigned
<i>T. basilaris</i>	Unassigned
<i>T. bellus</i>	<i>Agelanius</i>
<i>T. beneficus</i>	Unassigned
<i>T. bequaertianus</i>	Unassigned
<i>T. beshkentica</i>	Unassigned
<i>T. besti</i>	Unassigned
<i>T. bewanensis</i>	Unassigned
<i>T. biannularis</i>	<i>Tabanus</i>
<i>T. biatripunctatus</i>	<i>Tabanus</i>
<i>T. bicoloratus</i>	<i>Tabanus</i>
<i>T. bifarius</i>	Unassigned
<i>T. bifloccus</i>	Unassigned
<i>T. bigoti</i>	<i>Tabanus</i>
<i>T. biguttatus</i>	Unassigned

<i>T. bilateralis</i>	<i>Tabanus</i>
<i>T. billingtoni</i>	Unassigned
<i>T. bilorus</i>	Unassigned
<i>T. bimini</i>	Unassigned
<i>T. birdiei</i>	<i>Tabanus</i>
<i>T. birmanicus</i>	<i>Tabanus</i>
<i>T. bishoppi</i>	<i>Tabanus</i>
<i>T. biswasi</i>	Unassigned
<i>T. bivari</i>	Unassigned
<i>T. boharti</i>	<i>Tabanus</i>
<i>T. bombayensis</i>	<i>Tabanus</i>
<i>T. borealoriens</i>	Unassigned
<i>T. borniensis</i>	<i>Tabanus</i>
<i>T. boroumandi</i>	Unassigned
<i>T. boueti</i>	Unassigned
<i>T. bovinus</i>	Unassigned
<i>T. brancoi</i>	Unassigned
<i>T. brassofortei</i>	Unassigned
<i>T. brevicallus</i>	<i>Tabanus</i>
<i>T. brevifrons</i>	Unassigned
<i>T. brevitrianguliferus</i>	Unassigned
<i>T. brevittatus</i>	Unassigned
<i>T. briani</i>	Unassigned
<i>T. brincki</i>	Unassigned
<i>T. brochei</i>	<i>Bellardia</i>
<i>T. brodeni</i>	Unassigned
<i>T. bromiolus</i>	Unassigned
<i>T. bromius</i>	Unassigned
<i>T. brumpti</i>	Unassigned
<i>T. brunneicollis</i>	Unassigned
<i>T. brunneocallosus</i>	Unassigned
<i>T. brunneothorax</i>	Unassigned
<i>T. brunneus</i>	Unassigned
<i>T. brunnicolor</i>	<i>Tabanus</i>
<i>T. brunnipennis</i>	<i>Tabanus</i>
<i>T. brunnipes</i>	<i>Tabanus</i>
<i>T. brunniventer</i>	<i>Tabanus</i>
<i>T. bubali</i>	<i>Tabanus</i>
<i>T. bubalophilus</i>	<i>Tabanus</i>
<i>T. bubbermani</i>	<i>Tabanus</i>
<i>T. bucolicus</i>	<i>Tabanus</i>
<i>T. budda</i>	Unassigned
<i>T. budongoensis</i>	Unassigned
<i>T. burgeri</i>	<i>Tabanus</i>
<i>T. burmanensis</i>	<i>Tabanus</i>
<i>T. caduceus</i>	Unassigned
<i>T. caeculus</i>	Unassigned
<i>T. caenosus</i>	<i>Tabanus</i>
<i>T. caerulescens</i>	<i>Tabanus</i>
<i>T. calabyi</i>	Unassigned
<i>T. calcarius</i>	Unassigned
<i>T. calens</i>	<i>Tabanus</i>
<i>T. calidus</i>	<i>Tabanus</i>
<i>T. caligneus</i>	Unassigned
<i>T. callogaster</i>	Unassigned
<i>T. cambodianus</i>	<i>Tabanus</i>
<i>T. cambodiensis</i>	<i>Tabanus</i>
<i>T. camelarius</i>	Unassigned
<i>T. campechianus</i>	Unassigned
<i>T. campestris</i>	Unassigned

<i>T. candidus</i>	<i>Tabanus</i>
<i>T. canipalpis</i>	Unassigned
<i>T. canipus</i>	<i>Tabanus</i>
<i>T. canus</i>	Unassigned
<i>T. capelai</i>	Unassigned
<i>T. castancus</i>	Unassigned
<i>T. castaneoventris</i>	Unassigned
<i>T. casteetus</i>	Unassigned
<i>T. castellanus</i>	Unassigned
<i>T. catenatus</i>	<i>Tabanus</i>
<i>T. caucasius</i>	Unassigned
<i>T. cayensis</i>	<i>Tabanus</i>
<i>T. cazieri</i>	<i>Tabanus</i>
<i>T. cementus</i>	Unassigned
<i>T. centroafricanus</i>	Unassigned
<i>T. cepuricus</i>	<i>Tabanus</i>
<i>T. cervinus</i>	Unassigned
<i>T. ceylonicus</i>	Unassigned
<i>T. chaltothrix</i>	Unassigned
<i>T. charrua</i>	Unassigned
<i>T. chekiangensis</i>	Unassigned
<i>T. cheliopterus</i>	<i>Tabanus</i>
<i>T. chenfui</i>	Unassigned
<i>T. chentangensis</i>	Unassigned
<i>T. chicoi</i>	Unassigned
<i>T. chinensis</i>	Unassigned
<i>T. chloropsis</i>	<i>Tabanus</i>
<i>T. choiseulensis</i>	Unassigned
<i>T. chosenensis</i>	Unassigned
<i>T. choumarae</i>	Unassigned
<i>T. christophi</i>	Unassigned
<i>T. chrysogaster</i>	<i>Tabanus</i>
<i>T. chrysoleucus</i>	Unassigned
<i>T. chrysurinus</i>	Unassigned
<i>T. chrysurus</i>	Unassigned
<i>T. cincta</i>	Unassigned
<i>T. cinerescens</i>	Unassigned
<i>T. cingulatus</i>	Unassigned
<i>T. cinnamoneus</i>	<i>Tabanus</i>
<i>T. circumalbatus</i>	<i>Tabanus</i>
<i>T. circumseptus</i>	<i>Agelanius</i>
<i>T. citripilosus</i>	<i>Tabanus</i>
<i>T. claripennis</i>	Unassigned
<i>T. claritibialis</i>	Unassigned
<i>T. clenchi</i>	Unassigned
<i>T. cnemidotus</i>	<i>Tabanus</i>
<i>T. cneus</i>	Unassigned
<i>T. coarctatus</i>	<i>Tabanus</i>
<i>T. cohaerens</i>	Unassigned
<i>T. colchidicus</i>	Unassigned
<i>T. colombensis</i>	<i>Tabanus</i>
<i>T. columbus</i>	Unassigned
<i>T. combustus</i>	Unassigned
<i>T. comitans</i>	Unassigned
<i>T. commixtus</i>	<i>Tabanus</i>
<i>T. comosus</i>	Unassigned
<i>T. concolor</i>	Unassigned
<i>T. concurrens</i>	Unassigned
<i>T. conformis</i>	Unassigned
<i>T. confucius</i>	Unassigned

<i>T. confusiens</i>	<i>Tabanus</i>
<i>T. congoicola</i>	Unassigned
<i>T. congoiensis</i>	Unassigned
<i>T. conicus</i>	<i>Tabanus</i>
<i>T. coniformis</i>	Unassigned
<i>T. coninckae</i>	<i>Tabanus</i>
<i>T. conius</i>	<i>Tabanus</i>
<i>T. consanguineus</i>	<i>Tabanus</i>
<i>T. conspicuus</i>	Unassigned
<i>T. conterminus</i>	<i>Tabanus</i>
<i>T. copemani</i>	Unassigned
<i>T. coquilletti</i>	Unassigned
<i>T. corax</i>	Unassigned
<i>T. cordiger</i>	Unassigned
<i>T. cordigeroides</i>	Unassigned
<i>T. coreanus</i>	Unassigned
<i>T. corone</i>	Unassigned
<i>T. corpulentus</i>	Unassigned
<i>T. corrigata</i>	Unassigned
<i>T. craverii</i>	<i>Tabanus</i>
<i>T. crocitinctipennis</i>	<i>Tabanus</i>
<i>T. crocodilinus</i>	Unassigned
<i>T. crosskeyi</i>	Unassigned
<i>T. cruzesilvai</i>	Unassigned
<i>T. cubensis</i>	<i>Taeniotabanus</i>
<i>T. cuculus</i>	Unassigned
<i>T. cuisancei</i>	Unassigned
<i>T. curticornis</i>	Unassigned
<i>T. curtus</i>	Unassigned
<i>T. cuspidatus</i>	Unassigned
<i>T. cyclops</i>	<i>Tabanus</i>
<i>T. cyclopus</i>	Unassigned
<i>T. cylindricallosus</i>	<i>Tabanus</i>
<i>T. cylindrocallus</i>	Unassigned
<i>T. cymatophorus</i>	<i>Tabanus</i>
<i>T. daedalus</i>	<i>Tabanus</i>
<i>T. daishojii</i>	Unassigned
<i>T. daohaoi</i>	Unassigned
<i>T. darimonti</i>	Unassigned
<i>T. darlingtoni</i>	Unassigned
<i>T. davidsoni</i>	Unassigned
<i>T. decipiens</i>	Unassigned
<i>T. decoratus</i>	<i>Tabanus</i>
<i>T. defilippii</i>	<i>Tabanus</i>
<i>T. demellonis</i>	<i>Tabanus</i>
<i>T. denshamii</i>	Unassigned
<i>T. denticulatus</i>	Unassigned
<i>T. despectus</i>	<i>Agelanius</i>
<i>T. destructus</i>	<i>Tabanus</i>
<i>T. dietrichi</i>	<i>Tabanus</i>
<i>T. dimidiatus</i>	Unassigned
<i>T. discifer</i>	Unassigned
<i>T. discors</i>	Unassigned
<i>T. discrepans</i>	<i>Tabanus</i>
<i>T. discus</i>	Unassigned
<i>T. dissimilis</i>	<i>Tabanus</i>
<i>T. distinctus</i>	Unassigned
<i>T. ditaenia</i>	Unassigned
<i>T. divaricatus</i>	<i>Agelanius</i>
<i>T. diversifrons</i>	<i>Tabanus</i>

<i>T. diversus</i>	Unassigned
<i>T. dives</i>	Unassigned
<i>T. divisus</i>	Unassigned
<i>T. divulsus</i>	Unassigned
<i>T. dolini</i>	Unassigned
<i>T. dominicanus</i>	Unassigned
<i>T. dominus</i>	Unassigned
<i>T. donaldsoni</i>	Unassigned
<i>T. doreicus</i>	Unassigned
<i>T. dorsifer</i>	<i>Tabanus</i>
<i>T. dorsifloccus</i>	Unassigned
<i>T. dorsiger</i>	Unassigned
<i>T. dorsivitta</i>	Unassigned
<i>T. dorsobimaculatus</i>	Unassigned
<i>T. dorsomaculatus</i>	Unassigned
<i>T. dorsonotatus</i>	<i>Tabanus</i>
<i>T. dubius</i>	Unassigned
<i>T. duckei</i>	Unassigned
<i>T. dunni</i>	Unassigned
<i>T. dzhafarovi</i>	Unassigned
<i>T. eadsi</i>	<i>Tabanus</i>
<i>T. easteetus</i>	Unassigned
<i>T. effilatanus</i>	<i>Tabanus</i>
<i>T. effilatus</i>	<i>Tabanus</i>
<i>T. eggeri</i>	Unassigned
<i>T. ekor</i>	Unassigned
<i>T. eldridgei</i>	Unassigned
<i>T. elongatus</i>	<i>Tabanus</i>
<i>T. enanus</i>	Unassigned
<i>T. enderleini</i>	<i>Tabanus</i>
<i>T. endymion</i>	<i>Tabanus</i>
<i>T. equalis</i>	<i>Tabanus</i>
<i>T. equicinctus</i>	<i>Tabanus</i>
<i>T. erebus</i>	Unassigned
<i>T. erythraeus</i>	<i>Tabanus</i>
<i>T. euphanes</i>	<i>Tabanus</i>
<i>T. eurycerus</i>	<i>Tabanus</i>
<i>T. eurytopus</i>	Unassigned
<i>T. exagens</i>	Unassigned
<i>T. excelsus</i>	<i>Tabanus</i>
<i>T. exclusus</i>	Unassigned
<i>T. exilipalpis</i>	<i>Tabanus</i>
<i>T. exoticus</i>	<i>Tabanus</i>
<i>T. explicatus</i>	<i>Tabanus</i>
<i>T. expulsus</i>	Unassigned
<i>T. extricans</i>	Unassigned
<i>T. factiosus</i>	<i>Tabanus</i>
<i>T. faini</i>	Unassigned
<i>T. fairchildi</i>	<i>Tabanus</i>
<i>T. falviscutellus</i>	<i>Tabanus</i>
<i>T. fasciatus</i>	Unassigned
<i>T. fascius</i>	<i>Tabanus</i>
<i>T. felderi</i>	<i>Tabanus</i>
<i>T. femoralis</i>	Unassigned
<i>T. ferrugineus</i>	Unassigned
<i>T. fijianus</i>	Unassigned
<i>T. filipjevi</i>	Unassigned
<i>T. firmus</i>	Unassigned
<i>T. flammeus</i>	Unassigned
<i>T. flaviannulatus</i>	<i>Tabanus</i>

<i>T. flavicapitis</i>	Unassigned
<i>T. flavicornis</i>	<i>Tabanus</i>
<i>T. flavicoxa</i>	Unassigned
<i>T. flavimarginatus</i>	<i>Tabanus</i>
<i>T. flavimediis</i>	<i>Tabanus</i>
<i>T. flavioculatus</i>	<i>Tabanus</i>
<i>T. flavipennis</i>	Unassigned
<i>T. flavipilosus</i>	<i>Tabanus</i>
<i>T. flavipus</i>	<i>Tabanus</i>
<i>T. flaviscutellatus</i>	<i>Tabanus</i>
<i>T. flaviscutellus</i>	<i>Tabanus</i>
<i>T. flavissimus</i>	<i>Tabanus</i>
<i>T. flavistriatus</i>	<i>Tabanus</i>
<i>T. flavitibiatus</i>	<i>Tabanus</i>
<i>T. flavitriangularis</i>	<i>Tabanus</i>
<i>T. flavivittatus</i>	<i>Tabanus</i>
<i>T. flavohirtus</i>	<i>Tabanus</i>
<i>T. flavothorax</i>	<i>Tabanus</i>
<i>T. flexilis</i>	<i>Tabanus</i>
<i>T. flocculus</i>	Unassigned
<i>T. fontinalis</i>	<i>Tabanus</i>
<i>T. formosiensis</i>	<i>Tabanus</i>
<i>T. fortis</i>	Unassigned
<i>T. fossilis</i> (fossil)	Unassigned
<i>T. fragai</i>	Unassigned
<i>T. fraseri</i>	Unassigned
<i>T. fratellus</i>	Unassigned
<i>T. fraternus</i>	Unassigned
<i>T. frondosus</i>	<i>Tabanus</i>
<i>T. fronto</i>	<i>Tabanus</i>
<i>T. fujianensis</i>	Unassigned
<i>T. fulcifrons</i>	Unassigned
<i>T. fullo</i>	Unassigned
<i>T. fulvicallus</i>	<i>Tabanus</i>
<i>T. fulvicapillus</i>	Unassigned
<i>T. fulvicinctus</i>	<i>Tabanus</i>
<i>T. fulvifasciatus</i>	Unassigned
<i>T. fulviger</i>	Unassigned
<i>T. fulvilateralis</i>	Unassigned
<i>T. fulvilinearis</i>	<i>Tabanus</i>
<i>T. fulvilineis</i>	<i>Tabanus</i>
<i>T. fulvilineus</i>	Unassigned
<i>T. fulvimedioides</i>	Unassigned
<i>T. fulvimediis</i>	Unassigned
<i>T. fulvissimus</i>	<i>Tabanus</i>
<i>T. fulvulus</i>	<i>Tabanus</i>
<i>T. fumeus</i>	<i>Tabanus</i>
<i>T. fumidus</i>	Unassigned
<i>T. fumifer</i>	<i>Tabanus</i>
<i>T. fumipennis</i>	<i>Tabanus</i>
<i>T. fumomarginatus</i>	Unassigned
<i>T. funebris</i>	Unassigned
<i>T. furunculigenus</i>	Unassigned
<i>T. furunculus</i>	<i>Tabanus</i>
<i>T. furvicaudus</i>	Unassigned
<i>T. fuscibarbus</i>	<i>Tabanus</i>
<i>T. fuscicauda</i>	<i>Tabanus</i>
<i>T. fuscicornis</i>	<i>Tabanus</i>
<i>T. fuscicostatus</i>	<i>Tabanus</i>
<i>T. fuscifrons</i>	<i>Tabanus</i>

<i>T. fuscipleuris</i>	Unassigned
<i>T. fuscithorax</i>	<i>Tabanus</i>
<i>T. fusciventer</i>	<i>Tabanus</i>
<i>T. fuscofasciatus</i>	Unassigned
<i>T. fuscomaculatus</i>	<i>Tabanus</i>
<i>T. fuscomarginatus</i>	Unassigned
<i>T. fusconervosus</i>	<i>Tabanus</i>
<i>T. fuscopunctatus</i>	<i>Tabanus</i>
<i>T. fuscotibialis</i>	Unassigned
<i>T. fuscoventris</i>	Unassigned
<i>T. fuscus</i>	Unassigned
<i>T. fuzhouensis</i>	Unassigned
<i>T. fuzouensis</i>	Unassigned
<i>T. galloisi</i>	Unassigned
<i>T. geminus</i>	Unassigned
<i>T. geniculatus</i>	<i>Tabanus</i>
<i>T. geographicus</i>	Unassigned
<i>T. gertrudae</i>	<i>Tabanus</i>
<i>T. gertudae</i>	<i>Tabanus</i>
<i>T. gibensis</i>	Unassigned
<i>T. gigas</i>	Unassigned
<i>T. gilanus</i>	<i>Tabanus</i>
<i>T. gilingilensis</i>	Unassigned
<i>T. gilvellus</i>	<i>Tabanus</i>
<i>T. gilvineis</i>	<i>Tabanus</i>
<i>T. gilvus</i>	<i>Tabanus</i>
<i>T. gladiator</i>	<i>Tabanus</i>
<i>T. glaucomaculis</i>	<i>Tabanus</i>
<i>T. glauconotatus</i>	<i>Tabanus</i>
<i>T. glaucopis</i>	Unassigned
<i>T. glaucus</i>	Unassigned
<i>T. golovi</i>	Unassigned
<i>T. gonghaiensis</i>	Unassigned
<i>T. gracilicornis</i>	Unassigned
<i>T. gracilis</i>	<i>Tabanus</i>
<i>T. grandicaudus</i>	Unassigned
<i>T. grandis</i>	Unassigned
<i>T. granti</i>	<i>Tabanus</i>
<i>T. gratus</i>	Unassigned
<i>T. gressitti</i>	Unassigned
<i>T. griseifacies</i>	<i>Tabanus</i>
<i>T. griseilineis</i>	<i>Tabanus</i>
<i>T. griseinus</i>	Unassigned
<i>T. griseipalpis</i>	<i>Tabanus</i>
<i>T. griseithorax</i>	<i>Tabanus</i>
<i>T. griseoscutellatus</i>	<i>Tabanus</i>
<i>T. grunini</i>	Unassigned
<i>T. guapiensis</i>	Unassigned
<i>T. guatemalanus</i>	Unassigned
<i>T. guineensis</i>	Unassigned
<i>T. guizhouensis</i>	Unassigned
<i>T. guizhouensis</i>	Unassigned
<i>T. guttatus</i>	Unassigned
<i>T. guyanensis</i>	Unassigned
<i>T. guyonae</i>	Unassigned
<i>T. gymnorhynchus</i>	Unassigned
<i>T. gyruchus</i>	Unassigned
<i>T. haemagogus</i>	Unassigned
<i>T. haimovitchae</i>	Unassigned
<i>T. hainanensis</i>	Unassigned

<i>T. haitiensis</i>	Unassigned
<i>T. hakkariensis</i>	Unassigned
<i>T. hamoni</i>	Unassigned
<i>T. hashemi</i>	Unassigned
<i>T. hauseri</i>	Unassigned
<i>T. haysi</i>	Unassigned
<i>T. hedlundi</i>	Unassigned
<i>T. hellenicus</i>	Unassigned
<i>T. helvinus</i>	Unassigned
<i>T. herbertensis</i>	Unassigned
<i>T. herculeanus</i>	Unassigned
<i>T. hinellus</i>	<i>Tabanus</i>
<i>T. hipparionis</i> (fossil)	Unassigned
<i>T. hirsutus</i>	Unassigned
<i>T. hirtipalpis</i>	<i>Tabanus</i>
<i>T. hirtistriatus</i>	<i>Tabanus</i>
<i>T. hirtitibia</i>	Unassigned
<i>T. hisarensis</i>	Unassigned
<i>T. hispanicus</i>	Unassigned
<i>T. hispanus</i>	Unassigned
<i>T. hispidus</i>	Unassigned
<i>T. hissaricus</i>	Unassigned
<i>T. hoang</i>	Unassigned
<i>T. holtzianus</i>	Unassigned
<i>T. honestus</i>	Unassigned
<i>T. hongchowensis</i>	<i>Tabanus</i>
<i>T. hongchowoides</i>	Unassigned
<i>T. hongkongiensis</i>	<i>Tabanus</i>
<i>T. hoogstraali</i>	<i>Tabanus</i>
<i>T. hottentotta</i>	Unassigned
<i>T. howdeni</i>	<i>Tabanus</i>
<i>T. huangshanensis</i>	Unassigned
<i>T. humboldti</i>	Unassigned
<i>T. humilis</i>	Unassigned
<i>T. humillimus</i>	<i>Tabanus</i>
<i>T. humiloides</i>	Unassigned
<i>T. hybridus</i>	<i>Tabanus</i>
<i>T. hypomacros</i>	<i>Tabanus</i>
<i>T. hyugaensis</i>	Unassigned
<i>T. ianthinus</i>	Unassigned
<i>T. iber</i>	Unassigned
<i>T. ichiokai</i>	Unassigned
<i>T. ictericus</i>	<i>Tabanus</i>
<i>T. idulis</i>	Unassigned
<i>T. ignobilis</i>	<i>Tabanus</i>
<i>T. ilchanii</i>	Unassigned
<i>T. ilharcoi</i>	Unassigned
<i>T. illustris</i>	Unassigned
<i>T. imitans</i>	<i>Tabanus</i>
<i>T. immanis</i>	<i>Tabanus</i>
<i>T. immixtus</i>	<i>Tabanus</i>
<i>T. imparicallosus</i>	<i>Tabanus</i>
<i>T. impertinens</i>	Unassigned
<i>T. importunus</i>	Unassigned
<i>T. impurus</i>	Unassigned
<i>T. inaensis</i>	Unassigned
<i>T. inaequannulatus</i>	Unassigned
<i>T. inaequisignatus</i>	<i>Tabanus</i>
<i>T. incisus</i>	Unassigned
<i>T. incohaerens</i>	Unassigned

<i>T. inconspicuus</i>	Unassigned
<i>T. incultus</i>	<i>Tabanus</i>
<i>T. indecisus</i>	Unassigned
<i>T. indianus</i>	<i>Tabanus</i>
<i>T. indicus</i>	Unassigned
<i>T. indifferens</i>	<i>Tabanus</i>
<i>T. indiscriminatus</i>	<i>Tabanus</i>
<i>T. indistinctus</i>	Unassigned
<i>T. indosinensis</i>	<i>Tabanus</i>
<i>T. indrae</i>	Unassigned
<i>T. infans</i>	Unassigned
<i>T. infestans</i>	Unassigned
<i>T. infestus</i>	Unassigned
<i>T. inflatipalpis</i>	<i>Tabanus</i>
<i>T. ingens</i>	<i>Tabanus</i>
<i>T. inhambanensis</i>	Unassigned
<i>T. inifromis</i>	<i>Tabanus</i>
<i>T. innotabilis</i>	Unassigned
<i>T. inobservatus</i>	<i>Tabanus</i>
<i>T. inscitus</i>	Unassigned
<i>T. insecutor</i>	Unassigned
<i>T. insidiator</i>	<i>Tabanus</i>
<i>T. insignis</i>	Unassigned
<i>T. internus</i>	Unassigned
<i>T. invalidus</i>	<i>Tabanus</i>
<i>T. isis</i>	Unassigned
<i>T. itaituba</i>	Unassigned
<i>T. ixion</i>	<i>Tabanus</i>
<i>T. iyoensis</i>	Unassigned
<i>T. jacobarius</i>	Unassigned
<i>T. jacobi</i>	<i>Tabanus</i>
<i>T. jadini</i>	Unassigned
<i>T. javanus</i>	<i>Tabanus</i>
<i>T. jeanae</i>	Unassigned
<i>T. jigongshanensis</i>	Unassigned
<i>T. jigongshanoides</i>	Unassigned
<i>T. jigongshanensis</i>	Unassigned
<i>T. jilamensis</i>	Unassigned
<i>T. jinghongensis</i>	Unassigned
<i>T. jinhuai</i>	Unassigned
<i>T. johannesi</i>	Unassigned
<i>T. johnburgeri</i>	Unassigned
<i>T. johnsoni</i>	<i>Tabanus</i>
<i>T. joidus</i>	<i>Tabanus</i>
<i>T. joshii</i>	Unassigned
<i>T. jucundus</i>	<i>Tabanus</i>
<i>T. justorius</i>	<i>Tabanus</i>
<i>T. kabuensis</i>	Unassigned
<i>T. kaburagii</i>	Unassigned
<i>T. kakhyenensis</i>	<i>Tabanus</i>
<i>T. kamengensis</i>	Unassigned
<i>T. karaosus</i>	Unassigned
<i>T. karenkoensis</i>	<i>Tabanus</i>
<i>T. katoi</i>	Unassigned
<i>T. kermani</i>	Unassigned
<i>T. kesseli</i>	<i>Tabanus</i>
<i>T. khalafi</i>	<i>Tabanus</i>
<i>T. khasiensis</i>	<i>Tabanus</i>
<i>T. kiangsuensis</i>	Unassigned
<i>T. kingi</i>	Unassigned

<i>T. kinoshitai</i>	Unassigned
<i>T. kisluki</i>	<i>Tabanus</i>
<i>T. konis</i>	<i>Tabanus</i>
<i>T. kotoshoensis</i>	<i>Tabanus</i>
<i>T. krombeini</i>	Unassigned
<i>T. kumaonensis</i>	Unassigned
<i>T. kumrakomensis</i>	Unassigned
<i>T. kunmingensis</i>	Unassigned
<i>T. kwangsinensis</i>	Unassigned
<i>T. kwatta</i>	Unassigned
<i>T. kwiluensis</i>	Unassigned
<i>T. lacajaensis</i>	Unassigned
<i>T. lacustris</i>	<i>Tabanus</i>
<i>T. laetetinctus</i>	Unassigned
<i>T. laevigatus</i>	Unassigned
<i>T. laleani</i>	Unassigned
<i>T. lamiensis</i>	Unassigned
<i>T. lanatus</i>	Unassigned
<i>T. laotianus</i>	<i>Tabanus</i>
<i>T. larvatus</i>	Unassigned
<i>T. lateralbus</i>	<i>Tabanus</i>
<i>T. lateralis</i>	Unassigned
<i>T. laterina</i>	Unassigned
<i>T. laticeps</i>	Unassigned
<i>T. laticinctus</i>	<i>Tabanus</i>
<i>T. laticornis</i>	Unassigned
<i>T. laticornis</i>	<i>Tabanus</i>
<i>T. laticorpus</i>	<i>Tabanus</i>
<i>T. latifascies</i>	<i>Tabanus</i>
<i>T. lavandoni</i>	Unassigned
<i>T. laverani</i>	Unassigned
<i>T. leclercqi</i>	Unassigned
<i>T. leleani</i>	Unassigned
<i>T. lenticulatus</i>	Unassigned
<i>T. lenticuloides</i>	Unassigned
<i>T. lentis</i>	Unassigned
<i>T. lentisignatus</i>	<i>Tabanus</i>
<i>T. leucocnematus</i>	<i>Tabanus</i>
<i>T. leucohirtus</i>	<i>Tabanus</i>
<i>T. leucomelas</i>	<i>Tabanus</i>
<i>T. leucopogon</i>	<i>Tabanus</i>
<i>T. leucostomus</i>	Unassigned
<i>T. levantinus</i>	Unassigned
<i>T. leveri</i>	Unassigned
<i>T. lewisi</i>	Unassigned
<i>T. liangshanensis</i>	Unassigned
<i>T. ligatus</i>	Unassigned
<i>T. lijiangensis</i>	Unassigned
<i>T. limbatineuris</i>	<i>Tabanus</i>
<i>T. limbithorax</i>	Unassigned
<i>T. limitatus</i>	<i>Tabanus</i>
<i>T. limushanensis</i>	Unassigned
<i>T. lineataenia</i>	Unassigned
<i>T. lineifrons</i>	Unassigned
<i>T. lineola</i>	<i>Tabanus</i>
<i>T. lingfengi</i>	Unassigned
<i>T. litigiosus</i>	Unassigned
<i>T. liventipes</i>	Unassigned
<i>T. loczyi</i>	<i>Tabanus</i>
<i>T. longibasalis</i>	<i>Tabanus</i>

<i>T. longicornutus</i>	<i>Tabanus</i>
<i>T. longinquus</i>	Unassigned
<i>T. longipennis</i>	Unassigned
<i>T. longistylus</i>	Unassigned
<i>T. longiusculus</i>	<i>Tabanus</i>
<i>T. longus</i>	<i>Tabanus</i>
<i>T. loukashkini</i>	Unassigned
<i>T. lubutuensis</i>	Unassigned
<i>T. lucidulus</i>	Unassigned
<i>T. lucifer</i>	<i>Tabanus</i>
<i>T. lufirensis</i>	Unassigned
<i>T. luizae</i>	Unassigned
<i>T. lunatus</i>	Unassigned
<i>T. lushanensis</i>	<i>Tabanus</i>
<i>T. lutzi</i>	Unassigned
<i>T. luzonensis</i>	<i>Tabanus</i>
<i>T. lyneborgi</i>	Unassigned
<i>T. macdonaldi</i>	<i>Tabanus</i>
<i>T. macer</i>	<i>Tabanus</i>
<i>T. macfarlanei</i>	<i>Tabanus</i>
<i>T. machadoi</i>	Unassigned
<i>T. macilentus</i>	Unassigned
<i>T. mackerrasi</i>	Unassigned
<i>T. macquarti</i>	Unassigned
<i>T. macrocerus</i>	Unassigned
<i>T. maculicornis</i>	Unassigned
<i>T. maculifrons</i>	Unassigned
<i>T. maculinevris</i>	Unassigned
<i>T. maculipennis</i>	<i>Tabanus</i>
<i>T. maculosus</i>	<i>Tabanus</i>
<i>T. madoerensis</i>	<i>Tabanus</i>
<i>T. maedai</i>	Unassigned
<i>T. maerens</i>	Unassigned
<i>T. maini</i>	Unassigned
<i>T. maiombensis</i>	Unassigned
<i>T. major</i>	Unassigned
<i>T. makimurae</i>	Unassigned
<i>T. malayensis</i>	<i>Tabanus</i>
<i>T. maliensis</i>	Unassigned
<i>T. mandarinus</i>	<i>Tabanus</i>
<i>T. manipurensis</i>	<i>Tabanus</i>
<i>T. marginalis</i>	<i>Tabanus</i>
<i>T. marginatus</i>	Unassigned
<i>T. marginenevris</i>	Unassigned
<i>T. marianii</i>	Unassigned
<i>T. marmoratus</i>	Unassigned
<i>T. marmorosus</i>	Unassigned
<i>T. martini</i>	Unassigned
<i>T. martinii</i>	Unassigned
<i>T. masamitsui</i>	Unassigned
<i>T. mateusi</i>	Unassigned
<i>T. matosi</i>	Unassigned
<i>T. matsumotoensis</i>	Unassigned
<i>T. matsuzawai</i>	Unassigned
<i>T. matutinimordicus</i>	Unassigned
<i>T. maurus</i>	Unassigned
<i>T. mazzottii</i>	<i>Tabanus</i>
<i>T. mediatrimaculatus</i>	<i>Tabanus</i>
<i>T. medionotatus</i>	Unassigned
<i>T. meghalayensis</i>	Unassigned

<i>T. meihuashanensis</i>	Unassigned
<i>T. melanocerus</i>	<i>Tabanus</i>
<i>T. melanogaster</i>	Unassigned
<i>T. melanognathus</i>	<i>Tabanus</i>
<i>T. mendossai</i>	Unassigned
<i>T. mengdingensis</i>	Unassigned
<i>T. menoensis</i>	Unassigned
<i>T. mentitus</i>	<i>Tabanus</i>
<i>T. meraukensis</i>	Unassigned
<i>T. meridionalis</i>	Unassigned
<i>T. merychippi</i> (fossil)	Unassigned
<i>T. mesnili</i>	Unassigned
<i>T. mesogaeus</i>	Unassigned
<i>T. mesquitelai</i>	Unassigned
<i>T. mexicanus</i>	Unassigned
<i>T. mianjangalensis</i>	Unassigned
<i>T. miki</i>	Unassigned
<i>T. miles</i>	Unassigned
<i>T. mimus</i>	Unassigned
<i>T. mindanensis</i>	<i>Tabanus</i>
<i>T. miniatus</i>	Unassigned
<i>T. minimus</i>	<i>Tabanus</i>
<i>T. minor</i>	Unassigned
<i>T. minshanensis</i>	Unassigned
<i>T. minuscularius</i>	Unassigned
<i>T. minusculus</i>	Unassigned
<i>T. mishanensis</i>	Unassigned
<i>T. misthenkoi</i>	Unassigned
<i>T. mitidjensis</i>	Unassigned
<i>T. miyajima</i>	Unassigned
<i>T. miyakei</i>	<i>Tabanus</i>
<i>T. moderator</i>	<i>Tabanus</i>
<i>T. modestus</i>	Unassigned
<i>T. moerens</i>	Unassigned
<i>T. mofidii</i>	Unassigned
<i>T. mogollon</i>	<i>Tabanus</i>
<i>T. molestus</i>	<i>Tabanus</i>
<i>T. monchai</i>	Unassigned
<i>T. mongolensis</i>	Unassigned
<i>T. monilifer</i>	Unassigned
<i>T. monocallosus</i>	Unassigned
<i>T. monoculus</i>	Unassigned
<i>T. monoensis</i>	<i>Tabanus</i>
<i>T. monokini</i>	<i>Tabanus</i>
<i>T. monomiensis</i>	Unassigned
<i>T. monops</i>	Unassigned
<i>T. monotaeniatus</i>	<i>Tabanus</i>
<i>T. monotaxis</i>	Unassigned
<i>T. montiasiaticus</i>	Unassigned
<i>T. morbosus</i>	<i>Tabanus</i>
<i>T. mordax</i>	Unassigned
<i>T. moreli</i>	Unassigned
<i>T. morio</i>	Unassigned
<i>T. morsitans</i>	Unassigned
<i>T. mossambicensis</i>	Unassigned
<i>T. motuoensis</i>	Unassigned
<i>T. mouchai</i>	Unassigned
<i>T. mucronatus</i>	Unassigned
<i>T. mularis</i>	<i>Tabanus</i>
<i>T. multincinctus</i>	<i>Tabanus</i>

<i>T. murdochi</i>	Unassigned
<i>T. muruensis</i>	Unassigned
<i>T. muscoides</i>	<i>Tabanus</i>
<i>T. mutatus</i>	Unassigned
<i>T. namdaphaicus</i>	<i>Tabanus</i>
<i>T. namibiensis</i>	Unassigned
<i>T. nanpingensis</i>	Unassigned
<i>T. nantae</i>	Unassigned
<i>T. napaensis</i>	<i>Tabanus</i>
<i>T. nartshukae</i>	Unassigned
<i>T. neavei</i>	Unassigned
<i>T. nebulosus</i>	Unassigned
<i>T. nefarius</i>	<i>Tabanus</i>
<i>T. nefas</i>	Unassigned
<i>T. neglectus</i>	Unassigned
<i>T. negritos</i>	<i>Tabanus</i>
<i>T. nematocallus</i>	Unassigned
<i>T. nemocallosus</i>	<i>Tabanus</i>
<i>T. nemoralis</i>	Unassigned
<i>T. neoindianus</i>	<i>Tabanus</i>
<i>T. neotriangularis</i>	Unassigned
<i>T. neovestitus</i>	Unassigned
<i>T. nepalensis</i>	<i>Tabanus</i>
<i>T. nephodes</i>	<i>Tabanus</i>
<i>T. nereus</i>	Unassigned
<i>T. nexus</i>	<i>Tabanus</i>
<i>T. nicobarensis</i>	<i>Tabanus</i>
<i>T. nigeriensis</i>	Unassigned
<i>T. nigra</i>	Unassigned
<i>T. nigrabdominis</i>	Unassigned
<i>T. nigrefronti</i>	<i>Tabanus</i>
<i>T. nigrescens</i>	<i>Tabanus</i>
<i>T. nigrhinus</i>	<i>Tabanus</i>
<i>T. nigricaudus</i>	Unassigned
<i>T. nigrifascies</i>	Unassigned
<i>T. nigrifeminibus</i>	Unassigned
<i>T. nigrifer</i>	Unassigned
<i>T. nigrihinus</i>	<i>Tabanus</i>
<i>T. nigrimaculatus</i>	Unassigned
<i>T. nigrimanus</i>	Unassigned
<i>T. nigrimordicus</i>	Unassigned
<i>T. nigrinus</i>	<i>Tabanus</i>
<i>T. nigripes</i>	<i>Tabanus</i>
<i>T. nigrita</i>	Unassigned
<i>T. nigriventris</i>	Unassigned
<i>T. nigrofemoratus</i>	Unassigned
<i>T. nigrostriatus</i>	Unassigned
<i>T. nigrotectus</i>	<i>Tabanus</i>
<i>T. nigrovittatus</i>	<i>Tabanus</i>
<i>T. nilakinus</i>	<i>Tabanus</i>
<i>T. nipponicus</i>	Unassigned
<i>T. niveinotatus</i>	Unassigned
<i>T. noctuinus</i>	<i>Tabanus</i>
<i>T. noncallosus</i>	Unassigned
<i>T. nondescriptus</i>	Unassigned
<i>T. notatus</i>	Unassigned
<i>T. novaescotiae</i>	<i>Tabanus</i>
<i>T. nyasae</i>	Unassigned
<i>T. nyctops</i>	Unassigned
<i>T. obconicus</i>	<i>Tabanus</i>

<i>T. obesus</i>	Unassigned
<i>T. obliquemaculatus</i>	Unassigned
<i>T. obscuratus</i>	Unassigned
<i>T. obscurefumatus</i>	Unassigned
<i>T. obscurehirtus</i>	Unassigned
<i>T. obscurestigmatus</i>	Unassigned
<i>T. obscurestriatus</i>	Unassigned
<i>T. obscurilineatus</i>	Unassigned
<i>T. obscurior</i>	Unassigned
<i>T. obscurus</i>	Unassigned
<i>T. obsolescens</i>	Unassigned
<i>T. obsoletimaculus</i>	Unassigned
<i>T. obsoletus</i>	Unassigned
<i>T. obtusipalpis</i>	Unassigned
<i>T. obumbratus</i>	Unassigned
<i>T. occidentalis</i>	<i>Tabanus</i>
<i>T. ochroater</i>	<i>Tabanus</i>
<i>T. ochroceras</i>	<i>Tabanus</i>
<i>T. ochrogaster</i>	<i>Tabanus</i>
<i>T. ochros</i>	<i>Tabanus</i>
<i>T. octulus</i>	Unassigned
<i>T. okinawanoides</i>	Unassigned
<i>T. okinawanus</i>	<i>Tabanus</i>
<i>T. oknos</i>	<i>Tabanus</i>
<i>T. oldroydi</i>	<i>Tabanus</i>
<i>T. olivaceiventris</i>	Unassigned
<i>T. oliviventris</i>	Unassigned
<i>T. oliviventroides</i>	Unassigned
<i>T. olsuffevi</i>	Unassigned
<i>T. olympius</i>	Unassigned
<i>T. omeishanensis</i>	Unassigned
<i>T. omnirobustus</i>	Unassigned
<i>T. onoi</i>	Unassigned
<i>T. opalescens</i>	Unassigned
<i>T. oppugnator</i>	Unassigned
<i>T. optatus</i>	<i>Tabanus</i>
<i>T. opulentus</i>	Unassigned
<i>T. orbicallus</i>	<i>Tabanus</i>
<i>T. orbis</i>	Unassigned
<i>T. oreophilus</i>	Unassigned
<i>T. orientalis</i>	<i>Tabanus</i>
<i>T. orientis</i>	<i>Tabanus</i>
<i>T. orphnos</i>	Unassigned
<i>T. otsurui</i>	Unassigned
<i>T. ovazzai</i>	Unassigned
<i>T. oviventris</i>	<i>Tabanus</i>
<i>T. oxybeles</i>	Unassigned
<i>T. oxyceratus</i>	<i>Tabanus</i>
<i>T. pachypalpus</i>	Unassigned
<i>T. paganus</i>	Unassigned
<i>T. palauensis</i>	Unassigned
<i>T. palawanensis</i>	<i>Tabanus</i>
<i>T. pallidepectoratus</i>	<i>Tabanus</i>
<i>T. pallidescens</i>	<i>Tabanus</i>
<i>T. pallidifacies</i>	Unassigned
<i>T. pallidipectoratus</i>	Unassigned
<i>T. pallidipes</i>	Unassigned
<i>T. pallidiscutum</i>	<i>Tabanus</i>
<i>T. pallidiventer</i>	<i>Tabanus</i>
<i>T. pallipennis</i>	Unassigned

<i>T. palpalis</i>	Unassigned
<i>T. palpinus</i>	<i>Tabanus</i>
<i>T. papuensis</i>	Unassigned
<i>T. par</i>	Unassigned
<i>T. parabactrianus</i>	<i>Tabanus</i>
<i>T. parabrunneus</i>	<i>Tabanus</i>
<i>T. parabuddha</i>	Unassigned
<i>T. parachinensis</i>	Unassigned
<i>T. parachrysatr</i>	Unassigned
<i>T. paradiversifrons</i>	Unassigned
<i>T. paradoxus</i>	Unassigned
<i>T. paraflavimarginatus</i>	Unassigned
<i>T. parafuscomaculatus</i>	<i>Tabanus</i>
<i>T. parahippi</i> (fossil)	Unassigned
<i>T. parahybridus</i>	<i>Tabanus</i>
<i>T. paraichiokai</i>	Unassigned
<i>T. parallelifrons</i>	<i>Tabanus</i>
<i>T. paralleliventer</i>	<i>Tabanus</i>
<i>T. pararubidus</i>	Unassigned
<i>T. pararufiventris</i>	<i>Tabanus</i>
<i>T. parasexcinctus</i>	Unassigned
<i>T. parawuyishanensis</i>	Unassigned
<i>T. parimmixtus</i>	<i>Tabanus</i>
<i>T. particaecus</i>	Unassigned
<i>T. particolor</i>	<i>Tabanus</i>
<i>T. partitus</i>	Unassigned
<i>T. parvicallus</i>	Unassigned
<i>T. parvidentatus</i>	Unassigned
<i>T. parviformus</i>	Unassigned
<i>T. passosi</i>	Unassigned
<i>T. patriarchus</i>	Unassigned
<i>T. pauper</i>	<i>Tabanus</i>
<i>T. paviei</i>	Unassigned
<i>T. pazukii</i>	Unassigned
<i>T. pechumani</i>	Unassigned
<i>T. pellucidus</i>	Unassigned
<i>T. pellus</i>	<i>Tabanus</i>
<i>T. penai</i>	Unassigned
<i>T. pendleburyi</i>	<i>Tabanus</i>
<i>T. pengquensis</i>	Unassigned
<i>T. perakiensis</i>	<i>Tabanus</i>
<i>T. perelegans</i>	Unassigned
<i>T. perileucus</i>	Unassigned
<i>T. persimilis</i>	Unassigned
<i>T. pertinens</i>	Unassigned
<i>T. peruvianus</i>	Unassigned
<i>T. petiolatus</i>	<i>Tabanus</i>
<i>T. petiscai</i>	Unassigned
<i>T. philippinensis</i>	<i>Tabanus</i>
<i>T. piceiventris</i>	Unassigned
<i>T. picicalosus</i>	Unassigned
<i>T. pictiventris</i>	<i>Tabanus</i>
<i>T. pingxiangensis</i>	Unassigned
<i>T. planus</i>	Unassigned
<i>T. platensis</i>	Unassigned
<i>T. platycerus</i>	Unassigned
<i>T. pleskei</i>	Unassigned
<i>T. pluto</i>	Unassigned
<i>T. pollinosus</i>	Unassigned
<i>T. polygonus</i>	Unassigned

<i>T. polyphemus</i>	Unassigned
<i>T. portschinskii</i>	Unassigned
<i>T. postactus</i>	Unassigned
<i>T. praematurus</i>	<i>Tabanus</i>
<i>T. praepilatus</i>	Unassigned
<i>T. praepositus</i>	Unassigned
<i>T. praeteritus</i>	Unassigned
<i>T. pratti</i>	<i>Tabanus</i>
<i>T. prefulventer</i>	Unassigned
<i>T. primitivus</i>	Unassigned
<i>T. principis</i>	Unassigned
<i>T. priscoides</i>	<i>Tabanus</i>
<i>T. pristinus</i>	Unassigned
<i>T. procallosus</i>	Unassigned
<i>T. productus</i>	Unassigned
<i>T. promesogaesus</i>	Unassigned
<i>T. prometheus</i>	Unassigned
<i>T. propinquus</i>	Unassigned
<i>T. provincialis</i>	<i>Tabanus</i>
<i>T. proximus</i>	<i>Tabanus</i>
<i>T. pruinus</i>	<i>Tabanus</i>
<i>T. prunicolor</i>	Unassigned
<i>T. pseudoannularis</i>	Unassigned
<i>T. pseudocingulatus</i>	<i>Agelanius</i>
<i>T. pseudoculus</i>	Unassigned
<i>T. pseudogratus</i>	Unassigned
<i>T. pseudoliviventr</i>	Unassigned
<i>T. pseudolunatus</i>	Unassigned
<i>T. pseudonebulosus</i>	Unassigned
<i>T. pseudothoracinus</i>	Unassigned
<i>T. ptolemaeanus</i>	Unassigned
<i>T. pubescens</i>	Unassigned
<i>T. pugiunculus</i>	Unassigned
<i>T. puillomaculatus</i>	Unassigned
<i>T. pullulus</i>	Unassigned
<i>T. pullus</i>	Unassigned
<i>T. pulvifer</i>	Unassigned
<i>T. pumilus</i>	<i>Tabanus</i>
<i>T. punctifer</i>	<i>Tabanus</i>
<i>T. punctipleura</i>	Unassigned
<i>T. puncturius</i>	Unassigned
<i>T. pungens</i>	<i>Tabanus</i>
<i>T. pusillus</i>	<i>Tabanus</i>
<i>T. puteus</i>	<i>Tabanus</i>
<i>T. qinlingensis</i>	Unassigned
<i>T. quadrifocus</i>	Unassigned
<i>T. quadriguttatus</i>	Unassigned
<i>T. quadrisignatus</i>	Unassigned
<i>T. quadritriangularis</i>	<i>Tabanus</i>
<i>T. quaesitus</i>	<i>Tabanus</i>
<i>T. quatei</i>	<i>Tabanus</i>
<i>T. quatuornotatus</i>	Unassigned
<i>T. queenslandii</i>	Unassigned
<i>T. quinarius</i>	Unassigned
<i>T. quinquecinctus</i>	<i>Tabanus</i>
<i>T. quinquepunctatus</i>	Unassigned
<i>T. quinquetriangularis</i>	<i>Tabanus</i>
<i>T. quinquevittatus</i>	<i>Tabanus</i>
<i>T. quirinus</i>	Unassigned
<i>T. rageaui</i>	Unassigned

<i>T. rallus</i>	Unassigned
<i>T. rectilineatus</i>	<i>Tabanus</i>
<i>T. rectus</i>	Unassigned
<i>T. recusans</i>	Unassigned
<i>T. reducens</i>	<i>Tabanus</i>
<i>T. regularis</i>	Unassigned
<i>T. reinwardtii</i>	<i>Tabanus</i>
<i>T. remotus</i>	Unassigned
<i>T. restrepoensis</i>	Unassigned
<i>T. rhinargus</i>	<i>Tabanus</i>
<i>T. rhizonshine</i>	<i>Tabanus</i>
<i>T. rhizophorae</i>	Unassigned
<i>T. ricardae</i>	Unassigned
<i>T. rixator</i>	Unassigned
<i>T. riyadhae</i>	Unassigned
<i>T. rockefelleri</i>	<i>Tabanus</i>
<i>T. rosarioi</i>	Unassigned
<i>T. rosselensis</i>	Unassigned
<i>T. rossi</i>	<i>Tabanus</i>
<i>T. rothschildi</i>	Unassigned
<i>T. roubaudi</i>	<i>Tabanus</i>
<i>T. rousselii</i>	Unassigned
<i>T. rubicundulus</i>	<i>Tabanus</i>
<i>T. rubicundus</i>	<i>Tabanus</i>
<i>T. rubidaceus</i>	Unassigned
<i>T. rubidoides</i>	<i>Tabanus</i>
<i>T. rubidus</i>	<i>Tabanus</i>
<i>T. rubiginosus</i>	<i>Tabanus</i>
<i>T. rubioi</i>	Unassigned
<i>T. rubiventris</i>	Unassigned
<i>T. rubricauda</i>	Unassigned
<i>T. rubripes</i>	Unassigned
<i>T. rubriscutatus</i>	<i>Tabanus</i>
<i>T. rubriventris</i>	Unassigned
<i>T. rubudooides</i>	Unassigned
<i>T. rufescens</i>	Unassigned
<i>T. ruficoloratus</i>	<i>Tabanus</i>
<i>T. rufidens</i>	Unassigned
<i>T. rufimediis</i>	<i>Tabanus</i>
<i>T. rufioloratus</i>	<i>Tabanus</i>
<i>T. rufipes</i>	Unassigned
<i>T. rufiscutellatus</i>	<i>Tabanus</i>
<i>T. rufiventris</i>	Unassigned
<i>T. rufofrater</i>	<i>Tabanus</i>
<i>T. rufus</i>	Unassigned
<i>T. ruoqiagensis</i>	Unassigned
<i>T. rupinae</i>	Unassigned
<i>T. rupium</i>	Unassigned
<i>T. russatoides</i>	Unassigned
<i>T. russatus</i>	Unassigned
<i>T. rusticatus</i>	Unassigned
<i>T. ryukyuensis</i>	<i>Tabanus</i>
<i>T. sabuletoroides</i>	Unassigned
<i>T. sabuletorum</i>	Unassigned
<i>T. sackeni</i>	<i>Tabanus</i>
<i>T. safavii</i>	Unassigned
<i>T. sagax</i>	<i>Tabanus</i>
<i>T. sagittipalpis</i>	<i>Tabanus</i>
<i>T. samarensis</i>	<i>Tabanus</i>
<i>T. samawangensis</i>	Unassigned

<i>T. samoensis</i>	Unassigned
<i>T. sandersoni</i>	Unassigned
<i>T. sannio</i>	Unassigned
<i>T. sanyaensis</i>	Unassigned
<i>T. sapporoensis</i>	Unassigned
<i>T. sapporoenus</i>	Unassigned
<i>T. sarbazensis</i>	Unassigned
<i>T. sarmentoi</i>	Unassigned
<i>T. sasai</i>	Unassigned
<i>T. sauteri</i>	<i>Tabanus</i>
<i>T. saxicolus</i>	Unassigned
<i>T. scaralus</i>	Unassigned
<i>T. schadei</i>	Unassigned
<i>T. schiva</i>	Unassigned
<i>T. scholae</i>	Unassigned
<i>T. schurmansi</i>	<i>Tabanus</i>
<i>T. schwardti</i>	Unassigned
<i>T. scutellus</i>	<i>Tabanus</i>
<i>T. searsi</i>	<i>Tabanus</i>
<i>T. secedens</i>	Unassigned
<i>T. secundus</i>	Unassigned
<i>T. selene</i>	Unassigned
<i>T. selousi</i>	Unassigned
<i>T. selvaticus</i>	<i>Tabanus</i>
<i>T. semenovi</i>	Unassigned
<i>T. semiargenteus</i>	Unassigned
<i>T. semicircularis</i>	Unassigned
<i>T. semirufus</i>	<i>Tabanus</i>
<i>T. separatus</i>	Unassigned
<i>T. sepiensis</i>	<i>Tabanus</i>
<i>T. sepikensis</i>	Unassigned
<i>T. sequens</i>	Unassigned
<i>T. sericiventris</i>	Unassigned
<i>T. serus</i>	<i>Tabanus</i>
<i>T. servillei</i>	<i>Tabanus</i>
<i>T. severini</i>	Unassigned
<i>T. sexcinctus</i>	<i>Tabanus</i>
<i>T. sextriangulus</i>	Unassigned
<i>T. shaanxiensis</i>	Unassigned
<i>T. shannonellus</i>	Unassigned
<i>T. shantungensis</i>	Unassigned
<i>T. shelkovnikovi</i>	Unassigned
<i>T. shennongjianensis</i>	Unassigned
<i>T. shikokuensis</i>	Unassigned
<i>T. shyamarupi</i>	<i>Tabanus</i>
<i>T. siamensis</i>	<i>Tabanus</i>
<i>T. siassensis</i>	Unassigned
<i>T. sibsagarensis</i>	Unassigned
<i>T. siccus</i>	Unassigned
<i>T. sidneyensis</i>	Unassigned
<i>T. siebersi</i>	<i>Tabanus</i>
<i>T. sierrensis</i>	<i>Tabanus</i>
<i>T. signatipennis</i>	Unassigned
<i>T. signatus</i>	Unassigned
<i>T. signifer</i>	<i>Tabanus</i>
<i>T. significans</i>	<i>Tabanus</i>
<i>T. silvanus</i>	Unassigned
<i>T. similis</i>	<i>Tabanus</i>
<i>T. simplicissimus</i>	<i>Tabanus</i>
<i>T. simpsoni</i>	Unassigned

<i>T. sinewitensis</i>	Unassigned
<i>T. sinicus</i>	<i>Tabanus</i>
<i>T. skarduensis</i>	Unassigned
<i>T. smirnovi</i>	Unassigned
<i>T. soembawensis</i>	<i>Tabanus</i>
<i>T. sorbillans</i>	Unassigned
<i>T. soubiroui</i>	<i>Tabanus</i>
<i>T. sowi</i>	Unassigned
<i>T. sparus</i>	<i>Tabanus</i>
<i>T. spec</i>	Unassigned
<i>T. speciosus</i>	<i>Tabanus</i>
<i>T. spectabilis</i>	Unassigned
<i>T. speculum</i>	<i>Tabanus</i>
<i>T. sphinx</i>	<i>Tabanus</i>
<i>T. splendens</i>	Unassigned
<i>T. spodopteroides</i>	Unassigned
<i>T. spodopterus</i>	Unassigned
<i>T. stabilis</i>	Unassigned
<i>T. stackelbergiellus</i>	Unassigned
<i>T. statzi</i> (fossil)	Unassigned
<i>T. stekhoveni</i>	<i>Tabanus</i>
<i>T. stenocephalus</i>	Unassigned
<i>T. sticticolis</i>	Unassigned
<i>T. stonei</i>	<i>Tabanus</i>
<i>T. strangmannii</i>	Unassigned
<i>T. striatus</i>	<i>Tabanus</i>
<i>T. strigimaculus</i>	Unassigned
<i>T. strix</i>	Unassigned
<i>T. stueberi</i>	Unassigned
<i>T. stygius</i>	<i>Tabanus</i>
<i>T. subbasalis</i>	Unassigned
<i>T. subcaeruleus</i>	Unassigned
<i>T. subcallosus</i>	Unassigned
<i>T. subcamipus</i>	<i>Tabanus</i>
<i>T. subcanipus</i>	<i>Tabanus</i>
<i>T. subcinerascens</i>	<i>Tabanus</i>
<i>T. subcinerescens</i>	Unassigned
<i>T. subcinnamoneus</i>	Unassigned
<i>T. subcohaerens</i>	Unassigned
<i>T. subcordiger</i>	<i>Tabanus</i>
<i>T. subcrassus</i>	Unassigned
<i>T. subfemoralis</i>	<i>Tabanus</i>
<i>T. subflavicornis</i>	<i>Tabanus</i>
<i>T. subfurvicaudus</i>	Unassigned
<i>T. subhirtus</i>	<i>Tabanus</i>
<i>T. subhybridus</i>	<i>Tabanus</i>
<i>T. subimmanis</i>	<i>Tabanus</i>
<i>T. subjoidus</i>	<i>Tabanus</i>
<i>T. sublongus</i>	<i>Tabanus</i>
<i>T. submacilentus</i>	Unassigned
<i>T. submalayensis</i>	Unassigned
<i>T. subniger</i>	<i>Tabanus</i>
<i>T. suboblongus</i>	Unassigned
<i>T. suboliviventris</i>	Unassigned
<i>T. subparadoxus</i>	Unassigned
<i>T. subpulliomaculatus</i>	Unassigned
<i>T. subrecusans</i>	Unassigned
<i>T. subruber</i>	<i>Tabanus</i>
<i>T. subrubidus</i>	<i>Tabanus</i>
<i>T. subrussatus</i>	Unassigned

<i>T. subsabuletorum</i>	Unassigned
<i>T. subsimilis</i>	Unassigned
<i>T. subsinerascens</i>	<i>Tabanus</i>
<i>T. subviolaceus</i>	Unassigned
<i>T. succurvus</i>	<i>Tabanus</i>
<i>T. sudeticus</i>	Unassigned
<i>T. sufis</i>	<i>Tabanus</i>
<i>T. sugens</i>	Unassigned
<i>T. sulcifrons</i>	<i>Tabanus</i>
<i>T. sulfurescens</i>	<i>Tabanus</i>
<i>T. sumatrensis</i>	<i>Tabanus</i>
<i>T. superjumentarius</i>	<i>Tabanus</i>
<i>T. surifer</i>	Unassigned
<i>T. swiridowi</i>	Unassigned
<i>T. symmetrus</i>	Unassigned
<i>T. syriacus</i>	Unassigned
<i>T. systemus</i>	Unassigned
<i>T. szechenyianus</i>	<i>Tabanus</i>
<i>T. sziladyi</i>	<i>Tabanus</i>
<i>T. taeniatus</i>	Unassigned
<i>T. taeniellus</i>	<i>Tabanus</i>
<i>T. taeniola</i>	Unassigned
<i>T. taiensis</i>	Unassigned
<i>T. taipingensis</i>	Unassigned
<i>T. taiwanus</i>	Unassigned
<i>T. talyshi</i>	Unassigned
<i>T. tambaensis</i>	Unassigned
<i>T. tamthaiorum</i>	Unassigned
<i>T. tangi</i>	Unassigned
<i>T. tardinotus</i>	Unassigned
<i>T. taygetus</i>	Unassigned
<i>T. teishengi</i>	Unassigned
<i>T. tenasserimi</i>	<i>Tabanus</i>
<i>T. tendeiroi</i>	Unassigned
<i>T. tenebrosus</i>	<i>Tabanus</i>
<i>T. tenens</i>	<i>Tabanus</i>
<i>T. tenuicornis</i>	Unassigned
<i>T. tenuifrons</i>	<i>Tabanus</i>
<i>T. tenuipalpis</i>	Unassigned
<i>T. tenuis</i>	Unassigned
<i>T. tenuistria</i>	Unassigned
<i>T. tephrodes</i>	Unassigned
<i>T. teraiensis</i>	<i>Tabanus</i>
<i>T. tergestinus</i>	Unassigned
<i>T. terminalis</i>	Unassigned
<i>T. terterjani</i>	Unassigned
<i>T. testaceiventris</i>	Unassigned
<i>T. testaceus</i>	Unassigned
<i>T. tetropsis</i>	<i>Tabanus</i>
<i>T. texanus</i>	<i>Tabanus</i>
<i>T. thellus</i>	Unassigned
<i>T. thermarum</i>	Unassigned
<i>T. thiemana</i>	Unassigned
<i>T. thoracinus</i>	Unassigned
<i>T. thurmani</i>	<i>Tabanus</i>
<i>T. tianyui</i>	Unassigned
<i>T. tienmuensis</i>	<i>Tabanus</i>
<i>T. tientsinensis</i>	Unassigned
<i>T. tiluensis</i>	<i>Tabanus</i>
<i>T. tinctipennis</i>	Unassigned

<i>T. tinctorhorax</i>	<i>Tabanus</i>
<i>T. tinctus</i>	Unassigned
<i>T. titoi</i>	Unassigned
<i>T. tokaraensis</i>	Unassigned
<i>T. tokunoshimaensis</i>	Unassigned
<i>T. tonglai</i>	<i>Tabanus</i>
<i>T. toshiokai</i>	Unassigned
<i>T. toumanoffi</i>	<i>Tabanus</i>
<i>T. townsendi</i>	Unassigned
<i>T. townsvilli</i>	Unassigned
<i>T. transversus</i>	Unassigned
<i>T. traubi</i>	<i>Tabanus</i>
<i>T. tremembeensis</i>	Unassigned
<i>T. triangularis</i>	Unassigned
<i>T. trianguliger</i>	Unassigned
<i>T. triangulum</i>	Unassigned
<i>T. triceps</i>	Unassigned
<i>T. tricoloratus</i>	<i>Tabanus</i>
<i>T. tricolorus</i>	Unassigned
<i>T. trifasciatus</i>	Unassigned
<i>T. trigonus</i>	Unassigned
<i>T. trijunctus</i>	<i>Tabanus</i>
<i>T. trilineatus</i>	Unassigned
<i>T. trimaculatus</i>	<i>Tabanus</i>
<i>T. trinominatus</i>	<i>Tabanus</i>
<i>T. tripurensis</i>	<i>Tabanus</i>
<i>T. triquetroratus</i>	Unassigned
<i>T. tristichus</i>	Unassigned
<i>T. tristis</i>	<i>Tabanus</i>
<i>T. trivittatus</i>	Unassigned
<i>T. tuberculatus</i>	<i>Tabanus</i>
<i>T. tumidicallus</i>	Unassigned
<i>T. tumiscapens</i>	<i>Tabanus</i>
<i>T. tunicatus</i>	Unassigned
<i>T. turbidus</i>	<i>Tabanus</i>
<i>T. umbrinus</i>	Unassigned
<i>T. umbripennis</i>	Unassigned
<i>T. undulans</i>	<i>Tabanus</i>
<i>T. unicoloratus</i>	Unassigned
<i>T. unicus</i>	Unassigned
<i>T. unifasciatus</i>	Unassigned
<i>T. unifasciens</i>	<i>Tabanus</i>
<i>T. uniformis</i>	<i>Tabanus</i>
<i>T. unilineatus</i>	Unassigned
<i>T. unipunctatus</i>	Unassigned
<i>T. unisignatus</i>	<i>Tabanus</i>
<i>T. unistriatus</i>	Unassigned
<i>T. univentris</i>	<i>Tabanus</i>
<i>T. ustus</i>	Unassigned
<i>T. vagus</i>	Unassigned
<i>T. vanleeuweni</i>	Unassigned
<i>T. varelai</i>	Unassigned
<i>T. variabilis</i>	Unassigned
<i>T. varians</i>	Unassigned
<i>T. varicolor</i>	<i>Tabanus</i>
<i>T. variegatus</i>	Unassigned
<i>T. varipes</i>	Unassigned
<i>T. variventris</i>	Unassigned
<i>T. vaseyi</i>	Unassigned
<i>T. vectensis</i> (fossil)	Unassigned

<i>T. velutinus</i>	Unassigned
<i>T. ventriflavimarginatus</i>	<i>Tabanus</i>
<i>T. venustus</i>	<i>Tabanus</i>
<i>T. vernus</i>	Unassigned
<i>T. vestitus</i>	Unassigned
<i>T. veterinarius</i>	Unassigned
<i>T. vibex</i>	Unassigned
<i>T. vicinus</i>	Unassigned
<i>T. violaceus</i>	<i>Tabanus</i>
<i>T. virgulatus</i>	<i>Tabanus</i>
<i>T. viridis</i>	Unassigned
<i>T. vittiger</i>	Unassigned
<i>T. vivax</i>	<i>Tabanus</i>
<i>T. vix</i>	<i>Tabanus</i>
<i>T. wallacei</i>	<i>Tabanus</i>
<i>T. weiheensis</i>	Unassigned
<i>T. weiningensis</i>	Unassigned
<i>T. wellmanii</i>	Unassigned
<i>T. wenzeli</i>	<i>Tabanus</i>
<i>T. weyrauchi</i>	Unassigned
<i>T. wiedemanni</i>	<i>Tabanus</i>
<i>T. wilkersoni</i>	Unassigned
<i>T. williamsii</i>	Unassigned
<i>T. wilpattuensis</i>	Unassigned
<i>T. wilsoni</i>	<i>Tabanus</i>
<i>T. wokei</i>	Unassigned
<i>T. woollastoni</i>	Unassigned
<i>T. wuyishanensis</i>	Unassigned
<i>T. wuzhishanensis</i>	Unassigned
<i>T. wyndhamensis</i>	Unassigned
<i>T. xanthocorus</i>	Unassigned
<i>T. xanthogaster</i>	Unassigned
<i>T. xanthoimus</i>	<i>Tabanus</i>
<i>T. xanthomelas</i>	Unassigned
<i>T. xanthos</i>	Unassigned
<i>T. xanti</i>	<i>Tabanus</i>
<i>T. xenorhynchus</i>	Unassigned
<i>T. xerodes</i>	Unassigned
<i>T. xuezhongii</i>	Unassigned
<i>T. xuthopogon</i>	Unassigned
<i>T. xuthus</i>	<i>Tabanus</i>
<i>T. yablonicus</i>	Unassigned
<i>T. yadongensis</i>	Unassigned
<i>T. yaeyamaensis</i>	Unassigned
<i>T. yakuensis</i>	Unassigned
<i>T. yanbaruensis</i>	Unassigned
<i>T. yao</i>	Unassigned
<i>T. yarchus</i>	Unassigned
<i>T. yasujensis</i>	Unassigned
<i>T. yishanensis</i>	Unassigned
<i>T. yoneyamai</i>	Unassigned
<i>T. yoshimotoi</i>	Unassigned
<i>T. yucatanus</i>	Unassigned
<i>T. yulensis</i>	Unassigned
<i>T. yunnanensis</i>	Unassigned
<i>T. zancala</i>	<i>Tabanus</i>
<i>T. zayaensis</i>	Unassigned
<i>T. zayasi</i>	<i>Taeniotabanus</i>
<i>T. zayuensis</i>	Unassigned
<i>T. zebrinus</i>	<i>Tabanus</i>

<i>T. zeirii</i>	Unassigned
<i>T. zhongpingi</i>	Unassigned
<i>T. zimini</i>	Unassigned
<i>T. zodiacus</i>	Unassigned
<i>T. zoster</i>	<i>Tabanus</i>

<i>T. zoulouensis</i>	Unassigned
<i>T. zunmingi</i>	Unassigned
<i>T. zythicolor</i>	<i>Tabanus</i>

<b>Chrysops species</b>	<b>Subgenus</b>
<i>C. abaptistus</i>	Unassigned
<i>C. abatus</i>	Unassigned
<i>C. abavius</i>	<i>Chrysops</i>
<i>C. aberrans</i>	<i>Chrysops</i>
<i>C. additus</i>	Unassigned
<i>C. aeneus</i>	<i>Chrysops</i>
<i>C. aestuans</i>	<i>Chrysops</i>
<i>C. affinis</i>	<i>Chrysops</i>
<i>C. alajuelensis</i>	Unassigned
<i>C. albicinctus</i>	Unassigned
<i>C. alleni</i>	Unassigned
<i>C. alter</i>	Unassigned
<i>C. altivagus</i>	<i>Chrysops</i>
<i>C. amazon</i>	<i>Chrysops</i>
<i>C. angaricus</i>	<i>Chrysops</i>
<i>C. angolensis</i>	Unassigned
<i>C. anthrax</i>	<i>Chrysops</i>
<i>C. aprugnus</i>	Unassigned
<i>C. argentinus</i>	Unassigned
<i>C. armeniensis</i>	<i>Petersenichrysops</i>
<i>C. asbestos</i>	<i>Chrysops</i>
<i>C. ater</i>	<i>Chrysops</i>
<i>C. atlanticus</i>	<i>Chrysops</i>
<i>C. atrivittatus</i>	Unassigned
<i>C. auroguttatus</i>	Unassigned
<i>C. austeni</i>	Unassigned
<i>C. australis</i>	Unassigned
<i>C. balzaphire</i>	<i>Chrysops</i>
<i>C. basalis</i>	<i>Chrysops</i>
<i>C. beameri</i>	<i>Chrysops</i>
<i>C. berta</i>	Unassigned
<i>C. bicolor</i>	Unassigned
<i>C. bifasciatus</i>	Unassigned
<i>C. bifurcatus</i>	Unassigned
<i>C. bimaculosus</i>	Unassigned
<i>C. bishoppi</i>	<i>Chrysops</i>
<i>C. bistellatus</i>	<i>Chrysops</i>
<i>C. bivittatus</i>	Unassigned
<i>C. boliviensis</i>	Unassigned
<i>C. bonariensis</i>	Unassigned
<i>C. brevifascius</i>	Unassigned
<i>C. brimleyi</i>	<i>Chrysops</i>
<i>C. brucei</i>	Unassigned
<i>C. brunneus</i>	<i>Chrysops</i>
<i>C. bulbicornis</i>	Unassigned
<i>C. buxtoni</i>	<i>Petersenichrysops</i>
<i>C. caecutiens</i>	Unassigned
<i>C. calidus</i>	Unassigned
<i>C. callidus</i>	<i>Chrysops</i>
<i>C. calogaster</i>	Unassigned
<i>C. calopterus</i>	Unassigned
<i>C. calvus</i>	<i>Chrysops</i>

<i>C. canifrons</i>	<i>Chrysops</i>
<i>C. carbonarius</i>	<i>Chrysops</i>
<i>C. centurionis</i>	Unassigned
<i>C. cervulus</i>	Unassigned
<i>C. chaharicus</i>	<i>Chrysops</i>
<i>C. chiefengensis</i>	<i>Chrysops</i>
<i>C. chiriquensis</i>	Unassigned
<i>C. chusanensis</i>	Unassigned
<i>C. ciliaris</i>	Unassigned
<i>C. cincticornis</i>	<i>Chrysops</i>
<i>C. clavicornis</i>	<i>Chrysops</i>
<i>C. coloradensis</i>	<i>Chrysops</i>
<i>C. compactus</i>	<i>Petersenichrysops</i>
<i>C. concavus</i>	<i>Chrysops</i>
<i>C. connexus</i>	<i>Chrysops</i>
<i>C. coquilletti</i>	<i>Chrysops</i>
<i>C. costaricensis</i>	Unassigned
<i>C. costatus</i>	Unassigned
<i>C. croceus</i>	Unassigned
<i>C. crucians</i>	Unassigned
<i>C. cuclux</i>	<i>Chrysops</i>
<i>C. currani</i>	Unassigned
<i>C. cursim</i>	<i>Chrysops</i>
<i>C. dacne</i>	<i>Chrysops</i>
<i>C. dampfi</i>	<i>Chrysops</i>
<i>C. dawsoni</i>	<i>Chrysops</i>
<i>C. decipiens</i>	Unassigned
<i>C. delicatulus</i>	<i>Chrysops</i>
<i>C. degenensis</i>	Unassigned
<i>C. designatus</i>	Unassigned
<i>C. dimidiatus</i>	Unassigned
<i>C. dimmocki</i>	<i>Chrysops</i>
<i>C. discalis</i>	<i>Chrysops</i>
<i>C. dispar</i>	Unassigned
<i>C. dissectus</i>	<i>Chrysops</i>
<i>C. dissimilis</i>	<i>Chrysops</i>
<i>C. distinctipennis</i>	Unassigned
<i>C. divaricatus</i>	<i>Chrysops</i>
<i>C. divisus</i>	<i>Chrysops</i>
<i>C. dixianus</i>	<i>Chrysops</i>
<i>C. dorsopunctus</i>	<i>Chrysops</i>
<i>C. dorsovittatus</i>	<i>Chrysops</i>
<i>C. dubiens</i>	Unassigned
<i>C. ecuadorensis</i>	Unassigned
<i>C. excitans</i>	<i>Chrysops</i>
<i>C. facialis</i>	<i>Chrysops</i>
<i>C. fairchildi</i>	Unassigned
<i>C. fasciatus</i>	Unassigned
<i>C. fascipennis</i>	<i>Chrysops</i>
<i>C. fixissimus</i>	Unassigned
<i>C. flavescens</i>	Unassigned
<i>C. flavidus</i>	<i>Chrysops</i>
<i>C. flavipennis</i>	Unassigned

<i>C. flavipes</i>	<i>Chrysops</i>
<i>C. flaviscutellatus</i>	Unassigned
<i>C. flaviventris</i>	Unassigned
<i>C. flavocinctus</i>	Unassigned
<i>C. flavoscutellatus</i>	Unassigned
<i>C. flinti</i>	Unassigned
<i>C. floridanus</i>	Unassigned
<i>C. formosus</i>	Unassigned
<i>C. frazari</i>	Unassigned
<i>C. frigidus</i>	<i>Chrysops</i>
<i>C. frontalis</i>	Unassigned
<i>C. fuliginosus</i>	<i>Chrysops</i>
<i>C. fulvaster</i>	<i>Chrysops</i>
<i>C. fulvistigma</i>	<i>Chrysops</i>
<i>C. funebris</i>	Unassigned
<i>C. furcatus</i>	<i>Chrysops</i>
<i>C. fuscipapex</i>	Unassigned
<i>C. fuscipennis</i>	Unassigned
<i>C. fuscomarginalis</i>	Unassigned
<i>C. geminatus</i>	<i>Chrysops</i>
<i>C. godinhoi</i>	Unassigned
<i>C. gracilis</i>	Unassigned
<i>C. grandis</i>	Unassigned
<i>C. griseicollis</i>	Unassigned
<i>C. guttipennis</i>	Unassigned
<i>C. hamatus</i>	<i>Petersenichrysops</i>
<i>C. harmani</i>	<i>Chrysops</i>
<i>C. hinei</i>	<i>Chrysops</i>
<i>C. hirsuticallus</i>	<i>Chrysops</i>
<i>C. hubbardi</i>	Unassigned
<i>C. hyalinus</i>	<i>Liochrysops</i>
<i>C. hyalipennis</i>	<i>Turanochrysops</i>
<i>C. idlani</i>	Unassigned
<i>C. ifasi</i>	<i>Chrysops</i>
<i>C. impunctus</i>	Unassigned
<i>C. incisuralis</i>	Unassigned
<i>C. incisus</i>	Unassigned
<i>C. inconspicuus</i>	Unassigned
<i>C. indianus</i>	Unassigned
<i>C. indus</i>	<i>Chrysops</i>
<i>C. infernalis</i>	Unassigned
<i>C. inflaticornis</i>	Unassigned
<i>C. insulensis</i>	Unassigned
<i>C. intrudens</i>	Unassigned
<i>C. italicus</i>	<i>Chrysops</i>
<i>C. japonicus</i>	<i>Chrysops</i>
<i>C. laetus</i>	Unassigned
<i>C. langi</i>	Unassigned
<i>C. laniger</i>	Unassigned
<i>C. lateralis</i>	<i>Chrysops</i>
<i>C. laticeps</i>	Unassigned
<i>C. latifasciatus</i>	<i>Chrysops</i>
<i>C. latifrons</i>	<i>Chrysops</i>
<i>C. latitibialis</i>	Unassigned
<i>C. leucospilus</i>	Unassigned
<i>C. liaoningensis</i>	<i>Chrysops</i>
<i>C. longicornis</i>	Unassigned
<i>C. longirostris</i>	Unassigned
<i>C. lugens</i>	Unassigned
<i>C. luteopennis</i>	<i>Chrysops</i>

<i>C. lutzi</i>	Unassigned
<i>C. macquarti</i>	<i>Chrysops</i>
<i>C. madagascarensis</i>	Unassigned
<i>C. maerens</i>	Unassigned
<i>C. magnificus</i>	Unassigned
<i>C. makerovi</i>	<i>Chrysops</i>
<i>C. marmoratus</i>	Unassigned
<i>C. matilei</i>	Unassigned
<i>C. mauritanicus</i>	<i>Chrysops</i>
<i>C. maximus</i>	Unassigned
<i>C. melaenus</i>	Unassigned
<i>C. melicharii</i>	<i>Chrysops</i>
<i>C. mexicanus</i>	Unassigned
<i>C. mitis</i>	<i>Chrysops</i>
<i>C. mlkosiewiczi</i>	Unassigned
<i>C. moechus</i>	<i>Chrysops</i>
<i>C. molestus</i>	Unassigned
<i>C. montanus</i>	<i>Chrysops</i>
<i>C. mutatus</i>	<i>Chrysops</i>
<i>C. neavei</i>	Unassigned
<i>C. neobrasiliensis</i>	Unassigned
<i>C. niger</i>	<i>Chrysops</i>
<i>C. nigribimbo</i>	<i>Chrysops</i>
<i>C. nigricarpus</i>	Unassigned
<i>C. nigripes</i>	<i>Chrysops</i>
<i>C. nigriventris</i>	Unassigned
<i>C. nigrobasalis</i>	Unassigned
<i>C. noctifer</i>	<i>Chrysops</i>
<i>C. obliquefasciatus</i>	Unassigned
<i>C. obsoletus</i>	<i>Chrysops</i>
<i>C. okavangoensis</i>	Unassigned
<i>C. olivaceus</i>	Unassigned
<i>C. omissus</i>	Unassigned
<i>C. oxianus</i>	<i>Chrysops</i>
<i>C. pachycerus</i>	Unassigned
<i>C. pachynemius</i>	Unassigned
<i>C. pallidifemoratus</i>	Unassigned
<i>C. pallidiventris</i>	<i>Chrysops</i>
<i>C. pallidulus</i>	Unassigned
<i>C. papuensis</i>	Unassigned
<i>C. paradesignata</i>	Unassigned
<i>C. paraguayensis</i>	Unassigned
<i>C. parallelogrammus</i>	<i>Chrysops</i>
<i>C. parvifascius</i>	Unassigned
<i>C. parvulus</i>	<i>Chrysops</i>
<i>C. passosi</i>	<i>Chrysops</i>
<i>C. patricia</i>	Unassigned
<i>C. pauliani</i>	Unassigned
<i>C. pechumani</i>	<i>Chrysops</i>
<i>C. pellucidus</i>	Unassigned
<i>C. perpensus</i>	Unassigned
<i>C. pertinax</i>	Unassigned
<i>C. peruvianus</i>	Unassigned
<i>C. petersi</i>	Unassigned
<i>C. pettigrewi</i>	Unassigned
<i>C. philipi</i>	Unassigned
<i>C. pikei</i>	<i>Chrysops</i>
<i>C. piresi</i>	<i>Chrysops</i>
<i>C. potanini</i>	<i>Chrysops</i>
<i>C. proclivis</i>	<i>Chrysops</i>

<i>C. provocans</i>	<i>Chrysops</i>
<i>C. pseudofuscipennis</i>	Unassigned
<i>C. pudicus</i>	<i>Chrysops</i>
<i>C. pusillulus</i>	Unassigned
<i>C. reicherti</i>	<i>Chrysops</i>
<i>C. relictus</i>	<i>Chrysops</i>
<i>C. renjifo</i>	Unassigned
<i>C. reticulatus</i>	Unassigned
<i>C. ricardoae</i>	<i>Chrysops</i>
<i>C. rossi</i>	Unassigned
<i>C. rufipes</i>	<i>Chrysops</i>
<i>C. sackeni</i>	<i>Chrysops</i>
<i>C. sandyi</i>	Unassigned
<i>C. scalaratus</i>	Unassigned
<i>C. seguyi</i> (fossil)	Unassigned
<i>C. sejunctus</i>	<i>Chrysops</i>
<i>C. semiignitus</i>	<i>Chrysops</i>
<i>C. separatus</i>	<i>Chrysops</i>
<i>C. sepulcralis</i>	<i>Chrysops</i>
<i>C. sequax</i>	<i>Chrysops</i>
<i>C. shermani</i>	<i>Chrysops</i>
<i>C. signifer</i>	Unassigned
<i>C. silaceus</i>	Unassigned
<i>C. silvialis</i>	Unassigned
<i>C. silvifacies</i>	Unassigned
<i>C. sinensis</i>	Unassigned
<i>C. sordidus</i>	Unassigned
<i>C. soror</i>	Unassigned
<i>C. srilankensis</i>	Unassigned
<i>C. stackelbergi</i>	<i>Turanochrysops</i>
<i>C. stackelbergiellus</i>	<i>Chrysops</i>
<i>C. stekhoveni</i>	Unassigned
<i>C. stimulans</i>	Unassigned
<i>C. stonei</i>	<i>Chrysops</i>
<i>C. streptobalius</i>	Unassigned
<i>C. striatulus</i>	<i>Chrysops</i>
<i>C. striatus</i>	<i>Chrysops</i>
<i>C. suavis</i>	<i>Chrysops</i>
<i>C. subcaecutiens</i>	<i>Chrysops</i>
<i>C. surdus</i>	<i>Chrysops</i>

<i>C. szechuanensis</i>	<i>Chrysops</i>
<i>C. tardus</i>	Unassigned
<i>C. tarimi</i>	Unassigned
<i>C. terminalis</i>	Unassigned
<i>C. thailandensis</i>	Unassigned
<i>C. tibialis</i>	Unassigned
<i>C. tidwelli</i>	<i>Chrysops</i>
<i>C. translucens</i>	Unassigned
<i>C. trifarius</i>	Unassigned
<i>C. trisignatus</i>	Unassigned
<i>C. tristis</i>	Unassigned
<i>C. tumidicornis</i>	Unassigned
<i>C. turanicus</i>	<i>Chrysops</i>
<i>C. univittatus</i>	<i>Chrysops</i>
<i>C. unizona</i>	Unassigned
<i>C. upsilon</i>	<i>Chrysops</i>
<i>C. uruguayensis</i>	Unassigned
<i>C. validus</i>	<i>Chrysops</i>
<i>C. vargus</i>	Unassigned
<i>C. varians</i>	Unassigned
<i>C. variegatus</i>	<i>Chrysops</i>
<i>C. venezuelensis</i>	Unassigned
<i>C. venus</i>	<i>Chrysops</i>
<i>C. viduatus</i>	<i>Chrysops</i>
<i>C. vietnamensis</i>	Unassigned
<i>C. violovitshi</i>	<i>Chrysops</i>
<i>C. virgulatus</i>	<i>Chrysops</i>
<i>C. vittatus</i>	<i>Chrysops</i>
<i>C. weberi</i>	Unassigned
<i>C. wileyae</i>	<i>Chrysops</i>
<i>C. willistoni</i>	Unassigned
<i>C. woodi</i>	Unassigned
<i>C. yamaguchii</i>	<i>Chrysops</i>
<i>C. yunnanensis</i>	Unassigned
<i>C. zahrai</i>	Unassigned
<i>C. zayasi</i>	Unassigned
<i>C. zinzalus</i>	<i>Chrysops</i>

<b><i>Haematopota</i> species</b>
<i>H. abacis</i>
<i>H. abatrata</i>
<i>H. abbreviata</i>
<i>H. aberdarensis</i>
<i>H. abyssinica</i>
<i>H. achlys</i>
<i>H. adami</i>
<i>H. adusta</i>
<i>H. albalinea</i>
<i>H. albicapilla</i>
<i>H. albihalter</i>
<i>H. albihirta</i>
<i>H. albimanica</i>
<i>H. albimedia</i>
<i>H. albiocrea</i>
<i>H. albofasciatipennis</i>

<i>H. algira</i>
<i>H. aliena</i>
<i>H. alluaudi</i>
<i>H. alticola</i>
<i>H. altimontana</i>
<i>H. alyta</i>
<i>H. amala</i>
<i>H. americana</i>
<i>H. amicoi</i>
<i>H. ampla</i>
<i>H. angolensis</i>
<i>H. angustifrons</i>
<i>H. angustisegmentata</i>
<i>H. annandalei</i>
<i>H. annulipes</i>
<i>H. anomala</i>
<i>H. antennata</i>

<i>H. aquilina</i>
<i>H. areei</i>
<i>H. argentipes</i>
<i>H. arioi</i>
<i>H. arrabidaensis</i>
<i>H. assamensis</i>
<i>H. athlyna</i>
<i>H. atomaria</i>
<i>H. atrata</i>
<i>H. atriventer</i>
<i>H. atropathenica</i>
<i>H. aurescens</i>
<i>H. avida</i>
<i>H. ayresi</i>
<i>H. bactriana</i>
<i>H. badia</i>
<i>H. bantuana</i>
<i>H. barombi</i>
<i>H. barri</i>
<i>H. barrosi</i>
<i>H. bashanensis</i>
<i>H. bealesi</i>
<i>H. bedfordi</i>
<i>H. benoisti</i>
<i>H. bequaerti</i>
<i>H. beringeri</i>
<i>H. bicolor</i>
<i>H. bigoti</i>
<i>H. biguttata</i>
<i>H. biharensis</i>
<i>H. bilineata</i>
<i>H. biorbis</i>
<i>H. bipunctata</i>
<i>H. biroi</i>
<i>H. bistrigata</i>
<i>H. bizonata</i>
<i>H. borneana</i>
<i>H. bowdeni</i>
<i>H. brevicornis</i>
<i>H. brevis</i>
<i>H. brucei</i>
<i>H. brulli</i>
<i>H. brunnescens</i>
<i>H. brunnicornis</i>
<i>H. brunnipennis</i>
<i>H. brunnipes</i>
<i>H. brutsaerti</i>
<i>H. bullatifrons</i>
<i>H. burgeri</i>
<i>H. burmanica</i>
<i>H. burtoni</i>
<i>H. burtti</i>
<i>H. caenofrons</i>
<i>H. camicasi</i>
<i>H. cana</i>
<i>H. canapicalis</i>
<i>H. casca</i>
<i>H. caseiroi</i>
<i>H. caspica</i>
<i>H. castaneiventer</i>

<i>H. castroi</i>
<i>H. champlaini</i>
<i>H. chekiangensis</i>
<i>H. chengyongi</i>
<i>H. chinensis</i>
<i>H. chongoroiensis</i>
<i>H. chvalai</i>
<i>H. ciliatipes</i>
<i>H. cilipes</i>
<i>H. cingalensis</i>
<i>H. cingulata</i>
<i>H. circina</i>
<i>H. circumscripta</i>
<i>H. clarkana</i>
<i>H. claudinae</i>
<i>H. coalescens</i>
<i>H. cognata</i>
<i>H. comodoliacis</i>
<i>H. completa</i>
<i>H. concentralis</i>
<i>H. concurrens</i>
<i>H. coninckae</i>
<i>H. contracta</i>
<i>H. coolsi</i>
<i>H. copemanii</i>
<i>H. cordigera</i>
<i>H. coronata</i>
<i>H. corrigata</i>
<i>H. corsoni</i>
<i>H. crassicornis</i>
<i>H. crassicrus</i>
<i>H. crassitibia</i>
<i>H. crewei</i>
<i>H. cristata</i>
<i>H. crossi</i>
<i>H. crudelis</i>
<i>H. cruneta</i>
<i>H. csikii</i>
<i>H. cynthiae</i>
<i>H. darjeelingensis</i>
<i>H. daveyi</i>
<i>H. decora</i>
<i>H. degenensis</i>
<i>H. delicta</i>
<i>H. delozi</i>
<i>H. demeilloni</i>
<i>H. demellonis</i>
<i>H. denshamii</i>
<i>H. desertorum</i>
<i>H. dissimilis</i>
<i>H. distincta</i>
<i>H. divisapex</i>
<i>H. dolondoloensis</i>
<i>H. dubiosa</i>
<i>H. dukei</i>
<i>H. duplicata</i>
<i>H. duttoni</i>
<i>H. echma</i>
<i>H. edax</i>
<i>H. elegans</i>

<i>H. elephantina</i>
<i>H. enriquei</i>
<i>H. ensifer</i>
<i>H. eoptica</i>
<i>H. equina</i>
<i>H. equitibiata</i>
<i>H. erlangshanensis</i>
<i>H. erythromera</i>
<i>H. eugeniae</i>
<i>H. evanescens</i>
<i>H. excipula</i>
<i>H. exiguicornuta</i>
<i>H. faini</i>
<i>H. fairchildi</i>
<i>H. famicis</i>
<i>H. fariai</i>
<i>H. fasciata</i>
<i>H. fasciatapex</i>
<i>H. fenestralis</i>
<i>H. ferruginea</i>
<i>H. festiva</i>
<i>H. fiadeiroi</i>
<i>H. flavicornis</i>
<i>H. flavipuncta</i>
<i>H. fletcheri</i>
<i>H. fonsecai</i>
<i>H. fontesi</i>
<i>H. formosana</i>
<i>H. fradei</i>
<i>H. fraterna</i>
<i>H. fukienensis</i>
<i>H. fulva</i>
<i>H. fulvipes</i>
<i>H. fumigata</i>
<i>H. furians</i>
<i>H. furtiva</i>
<i>H. furva</i>
<i>H. fusca</i>
<i>H. fuscicornis</i>
<i>H. fuscolimbata</i>
<i>H. fuscomarginata</i>
<i>H. gabuensis</i>
<i>H. gallica</i>
<i>H. gallii</i>
<i>H. gamae</i>
<i>H. germaini</i>
<i>H. giganticornuta</i>
<i>H. glenni</i>
<i>H. gobindai</i>
<i>H. gracai</i>
<i>H. gracilicornis</i>
<i>H. gracilis</i>
<i>H. graeca</i>
<i>H. grahami</i>
<i>H. grandis</i>
<i>H. grandvauxi</i>
<i>H. gregoryi</i>
<i>H. greniere</i>
<i>H. gressitti</i>
<i>H. griseicoxa</i>

<i>H. guacangshanensis</i>
<i>H. guangxiensis</i>
<i>H. guineensis</i>
<i>H. hainani</i>
<i>H. hakusanensis</i>
<i>H. hanzhogensis</i>
<i>H. hardyi</i>
<i>H. harpax</i>
<i>H. hastata</i>
<i>H. hedini</i>
<i>H. helviverter</i>
<i>H. hennauxi</i>
<i>H. heptagramma</i>
<i>H. hieroglyphica</i>
<i>H. hikosanensis</i>
<i>H. hindostani</i>
<i>H. hirsuta</i>
<i>H. hirsuticornis</i>
<i>H. hirsutitarsus</i>
<i>H. hirta</i>
<i>H. holtmanni</i>
<i>H. horrida</i>
<i>H. hostilis</i>
<i>H. howarthi</i>
<i>H. imbrium</i>
<i>H. immaculata</i>
<i>H. inconspicua</i>
<i>H. incrassicornis</i>
<i>H. indiana</i>
<i>H. infernalis</i>
<i>H. inflaticornis</i>
<i>H. ingluvisosa</i>
<i>H. innominata</i>
<i>H. inornata</i>
<i>H. insidiatrix</i>
<i>H. intermedia</i>
<i>H. intricata</i>
<i>H. irregularis</i>
<i>H. irritans</i>
<i>H. irrorata</i>
<i>H. italica</i>
<i>H. jacobsoni</i>
<i>H. javana</i>
<i>H. jellisoni</i>
<i>H. jianzhongi</i>
<i>H. jiri</i>
<i>H. johnburtoni</i>
<i>H. kansuensis</i>
<i>H. kashmirensis</i>
<i>H. katangaensis</i>
<i>H. kaulbacki</i>
<i>H. kemali</i>
<i>H. keralaensis</i>
<i>H. kerri</i>
<i>H. kivuensis</i>
<i>H. knekidis</i>
<i>H. koryoensis</i>
<i>H. kouzuensis</i>
<i>H. krombeini</i>
<i>H. lacessens</i>

<i>H. lambi</i>
<i>H. lamborni</i>
<i>H. lamottei</i>
<i>H. lancangjiangensis</i>
<i>H. lasiops</i>
<i>H. lata</i>
<i>H. latebricola</i>
<i>H. lathamii</i>
<i>H. latifascia</i>
<i>H. laverani</i>
<i>H. leclercqui</i>
<i>H. lepointei</i>
<i>H. lewisi</i>
<i>H. libera</i>
<i>H. limai</i>
<i>H. limbata</i>
<i>H. lineata</i>
<i>H. lineola</i>
<i>H. lineota</i>
<i>H. litoralis</i>
<i>H. lobatoi</i>
<i>H. longa</i>
<i>H. longeantennata</i>
<i>H. longipennis</i>
<i>H. lukiangensis</i>
<i>H. lunai</i>
<i>H. lumulata</i>
<i>H. machadoi</i>
<i>H. maculata</i>
<i>H. maculiplena</i>
<i>H. maculosifacies</i>
<i>H. magnifica</i>
<i>H. malabarica</i>
<i>H. malacrizi</i>
<i>H. malayensis</i>
<i>H. malefica</i>
<i>H. mangkamensis</i>
<i>H. marakuetana</i>
<i>H. marceli</i>
<i>H. marginata</i>
<i>H. marthae</i>
<i>H. masseyi</i>
<i>H. matherani</i>
<i>H. matosi</i>
<i>H. megaera</i>
<i>H. meglensis</i>
<i>H. melloi</i>
<i>H. mendesi</i>
<i>H. mendossaorum</i>
<i>H. mengdingensis</i>
<i>H. menglaensis</i>
<i>H. mephista</i>
<i>H. meteorica</i>
<i>H. microcera</i>
<i>H. mingqingi</i>
<i>H. minuscula</i>
<i>H. minuscularia</i>
<i>H. mlanjensis</i>
<i>H. mokanshanensis</i>
<i>H. molesta</i>

<i>H. montana</i>
<i>H. monteiroi</i>
<i>H. monticola</i>
<i>H. montisdraconis</i>
<i>H. mordax</i>
<i>H. mordens</i>
<i>H. moreli</i>
<i>H. mouchai</i>
<i>H. mouzinhoi</i>
<i>H. mukteswarensis</i>
<i>H. nagashimai</i>
<i>H. nasuensis</i>
<i>H. nathani</i>
<i>H. neavei</i>
<i>H. nefanda</i>
<i>H. nefandoides</i>
<i>H. nepalensis</i>
<i>H. newtoni</i>
<i>H. nigriantenna</i>
<i>H. nigricans</i>
<i>H. nigricolor</i>
<i>H. nigrifrons</i>
<i>H. nigripennis</i>
<i>H. nigrita</i>
<i>H. nigrocinerea</i>
<i>H. nigrofusca</i>
<i>H. nitidifacies</i>
<i>H. nobilis</i>
<i>H. nobrei</i>
<i>H. nocens</i>
<i>H. nociva</i>
<i>H. noxialis</i>
<i>H. nubilis</i>
<i>H. obscura</i>
<i>H. obsoleta</i>
<i>H. ocellata</i>
<i>H. ocelligera</i>
<i>H. ochracea</i>
<i>H. okui</i>
<i>H. oldroydi</i>
<i>H. olsuffevi</i>
<i>H. omeishanensis</i>
<i>H. oporina</i>
<i>H. orba</i>
<i>H. ovazzai</i>
<i>H. pachycera</i>
<i>H. paisanai</i>
<i>H. palancaensis</i>
<i>H. pallens</i>
<i>H. pallida</i>
<i>H. pallidimarginata</i>
<i>H. pallidipennis</i>
<i>H. pallidula</i>
<i>H. pandazisi</i>
<i>H. paratruncata</i>
<i>H. pardalina</i>
<i>H. partifascia</i>
<i>H. passosi</i>
<i>H. patellicornis</i>
<i>H. pattoni</i>

<i>H. paucipunctata</i>
<i>H. paulettae</i>
<i>H. pavlovskii</i>
<i>H. pearsoni</i>
<i>H. pechumani</i>
<i>H. pekingensis</i>
<i>H. pellucida</i>
<i>H. pendleburyi</i>
<i>H. pereirai</i>
<i>H. perplexa</i>
<i>H. personata</i>
<i>H. pertinens</i>
<i>H. perturbans</i>
<i>H. peusi</i>
<i>H. philipi</i>
<i>H. picea</i>
<i>H. picta</i>
<i>H. pilosifemura</i>
<i>H. pinguicornis</i>
<i>H. pinicola</i> (fossil)
<i>H. piresi</i>
<i>H. pisinna</i>
<i>H. pluvialis</i>
<i>H. pollinantenna</i>
<i>H. pottsi</i>
<i>H. pratasi</i>
<i>H. procyon</i>
<i>H. proluxa</i>
<i>H. przewalskii</i>
<i>H. pseudolusitanica</i>
<i>H. pseudomachadoi</i>
<i>H. pulchella</i>
<i>H. punctifera</i>
<i>H. punctulata</i>
<i>H. pungens</i>
<i>H. pygmaea</i>
<i>H. qilianshanensis</i>
<i>H. qionghaiensis</i>
<i>H. quadrifenestrata</i>
<i>H. quartau</i>
<i>H. quathlambia</i>
<i>H. qui</i>
<i>H. rabida</i>
<i>H. rafaeli</i>
<i>H. rara</i>
<i>H. recurrens</i>
<i>H. remota</i>
<i>H. restricta</i>
<i>H. ribeirorum</i>
<i>H. rohtakensis</i>
<i>H. roralis</i>
<i>H. rotundata</i>
<i>H. rubens</i>
<i>H. rubida</i>
<i>H. rubidicornis</i>
<i>H. rufipennis</i>
<i>H. rufula</i>
<i>H. ruwenzorii</i>
<i>H. sabiensis</i>
<i>H. saccae</i>

<i>H. saegeri</i>
<i>H. salomae</i>
<i>H. sanguinaria</i>
<i>H. saravanensis</i>
<i>H. sauli</i>
<i>H. scanloni</i>
<i>H. schmidi</i>
<i>H. schoutedeni</i>
<i>H. scutellaris</i>
<i>H. scutellata</i>
<i>H. semiclara</i>
<i>H. serranoi</i>
<i>H. sewelli</i>
<i>H. seydeli</i>
<i>H. shinonagai</i>
<i>H. sica</i>
<i>H. sidamensis</i>
<i>H. sikkimensis</i>
<i>H. similis</i>
<i>H. sinensis</i>
<i>H. sineroides</i>
<i>H. singarensis</i>
<i>H. singularis</i>
<i>H. sobrina</i>
<i>H. sofalensis</i>
<i>H. sparsa</i>
<i>H. spectabilis</i>
<i>H. spenceri</i>
<i>H. sphaerocallus</i>
<i>H. splendens</i>
<i>H. stackelbergi</i>
<i>H. stimulans</i>
<i>H. stonei</i>
<i>H. striata</i>
<i>H. subcylindrica</i>
<i>H. subirrorata</i>
<i>H. subkoryoensis</i>
<i>H. subturkestanica</i>
<i>H. sumelae</i>
<i>H. surugaensis</i>
<i>H. tabanula</i>
<i>H. taciturna</i>
<i>H. takensis</i>
<i>H. tamerlani</i>
<i>H. taunggyiensis</i>
<i>H. tchivinguiroensis</i>
<i>H. teixeirai</i>
<i>H. tenasserimi</i>
<i>H. tendeiroi</i>
<i>H. tenuicrus</i>
<i>H. tenuis</i>
<i>H. tessellata</i>
<i>H. theobaldi</i>
<i>H. thurmanorum</i>
<i>H. tiomanensis</i>
<i>H. tonkiniana</i>
<i>H. torquens</i>
<i>H. torrevillasi</i>
<i>H. tosta</i>
<i>H. touratieri</i>

<i>H. toyamensis</i>
<i>H. transiens</i>
<i>H. travassosdiasii</i>
<i>H. triatipennis</i>
<i>H. tuberculata</i>
<i>H. tumidicornis</i>
<i>H. turkestanica</i>
<i>H. ugandae</i>
<i>H. unicolor</i>
<i>H. u-nigrum</i>
<i>H. unizonata</i>
<i>H. ustulata</i>
<i>H. valadonis</i>
<i>H. variantennata</i>
<i>H. varifrons</i>
<i>H. vassali</i>
<i>H. veigasimonis</i>
<i>H. vexans</i>
<i>H. vexativa</i>
<i>H. vicentei</i>
<i>H. vicina</i>
<i>H. vieirai</i>

<i>H. vilhenai</i>
<i>H. vimoli</i>
<i>H. virgatipennis</i>
<i>H. vittata</i>
<i>H. volneri</i>
<i>H. vulcan</i>
<i>H. vulnerans</i>
<i>H. vulnifica</i>
<i>H. whartoni</i>
<i>H. willistoni</i>
<i>H. wittei</i>
<i>H. wuzhishanensis</i>
<i>H. yanggangi</i>
<i>H. yongpingi</i>
<i>H. yungani</i>
<i>H. yunnanensis</i>
<i>H. yunnanoides</i>
<i>H. zambeziaca</i>
<i>H. zengjiani</i>
<i>H. zombaensis</i>
<i>H. zophera</i>
<i>H. zuluensis</i>

**Parasite morphology:** Tabanid flies form 4 different types of morphological stages during their development: eggs; larvae (6-13 instars); pupae; and adults (males and females). Eggs are large and elongate (1-3 mm long), elliptical-cylindrical with rounded ends, and initially creamy white but darken to brown-black within several hours. Upon hatching, the eggs release fusiform segmented larvae which moult through 6-13 instars gradually growing up to 15-30 mm long (a few species grow up to 60 mm). Most stages are creamy-white with dark bands on each segment, although some species are green-brownish or appear mottled due to species-specific pigmentation patterns. The larvae have small incomplete (partially sclerotized) head capsules with a pair of 3-jointed antennae and strong curved mandibles. The abdominal segments have lateral and ventral warty outgrowths known as pseudopods (3 pairs in Chrysopinae, 4 pairs in Tabaninae). The pseudopods are intermediate in size in semi-aquatic species (represented by most tabanids), short in terrestrial species, but longer and dentate in the few species adapted to fully aquatic habitats. The larvae breathe through a posterior dorsal respiratory siphon and the anal segment has an enigmatic pear-shaped vesicle (Graber's organ). The final larval instar forms a cylindrical pupa, rounded anteriorly and tapering posteriorly, measuring up to 20-30 mm long. Pupae are glossy brown in appearance and have a rigid anterior cephalothorax covering, 7 flexible abdominal segments (most bearing marginal setae), and several pairs of caudal spine-like tubercles (known as pupal asters). Details of the internal morphological features of the developing adult are visible through the pupal case, including the head, thoracic and abdominal segments, with wings and legs closely appressed to the body. Adult tabanids are large robust stout flies (5-30 mm long) with big coloured eyes, prominent antennae, pendulous palps, broad wings with marginal Y-shaped veins, and feet with 3 pads. They have a covering of fine setae imparting a slightly furry appearance, particularly over the head and thorax, but their bodies do not have large bristle-like setae (commonly found on muscid and calliphorid flies). Tabanids may be readily differentiated into horse flies (Tabaninae) or deer flies (Chrysopinae) on basis of several characters. Horse flies are larger (10-30 mm) and have dark bodies (brown-black, sometimes green-blue, often with stripes of pale patches) while deer flies are smaller (5-11 mm) and have lighter bodies (yellow-orange to grey, with striped abdomens). Both have large compound eyes that are brightly coloured appearing iridescent in life (green-brown with horizontal stripes in *Tabanus*, green-red with zigzag bands in *Haematopota*, and gold-green with spots in *Chrysops*). The eyes are separated by a frons in females (dichoptic) but touch medially in males (holoptic). Small ocelli are also present in deer flies but vestigial or absent in horse flies. Both have prominent antennae projecting forwards, but those in horse flies are shorter, The antennae are composed of 3 segments of symmetric (*Haematopota*) or asymmetric (*Tabanus*, *Chrysops*) shape: a basal scape; middle pedicel; and an elongate anterior flagellum (base enlarged in *Tabanus*) with multiple pseudosegments (flagellomeres) separated by small annulations (3 in *Haematopota*, 4 in *Chrysops* and *Tabanus*). The first flagellomere is thicker in all genera, and bears a lateral horn-like projection in *Tabanus* spp. The head contains a stout ventral proboscis formed by a fleshy labium (with terminal sensory labella) containing a bundle of 6 chitinous stylets used for feeding. The stylets include a pair of flat saw-like mandibles and a pair of narrow toothed file-like maxillae used to lacerate tissues, together with a rigid hypopharynx to deliver saliva and a large labellum to sponge up fluids. These slashing-sponging mouthparts are well developed in female flies which feed on blood, but are highly reduced in males which only feed on nectar and plant exudates. The mouthparts are flanked by 2 maxillary palps, each consisting of 2 segments with the base of the apical segment being enlarged and often appearing bulbous. The alimentary tract consists of a tubular oesophagus leading to a globular proventriculus (with saccular diverticula (or crop) where dilute fluids may be shunted for temporary storage) connected to a tubular midgut (for digestion), hindgut (with excretory Malpighian tubules), rectum (with expandable ampulla) and terminal anus. The globular thorax is covered by a tough scutum with a posterior lobe-like scutellum and bears 2 pairs of thoracic respiratory spiracles. The dorsal thorax gives rise to a pair of broad

membranous forewings (clear, cloudy or spotted in *Tabanus*, mottled in *Haematopota*, and banded in *Chrysops*) with membranes supported by 6 primary veins [costa (C), subcosta (Sc), radius (R), media (M), cubitus (Cu), and anal (A)], with the radial veins R4+5 forking to form a large 'Y' at the wing tip. When at rest, flies hold their wings partly folded over the abdomen. The basal lobe (calypter) covers the hindwings which are highly reduced to small knob-like halteres used to stabilize flight (2 pairs of wings characteristic for all 'Di-ptera'). Adults have 3 pairs of stout dark legs, each composed of 5 segments (coxa, trochanter, femur, tibia, and tarsus) with spurs present on the mid-tibiae (in *Tabanus* and *Haematopota*) or hind-tibiae (in *Chrysops*). All legs terminate in tarsi with 2 claws and 3 pads (2 pulvilli and a central pad-like empodium). The ellipsoidal abdomen is segmented (often with distinct marks or bands separating segments) and typically possesses 7 pairs of lateral respiratory spiracles. The terminal abdominal segments are modified by external genitalia (genital plates, claspers and ovipositors). Males have 2 testes connected by vas deferens to a seminal vesicle (with accessory glands) leading to the tubular ejaculatory duct and retractable copulatory aedeagus. Females have 2 ovaries (with polytrophic ovarioles) joined by oviducts to a globular uterus (with associated spermatheca and accessory glands) leading to the vulva and ovipositor.

**Site of infection:** Pre-adult developmental stages occur in semi-aquatic or aquatic (rarely terrestrial) habitats, whereas adult flies are free-flying and feed to plants sugars. Female flies of many species, however, are haematophagous and must feed on blood in order to produce eggs. They are therefore transient ectoparasites of vertebrate hosts, feeding mainly on large mammals, principally ungulates. While their regional common names (such as horse flies, deer flies, buffalo flies, moose flies, elephant flies) suggests that they may be host specific, most tabanid species are stenoxenous (feeding on closely-related hosts) and opportunistic (feeding on locally available hosts). Tabanids have been observed to feed on smaller mammals (carnivores, rodents), birds (waterfowl, corvids), and sometimes reptiles (lizards, turtles). *Tabanus* spp. (commonly known as horse flies, some as greenheads or bluetail flies) feed mainly on livestock as well as wild artiodactyls and perissodactyls, sometimes on humans. Most species feed preferentially on the legs and lower ventral bodies of their hosts, while others feed along the flanks, midline, head or neck. *Haematopota* spp. (known as horse flies, cleg flies or simply clegs) feed mostly on cattle and other livestock (particularly along the belly and crutch), and will bite humans (mainly on the wrists or bare legs). *Chrysops* spp. (known as deer flies, yellow flies, June flies, or stouts) feed readily on cervids, bovids, equids and frequently attack humans, typically biting the upper body, head, and shoulders.

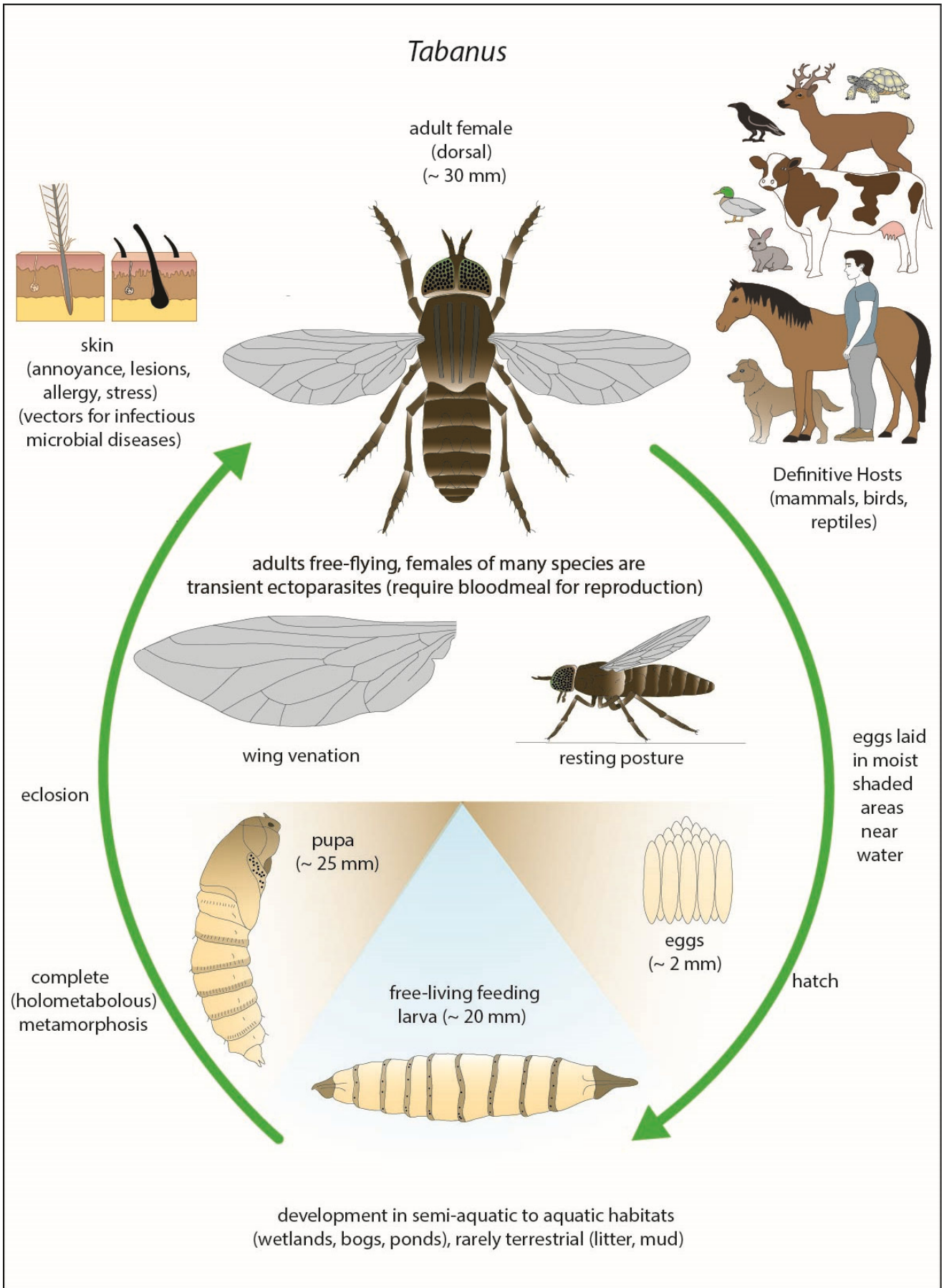
**Pathogenesis:** Female tabanids are large aggressive flies with painful bites resulting in considerable annoyance, dermal lesions and sometimes allergic reactions, all contributing to poor productivity in their hosts. Most horse and deer flies are noisy buzzing fliers (although clegs fly noiselessly) and their persistent efforts to feed cause great host consternation and disturbance. Female flies have well-developed slashing-sponging mouthparts, using their scissor-like and saw-like stylets to lacerate dermal tissues and then sponging up blood pooling in the wound (process known as telmophagy). During feeding, they inject saliva containing various vaso-active compounds, notably anticoagulants. The resultant bites are deep and painful, resulting in the formation of pruritic papules and wheals, which may become haemorrhagic, ulcerative and necrotic with crust formation. Some hosts develop immediate and/or delayed hypersensitivity to fly saliva with allergic reactions observed in humans including hives, urticaria, dizziness, weakness, difficulty in breathing, wheezing and angioedema (swelling around the eyes or lips). Depending on the species and size of the flies, they may imbibe 20-700 mg of blood per meal which can lead to significant blood loss, sometimes manifest as anaemia. Hosts under attack often exhibit unusual avoidance behaviours to fly worry, gregarious hosts sometimes forming tightly-packed groups protecting their heads in the centre (herding defence) while solitary hosts may lash out or take flight. Animals may attempt to lick, bite or scratch pruritic bite sites, sometimes leading to self-trauma and worsening lesions prone to secondary infections. Distracted animals do not feed efficiently and demonstrate decreased performance, reduced weight gain (sometimes weight loss), reduced milk production, and even hide damage. While flies are often brushed off due to their painful bites, they are remarkably resilient to swatting and their persistence in feeding on available hosts provides ideal opportunities for the transmission of infectious diseases. Horse and deer flies may act as biological or mechanical vectors where micro-organisms either develop within the flies or are simply carried on contaminated mouthparts. Tabanid flies have been shown to act as efficient vectors for viruses (causing equine infectious anaemia, bovine leukemia, and hog cholera), bacteria (causing anaplasmosis, tularemia, pasteurellosis and anthrax in livestock), protozoa (causing trypanosomiasis (nagana and surra) and besnoitiosis in ungulates) and helminths (filaroid nematodes causing dirofilariasis in marsupials, arterial elaeophorosis in deer, and loasis in humans).

**Developmental cycle and mode of transmission:** Like all dipterans, tabanid flies undergo complete metamorphosis where grub-like larvae transform into flying adults in pupae. Gravid female flies are oviparous and lay batches of 100-1,000 eggs in a single mass, most horse flies stacking eggs pyramidally in 3-4 tiers, while most deer flies lay eggs in a single layer. Eggs are deposited in moist shady environments on the undersides of plants and rocks usually overhanging or emerging from water. They hatch after 2-12 days depending on species, location and temperature (faster at higher temperatures). The emergent larvae drop to the moist substrate beneath and moult once, apparently without feeding, before moving into the substrate for further development. The larvae of most species are semi-aquatic in lentic-lotic habitats (mud or saturated vegetation in marshes, wetlands, bogs and along pond or stream margins) although some species are terrestrial (in pockets of wet soil in meadows or leaf litter in forests). *Chrysops* spp. develop in particularly wet locations, whereas *Tabanus* spp. prefer moist habitats. Larvae feed on decaying organic material, detritus and algae, but are also predatory and carnivorous (sometimes cannibalistic) feeding on a range of invertebrates, including annelids and the larvae of other insects (chironomid midges, crane flies) and arthropods. Developing larvae moult through 6-13 instars over periods ranging from 0.5-3.0 years, depending on species, geographic location and environmental conditions (development prolonged in

cold, dry or other unfavourable conditions). In spring, the final larval instars move to drier soil near the ground surface above the waterline and form pupae from which adult flies emerge 7-21 days later. Males usually emerge first and wait for females for mating, often in swarms generally at landmarks such as hilltops. Both males and females feed on nectar and pollen of flowers (some species being important pollinators of particular flowers). However, the females of most species are anautogenous and require bloodmeals to complete ovarian (gonotrophic) cycles (egg production), although some species appear to be autogenous and may complete one or several cycles without blood-feeding. Females take large bloodmeals from vertebrates and eggs are produced 3-6 days after feeding. Tabanids are most abundant during the warmer months of the year and they are strong and agile fliers capable of dispersing for kilometres. Females hunt for hosts during the daytime using a range of olfactory, visual, thermal and tactile senses, particularly expired carbon dioxide, movement, body temperature and surface texture. Female *Chrysops* even appear to be attracted by smoke from residences. Adult flies live for 2-4 weeks and the entire life cycle may be completed several times a year in the tropics (multivoltine) or once a year in temperate regions (univoltine). Tabanids are widespread throughout the world but are absent in polar regions and have patchy island distributions. Provided moist areas are locally available for breeding, tabanids occupy diverse habitats ranging from deserts to alpine meadows (up to 3,000 metres).

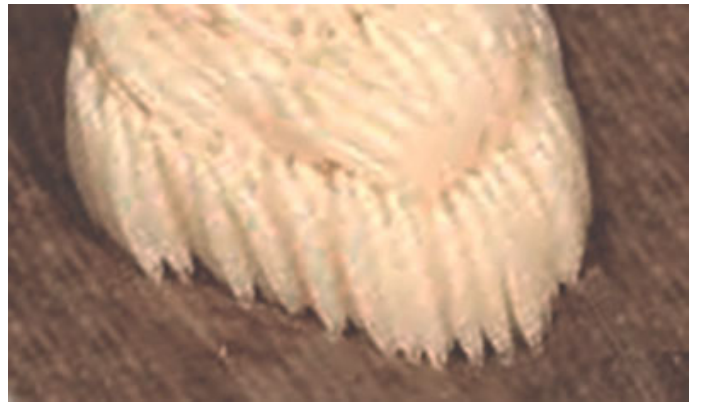
**Differential diagnosis:** Clinical signs exhibited by hosts (pruritic papules, wheals) are relatively nonspecific and may be attributable to a variety of ectoparasites or skin conditions. Diagnosis is often afforded by the observation of large (often noisy) flies delivering painful bites, assisted by capturing specimens for microscopic examination. Flies may also be captured from the environment using traps baited with chemical attractants. Tabanid identification is based mostly on adult morphological characters of the head, wing venation, and sometimes the last abdominal segment. Recent molecular biological studies have been used to characterize tabanid species (especially those involved in disease transmission) following polymerase chain reaction (PCR) amplification of nuclear (ribosomal DNA) and mitochondrial (cytochrome) gene sequences.

**Treatment and control:** Humans bitten by horse and deer flies may seek symptomatic relief by washing bite sites with cold water or applying cold compresses, and using topical or systemic antihistamines and glucocorticoids to alleviate pruritus and inflammation. Animals may be treated with insecticidal sprays, dusts, pour-ons or eartags containing organophosphates (coumaphos, chlorfenvinphos, diazinon, dioxathion, fenchlorvos, malathion, phosmet, stirofos, trichlorfon) or pyrethrins (permethrin, cyfluthrin, cypermethrin), but their efficacy is usually limited due to the short residence time of flies on hosts (several minutes per meal with days in between) and variable emergence of many different species over time and space. The treatment of the immediate environment with residual insecticides, mostly pyrethroids, has provided some short-term relief in some intensively-grazed areas, but aerial applications (sprays, mists and fogs) dissipate quickly and may have untoward ecological impacts. The diversity and abundance of potential breeding sites also precludes the widespread application of insecticides which are ineffective against larval and pupal stages buried in soils. Nevertheless, the removal of aquatic vegetation and leaf litter has been shown to assist population control, as has periodically changing water levels in ponds and irrigation channels (alternately drying out larvae and flooding pupae). Animal management practices designed to limit attack rates include building shelters for livestock (flies avoid shaded places), housing animals indoors in daylight during peak fly season (flies are diurnal), avoiding pasture-forest ecotones, and using fly traps (curtain, box, canopy) baited with chemical attractants (carbon dioxide, octenol) and moving shapes (notably, black ball suspended beneath 'Manitoba' traps). Ecological studies have identified various parasites (fungi, nematodes, tachinid flies) and predators (wasps, hornets, dragonflies, birds) of tabanid developmental stages, but few attempts at biological control have been made.





*Tabanus* adult



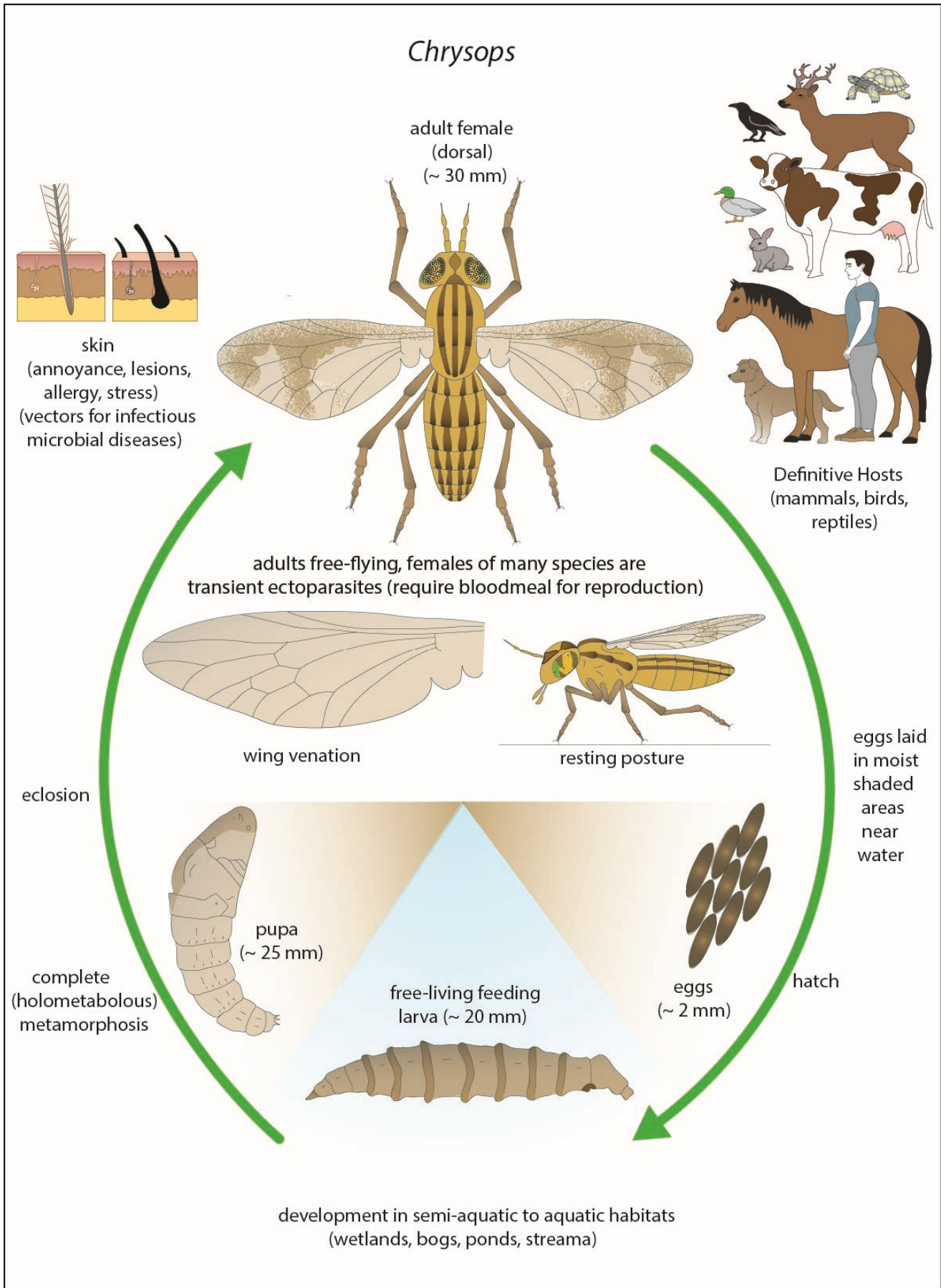
*Tabanus* eggs



*Tabanus* larva

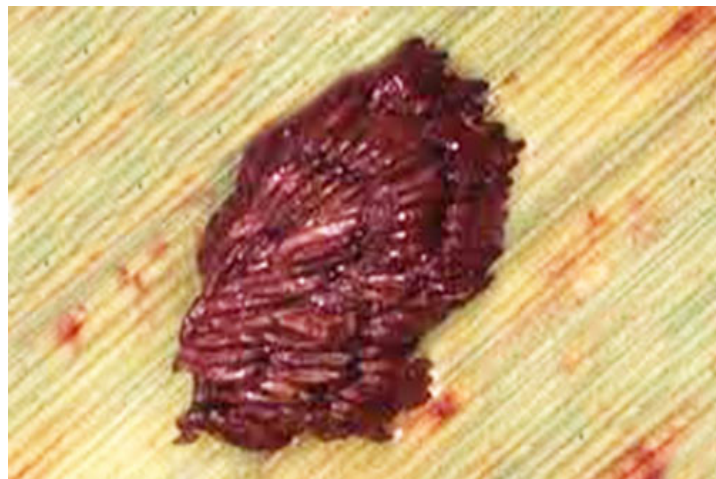


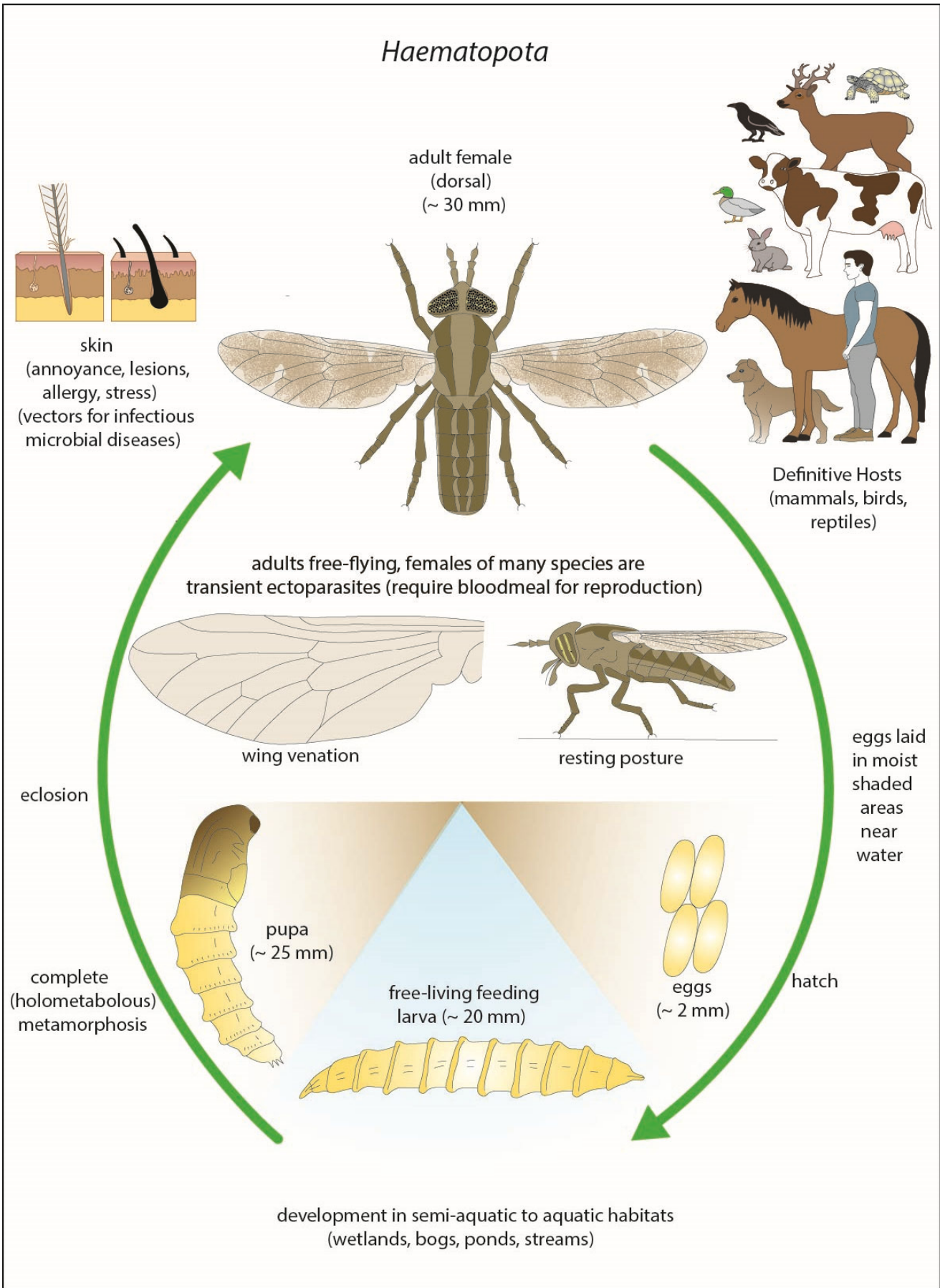
*Tabanus* pupa





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*Chrysops* adult*Chrysops* eggs*Chrysops* larva*Chrysops* pupa





*Haematopota* adult



*Haematopota* adult