

(Note: Cited references are listed at the end of the classification.)

## **Genus *Anopheles* Meigen**

### **Subgenus *Anopheles* Meigen**

Angusticorn Section (Reid & Knight, 1961)

*annulipalpis* Lynch Arribálzaga (see Harbach & Kitching, 2015)

Anopheles Series (Edwards, 1932a)

*algeriensis* Theobald

*concolor* Edwards

*marteri* Senevet & Prunelle

Claviger Complex (Coluzzi *et al.*, 1965)

*claviger* (Meigen)

*petragnani* del Vecchio

Alongensis Group (Phan *et al.*, 1991)

*alongensis* Venhuis

*cucphuongsensis* Vu, Nguyen, Tran & Nguyen

Aitkenii Group (Reid & Knight, 1961)

*aberrans* Harrison & Scanlon

*acaci* Baisas

*aitkenii* James

*bengalensis* Puri

*borneensis* McArthur

*fragilis* (Theobald)

*insulaeflorum* (Swellengrebel & Swellengrebel de Graaf)

*palmatus* (Rodenwaldt)

*peytoni* Kulasekera, Harrison & Amerasinghe

*pililotum* Harrison & Scanlon

*pinjaurensis* Barraud

*stricklandi* Reid

*tigerti* Scanlon & Peyton

Atratipes Group (Lee *et al.*, 1987b)

*atratispes* Skuse

*tasmaniensis* Dobrotworsky

Culiciformis Group (Reid & Knight, 1961)

*culiciformis* Cogill

*sintoni* Puri

*sintonoides* Ho

Lindesayi Group (Reid & Knight, 1961)

Gigas Complex (Harrison *et al.*, 1991)

*baileyi* Edwards

*gigas* Giles

subspecies *crockeri* Colless

subspecies *danaubento* Mochtar & Walandouw  
subspecies *formosus* Ludlow  
subspecies *gigas* Giles  
subspecies *oedjalikalah* Nainggolan  
subspecies *pantjarbatu* Waktoedi  
subspecies *refutans* Alcock  
subspecies *simlensis* James  
subspecies *sumatrana* Swellengrebel & Rodenwaldt  
*gigas s.l.* (in Thailand)  
Lindesayi Complex (Harrison *et al.*, 1991)  
*lindesayi* Giles  
subspecies *benguetensis* King  
subspecies *cameronensis* Edwards  
subspecies *japonicus* Yamada  
subspecies *lindesayi* Giles  
subspecies *pleccau* Koidzumi  
*menglansensis* Ma  
*nilgiricus* Christophers  
*wellingtonianus* Alcock  
Maculipennis Group (Reid & Knight, 1961)  
*atropos* Dyar & Knab  
*aztecus* Hoffmann  
*lewisi* Ludlow  
*walkeri* Theobald  
Maculipennis Subgroup (Linton, 2004)  
*artemievi* Gordeyev, Zvantsov, Goryacheva, Shaikevich & Yezhov  
*atroparvus* van Thiel  
*daciae* Linton, Nicolescu & Harbach  
*labranchiae* Falleroni  
*maculipennis* Meigen  
*martinius* Shinagarev  
*melanoon* Hackett  
*messeae* Falleroni  
*persiensis* Linton, Sedaghat & Harbach  
*sacharovi* Favre  
Quadrifasciatus Subgroup (Linton, 2004)  
*beklemishevi* Stegnii & Kabanova  
*diluvialis* Reinert  
*inundatus* Reinert  
*maverlius* Reinert  
*quadrifasciatus* Say  
*smaragdinus* Reinert  
Freeborni Subgroup (Linton, 2004)  
*earlei* Vargas  
*freeborni* Aitken  
*hermsi* Barr & Guptavanij

*occidentalis* Dyar & Knab  
Plumbeus Group (Reid & Knight, 1961)  
*arboricola* Zavortink  
*barberi* Coquillett  
*barianensis* James  
*fausti* Vargas  
*judithae* Zavortink  
*omorii* Sakakibara  
*plumbeus* Stephens  
*powderi* Zavortink  
*xelajuensis* de Leon  
Pseudopunctipennis Group (Reid & Knight, 1961)  
*chiriquiensis* Komp  
*eiseni* Coquillett  
    subspecies *eiseni* Coquillett  
    subspecies *geometricus* Corrêa  
*franciscanus* McCracken  
*hectoris* Giaquinto-Mira  
*parapunctipennis* Martini  
    subspecies *guatemalensis* de Leon  
    subspecies *parapunctipennis* Martini  
*pseudopunctipennis* Theobald  
    subspecies *levicastilloi* Levi-Castillo  
    subspecies *neghmei* Mann  
    subspecies *noei* Mann  
    subspecies *patersoni* Alvarado & Heredia  
    subspecies *pseudopunctipennis* Theobald  
    subspecies *rivadeneirai* Levi-Castillo  
*tibiamaculatus* (Neiva)  
Punctipennis Group (Reid & Knight, 1961)  
*perplexens* Ludlow  
*punctipennis* (Say)  
Crucians Complex (Wilkerson *et al.*, 2004)  
*bradleyi* King  
*crucians* Wiedemann (species A, B, C, D and E)  
*georgianus* King  
Stigmaticus Group (Reid & Knight, 1961)  
*colledgei* Marks  
*corethroides* Theobald  
*papuensis* Dobrotworsky  
*powelli* Lee  
*pseudostigmaticus* Dobrotworsky  
*stigmaticus* Skuse  
Cyclolepteron Series (Edwards, 1932a)  
*grabhamii* Theobald  
Lophoscelomyia Series (Edwards, 1932a)

*bulkleyi* Causey  
Asiaticus Group (Reid, 1968)  
*annandalei* Prashad  
*noniae* Reid  
Asiaticus Subgroup (Rattanaarithikul *et al.*, 2006b)  
*asiaticus* Leicester  
Interruptus Subgroup (Rattanaarithikul *et al.*, 2006b)  
*interruptus* Puri  
Laticorn Section (Reid & Knight, 1961)  
Arribalzagia Series (Root, 1922a)  
*anchietai* Corrêa & Ramalho  
*apicimacula* Dyar & Knab  
*bustamentei* Galvão  
*calderoni* Wilkerson  
*costai* Fonseca & Ramos  
*evandroi* da Costa Lima  
*fluminensis* Root  
*forattinii* Wilkerson & Sallum  
*gabaldoni* Vargas  
*guarao* Anduze & Capdevielle  
*intermedius* (Peryassú)  
*maculipes* (Theobald)  
*malefactor* Dyar & Knab  
*mattogrossensis* Lutz & Neiva  
*mediopunctatus* (Lutz)  
*minor* da Costa Lima  
*neomaculipalpus* Curry  
*peryassui* Dyar & Knab  
*pseudomaculipes* (Chagas)  
*punctimacula* Dyar & Knab  
*rachoui* Galvão  
*shannoni* Davis  
*veruslanei* Vargas  
*vestitipennis* Dyar & Knab  
Myzorhynchus Series (Edwards, 1932a)  
*obscurus* (Grünberg)  
Albotaeniatus Group (Reid & Knight, 1961)  
*albotaeniatus* (Theobald)  
*balerensis* Mendoza  
*ejercitoi* Mendoza  
*montanus* Stanton & Hacker  
*saperoi* Bohart & Ingram  
    subspecies *ohamai* Ohama  
    subspecies *saperoi* Bohart & Ingram  
Bancroftii Group (Reid & Knight, 1961)  
*bancroftii* Giles

subspecies *bancroftii* Giles  
    subspecies *barbiventris* Brug  
    *pseudobarbistrotris* Ludlow  
Barbistrotris Group (Reid & Knight, 1961)  
    *freyi* Meng  
    *koreicus* Yamada & Watanabe  
Barbistrotris Subgroup (Reid, 1968)  
    *donaldi* Reid  
    *franciscoi* Reid  
    *hodgkini* Reid  
    *pollicaris* Reid  
Barbistrotris Complex (Satoto, 2001)  
    *barbistrotris* van der Wulp  
    *campestris* Reid  
    *dissidens* Taai & Harbach (species III of Paredes-Esquivel *et al.*, 2009)  
    *saeungae* Taai & Harbach (species IV of Paredes-Esquivel *et al.*, 2009)  
    *vanderwulpi* Townson & Harbach  
    *wejchoochotei* Taai & Harbach  
Vanus Subgroup (Reid, 1968)  
    *ahomi* Chowdhury  
    *barbumbrosus* Strickland & Chowdhury  
    *manalangi* Mendoza  
    *reidi* Harrison  
    *vanus* Walker  
Coustani Group (Reid & Knight, 1961)  
    *caliginosus* de Meillon  
    *coustani* Laveran  
    *crypticus* Coetzee  
    *fuscicolor* van Someren  
    *namibiensis* Coetzee  
    *paludis* Theobald  
    *symesi* Edwards  
    *tenebrosus* Dönitz  
    *ziemanni* Grünberg  
Hyrceanus Group (Reid, 1953)  
    *argyropus* (Swellengrebel)  
    *belenrae* Rueda  
    *chодукini* Martini  
    *engarensis* Kanda & Oguma  
    *hailarensis* Xu & Luo  
    *heiheensis* Ma  
    *hyrcanus* (Pallas)  
    *hyrcanus* <sub>sp1R</sub> (Djadid *et al.*, 2009)  
    *kleini* Rueda  
    *kweiyangensis* Yao & Wu  
    *liangshanensis* Kang, Tan, Cao, Cheng Yang & Huang

- nimpe* Nguyen, Tran & Harbach  
*pseudopictus* Grassi  
*pullus* Yamada  
*sinensis* Wiedemann  
*sineroides* Yamada  
*xui* Dong, Zhou, Dong & Mao  
 Lesteri Subgroup (Harrison, 1972)  
*crawfordi* Reid  
*lesteri* Baisas & Hu  
*paraliae* Sandosham  
*peditaeniatus* (Leicester)  
*vietnamensis* Nguyen, Tran & Nguyen  
 Nigerrimus Subgroup (Harrison, 1972)  
*nigerrimus* Giles  
*nitidus* Harrison, Scanlon & Reid  
*pseudosinensis* Baisas  
*pursati* Laveran  
 Umbrosus Group (Reid, 1950)  
*brevipalpis* Roper  
*brevirostris* Reid  
*hunteri* (Strickland)  
*samarensis* Rozeboom  
*similissimus* Strickland & Chowdhury  
 Baezai Subgroup (Rattanaarithikul *et al.*, 2006b)  
*baezai* Gater  
 Letifer Subgroup (Reid, 1968)  
*collessi* Reid  
*letifer* Sandosham  
*roperi* Reid  
*whartoni* Reid  
 Separatus Subgroup (Rattanaarithikul *et al.*, 2006b)  
*separatus* (Leicester)  
 Umbrosus Subgroup (Rattanaarithikul *et al.*, 2006b)  
*umbrosus* (Theobald)

**Subgenus *Baimaia* Harbach, Rattanaarithikul & Harrison**  
*kyondawensis* Abraham

**Subgenus *Cellia* Theobald**

- Celia Series (Christophers, 1924a)  
*argenteolobatus* (Gough)  
*brumpti* Hamon & Rickenbach  
*crisupalpis* Service  
*murphyi* Gillies & de Meillon  
*pharoensis* Theobald

*swahilicus* Gillies  
Squamosus Group (Grjebine, 1966)  
*cydippis* de Meillon  
*squamosus* Theobald  
Myzomyia Series (Christophers, 1924a)  
*apoci* Marsh  
*azaniae* Bailly-Choumara  
*barberellus* Evans  
*bervoetsi* D'Haenans  
*brunnipes* (Theobald)  
*domicola* Edwards  
*dthali* Patton  
*erythraeus* Corradetti  
*ethiopicus* Gillies & Coetzee  
*flavicosta* Edwards  
*fontinalis* Gillies & de Meillon  
*gabonensis* Rahola, Makanga & Paupy, 2014  
*majidi* Young & Majid  
*moucheti* Evans  
*schwetzi* Evans  
*tchekedii* de Meillon & Leeson  
*walravensi* Edwards  
Demeilloni Group (Gillies & de Meillon, 1968)  
*carteri* Evans & de Meillon  
*demeilloni* Evans  
*freetownensis* Evans  
*garnhami* Edwards  
*keniensis* Evans  
*lloreti* Gil Collado  
*sergentii* (Theobald)  
    subspecies *macmahoni* Evans  
    subspecies *sergentii* (Theobald)  
Funestus Group (Garros *et al.*, 2005b)  
*jeyporiensis* James  
Aconitus Subgroup (Chen *et al.*, 2003)  
*aconitus* Dönitz  
*filipinae* Manalang  
*mangyanus* (Banks)  
*pampanai* Büttiker & Beales  
*varuna* Iyengar  
Culicifacies Subgroup (Garros *et al.*, 2005b)  
*culicifacies* Giles (species A, B, C, D and E) (Kar *et al.*, 1999)  
Funestus Subgroup (Garros *et al.*, 2005b)  
*aruni* Sobti  
*confusus* Evans & Leeson  
*funestus* Giles

*funestus*-like species (Spillings *et al.*, 2009)  
*longipalpis* (Theobald) (Type C) (Koekemoer *et al.*, 2009)  
*parensis* Gillies  
*vaneedeni* Gillies & Coetzee  
 Minimus Subgroup (Chen *et al.*, 2003)  
*flavirostris* (Ludlow)  
*leasoni* Evans  
*longipalpis* (Theobald) (Type A) (Koekemoer *et al.*, 2009)  
 Fluviatilis Complex (Sarala *et al.*, 1994)  
*fluviatilis* James (species S, T and U)  
 Minimus Complex (Green *et al.*, 1990)  
*harrisoni* Harbach & Manguin (species C)  
*minimus* Theobald (species A)  
*yaeyamaensis* Somboon & Harbach  
 Rivulorum Subgroup (Garros *et al.*, 2005b)  
*brucei* Service  
*fuscivenosus* Leeson  
*rivulorum* Leeson  
*rivulorum*-like species (Cohuet *et al.*, 2003)  
 Marshallii Group (Gillies & de Meillon, 1968)  
*austenii* (Theobald)  
*berghei* Vincke & Leleup  
*brohieri* Edwards  
*gibbinsi* Evans  
*hancocki* Edwards  
*hargreavesi* Evans  
*harperi* Evans  
*mortiauxi* Edwards  
*mousinhoi* de Meillon & Pereira  
*njombiensis* Peters  
*seydeli* Edwards  
 Marshallii Complex (Gillies & Coetzee, 1987)  
*hughi* Lambert & Coetzee  
*kosiensis* Coetzee, Segerman & Hunt  
*letabensis* Lambert & Coetzee  
*marshallii* (Theobald)  
 Wellcomei Group (Gillies & de Meillon, 1968)  
*distinctus* (Newstead & Carter)  
*erepens* Gillies  
*theileri* Edwards  
*wellcomei* Theobald  
     subspecies *ugandae* Evans  
     subspecies *ungujae* White  
     subspecies *wellcomei* Theobald  
 Neocellia Series (Christophers, 1924a)  
*ainshamsi* Gad, Harbach & Harrison



*dancalicus* Corradetti  
*hervyi* Brunhes, le Goff & Geoffroy  
*karwari* (James)  
*maculipalpis* Giles  
*moghulensis* Christophers  
*paltrinierii* Shidrawi & Gillies  
*pattoni* Christophers  
*pretoriensis* (Theobald)  
*pulcherrimus* Theobald  
*rufipes* (Gough)  
    subspecies *broussesi* Edwards  
    subspecies *rufipes* (Gough)  
*salbaii* Maffi & Coluzzi  
*stephensi* Liston  
*superpictus* Grassi (species A and B) (Oshaghi *et al.*, 2007; Oshaghi *et al.*, 2008)  
*theobaldi* Giles

Annularis Group (Reid, 1968)

Annularis Complex (Atrie *et al.*, 1999)  
*annularis* van der Wulp (species A and B)  
*pallidus* Theobald  
*philippinensis* Ludlow  
*schueffneri* Stanton

Nivipes Complex (Green *et al.*, 1985b; Harrison *et al.*, 1991)  
*nivipes* (Theobald) (2 cytogenetic species in Thailand)

Jamesii Group (Rattanaarithikul *et al.*, 2006b)

*jamesii* Theobald  
*pseudojamesi* Strickland & Chowdhury  
*splendidus* Koidzumi

Maculatus Group (Rattanaarithikul & Green, 1987)

*dispar* Rattanaarithikul & Harbach  
*greeni* Rattanaarithikul & Harbach  
*pseudowillmori* (Theobald)  
*willmori* (James)

Maculatus Subgroup (Rattanaarithikul *et al.*, 2006b)

*dravidicus* Christophers  
*maculatus* Theobald

Sawadwongporni Subgroup (Rattanaarithikul *et al.*, 2006b)

*notanandai* Rattanaarithikul & Green  
*rampae* Harbach & Somboon, 2011  
*sawadwongporni* Rattanaarithikul & Green

Neomyzomyia Series (Christophers, 1924a)

*amictus* Edwards  
*annulatus* de Rook  
*aurirostris* (Watson)  
*dualaensis* Brunhes, le Goff & Geoffroy  
*hilli* Woodhill & Lee

*incognitus* Brug  
*kokhani* Vythilingam, Jeffery & Harbach  
*kolambuganensis* Baisas  
*longirostris* Brug  
*meraukensis* Venhuis  
*novaguinensis* Venhuis  
*saungi* Colless  
*stookesi* Colless  
*watsonii* (Leicester)  
Annulipes Complex (Green, 1972)  
*annulipes* Walker (species A–Q) (Foley *et al.*, 2007b)  
Lungae Complex (Belkin, 1962)  
*lungae* Belkin & Schlosser  
*nataliae* Belkin  
*solomonis* Belkin, Knight & Rozeboom  
Ardensis Group (Gillies & de Meillon, 1968)  
*ardensis* (Theobald)  
*buxtoni* Service  
*cinctus* (Newstead & Carter)  
*deemingi* Service  
*dureni* Edwards  
*eouzani* Brunhes, le Goff & Bousses  
*kingi* Christophers  
*machardyi* Edwards  
*maliensis* Bailly-Choumara & Adam  
*millecampsi* Lips  
*multicinctus* Edwards  
*natalensis* (Hill & Haydon)  
*vernus* Gillies & de Meillon  
*vinckei* de Meillon  
Nili Complex (Gillies & de Meillon, 1968)  
*carnevalei* Brunhes, le Goff & Geoffroy  
*nili* (Theobald)  
*ovengensis* Awono-Ambene, Kengne, Simard, Antonio-Nkondjio & Fontenille  
*somalicus* Rivola & Holstein  
Kochi Group (Rattarithikul *et al.*, 2006b)  
*kochi* Dönitz  
Leucosphyrus Group (Reid, 1949)  
Hackeri Subgroup (Sallum *et al.*, 2005a)  
*hackeri* Edwards  
*mirans* Sallum & Peyton  
*pujutensis* Colless  
*recens* Sallum & Peyton  
*sulawesi* Waktoedi Koesoemawinangoen  
Leucosphyrus Subgroup (Peyton, 1990; Sallum *et al.*, 2005b)  
*baisasi* Colless

Dirus Complex (Sallum *et al.*, 2005b)  
    *aff. takasagoensis* (Takano *et al.*, 2010)  
    *baimaii* Sallum & Peyton  
    *cracens* Sallum & Peyton  
    *dirus* Peyton & Harrison  
    *elegans* (James)  
    *nemophilous* Peyton & Ramalingam  
    *scanloni* Sallum & Peyton  
    *takasagoensis* Morishita  
Leucosphyrus Complex (Sallum *et al.*, 2005a)  
    *balabacensis* Baisas  
    *introlatus* Colless  
    *latens* Sallum & Peyton  
    *leucosphyrus* Dönitz  
Riparis Subgroup (Peyton, 1990)  
    *cristatus* King & Baisas  
    *macarthuri* Colless  
    *riparis* King & Baisas  
Mascarensis Group (Harbach, 1994a)  
    *mascarensis* de Meillon  
Pauliani Group (Grjebine, 1966)  
    *grassei* Grjebine  
    *grenieri* Grjebine  
    *milloti* Grjebine & Lacan  
    *pauliani* Grjebine  
    *radama* de Meillon  
Punctulatus Group (Schmidt *et al.*, 2001)  
    *clowi* Rozeboom & Knight  
    *koliensis* Owen  
    *punctulatus* Dönitz  
    *rennellensis* Taylor & Maffi  
    sp. near *punctulatus* (Foley *et al.*, 1995)  
Farauti Complex (Schmidt *et al.*, 2003)  
    *farauti* Laveran  
    *farauti* 4 and 5 (Foley *et al.*, 1993)  
    *farauti* 8 (Bower *et al.*, 2008)  
    *hinesorum* Schmidt  
    *irenicus* Schmidt  
    *oreios* Bangs & Harbach, 2014  
    *torresiensis* Schmidt  
Ranci Group (Grjebine, 1966)  
    *griveaudi* Grjebine  
Ranci Subgroup (Grjebine, 1966)  
    *ranci* Grjebine  
Roubaudi Subgroup (Grjebine, 1966)  
    *lacani* Grjebine

*notleyi* van Someren  
*roubaudi* Grjebine  
Rhodesiensis Group (Gillies & de Meillon, 1968)  
*cameroni* de Meillon & Evans  
*lounibosi* Gillies & Coetzee  
*rhodesiensis* Theobald  
    subspecies *rhodesiensis* Theobald  
    subspecies *rupicolus* Lewis  
*rodhaini* Leleup & Lips  
*ruarinus* Edwards  
Smithii Group (Gillies & de Meillon, 1968)  
*caroni* Adam  
*faini* Leleup  
*hamoni* Adam  
*jebudensis* Froud  
*lovettae* Evans  
*rageaui* Mattingly & Adam  
*smithii* Theobald  
*vanhoofi* Manson & Lebied  
*wilsoni* Evans  
Tessellatus Group (Rattanaarithikul *et al.*, 2006b)  
*tessellatus* Theobald  
    subspecies *kalawara* Stoker & Waktoedi  
    subspecies *orientalis* (Swellengrebel & Swellengrebel de Graaf  
    subspecies *tessellatus* Theobald  
Paramyzomyia Series (Christophers & Barraud, 1931)  
Cinereus Group (Gillies & de Meillon, 1968)  
*azevedoi* Ribeiro  
*cinereus* Theobald  
    subspecies *cinereus* Theobald  
    subspecies *hispaniola* (Theobald)  
*turkhudi* Liston  
    subspecies *telamali* Saliternik & Theodor  
    subspecies *turkhudi* Liston  
Listeri Group (Gillies & de Meillon, 1968)  
*listeri* de Meillon  
*multicolor* Cambouliu  
*seretsei* Abdulla-Khan, Coetzee & Hunt  
Pyretophorus Series (Edwards, 1932a)  
*christyi* (Newstead & Carter)  
*comorensis* Brunhes, le Goff & Geoffroy  
*daudi* Coluzzi  
*indefinitus* (Ludlow)  
*limosus* King  
*litoralis* King  
*ludlowae* (Theobald)

subspecies *ludlowae* (Theobald)  
subspecies *torakala* Stoker & Waktoedi  
*parangensis* (Ludlow)  
*pseudosundaicus* Tyagi, Hiriyani, Tewari, Ayanar, Samuel, Arunachalam,  
Paramasivan, Krishnamoorthy, Dhananjeyan, Leo & Rajendran  
*vagus* Dönitz  
Gambiae Complex (White, 1985)  
*amharicus* Hunt, Wilkerson & Coetzee  
*arabiensis* Patton  
*bwambae* White  
*coluzzii* Coetzee & Wilkerson  
*gambiae* Giles  
*melas* Theobald  
*merus* Dönitz  
*quadriannulatus* (Theobald)  
Subpictus Complex (Suguna *et al.*, 1994)  
*subpictus* Grassi (species A, B, C and D)  
Sundaicus Complex (Sukowati *et al.*, 1999)  
*epiroticus* Linton & Harbach  
*sundaicus* (Rodenwaldt)  
*sundaicus* (species B, C, D and E) (Dusfour *et al.*, 2007)

### **Subgenus *Christya* Theobald**

*implexus* (Theobald)  
*okuensis* Brunhes, Le Goff & Geoffroy

### **Subgenus *Kerteszia* Theobald**

*auyantepuiensis* Harbach & Navarro  
*bambusicolus* Komp  
*bellator* Dyar & Knab  
*boliviensis* (Theobald)  
*gonzalezrinconesi* Cova García, Pulido F. & Escalante de Ugueto  
*homunculus* Komp  
*laneanus* Corrêa & Cerqueira  
*lepidotus* Zavortink  
*neivai* Howard, Dyar & Knab  
*pholidotus* Zavortink  
*rollai* Cova García, Pulido F. & Escalante de Ugueto  
Cruzii Complex (Ramirez & Dessen, 2000a)  
*cruzii* Dyar & Knab (species A, B and C) (Ramirez & Dessen, 2000b)\*

\*More recent studies by de Carvalho-Pinto & Lourenço-de-Oliveira (2004) and Rona *et al.* (2009, 2010a, 2010b, 2013) suggest the complex consists of 4 or 5 species, but how these relate to the three chromosomal species of Ramirez & Dessen (2000b) is not clear.

## Subgenus *Lophopodomyia* Antunes

*gilesi* (Peryassú)  
*gomezdelatorrei* Levi-Castillo  
*oiketorakras* Osorno-Mesa  
*pseudotibiamaculatus* Galvão & Barretto  
*quamifemur* Antunes  
*vargasi* Gabaldon, Cova-García & Lopez

## Subgenus *Nyssorhynchus* Blanchard

Albimanus Section (Levi Castillo, 1949)

Albimanus Series (Faran, 1980)

*albimanus* Wiedemann

Oswaldoi Series (Faran, 1980)

Oswaldoi Group (Faran, 1980)

Oswaldoi Subgroup (Faran, 1980)

*anomalophyllus* Komp

*aquasalis* Curry

*evansae* (Brèthes)

*galvaei* Causey

*ininii* Senevet & Abonnenc

Konderi Complex (Ruiz-Lopez *et al.*, 2013)

*konderi* Galvão & Damasceno

*An. sp. nr. konderi* (Ruiz-Lopez *et al.*, 2013)

Oswaldoi Complex (Ruiz-Lopez *et al.*, 2013)

*oswaldoi* (Peryassú)

*oswaldoi* A (Ruiz-Lopez *et al.*, 2013)

*oswaldoi* B (Ruiz *et al.*, 2005; Ruiz *et al.*, 2010)

*rangeli* Gabaldon, Cova-Garcia & Lopez

*sanctielii* Senevet & Abonnenc

*trinkae* Faran

Nuneztovari Complex (Conn *et al.*, 1993; Sierra *et al.*, 2004; Foster *et al.*, 2013)

*dunhami* Causey

*goeldii* Rozeboom & Gabaldon

*nuneztovari* Gabaldon (cytotypes B/C)

*nuneztovari* (species A)

Strodei Subgroup (Faran, 1980)

*albertoi* Unti

*Anopheles* CP Form (Sallum *et al.*, 2010)

*arthuri* Unit

*rondoni* (Neiva & Pinto)

*strodei* Root

Benarrochi Complex (Ruiz *et al.*, 2005)

*benarrochi* Gabaldon, Cova-Garcia & Lopez

*benarrochi* B (Ruiz *et al.*, 2005)

- Triannulatus Group (Faran, 1980)
  - halophylus* Silva do Nascimento & Lourenço-de-Oliveira
  - triannulatus* (Neiva & Pinto)
  - triannulatus* (species C) (Silva-do-Nascimento & Lourenço-de-Oliveira, 2007)
- Argyritarsis Section (Levi Castillo, 1949)
  - Albitarsis Series (Linthicum, 1988)
    - Albitarsis Group (Linthicum, 1988)
      - Albitarsis Complex (Wilkerson *et al.*, 1995)
        - albitarsis* Lynch Arribálzaga
        - albitarsis* (species F, G, H and I) (Brochero *et al.*, 2007; Ruiz-Lopez *et al.*, 2012)
        - deaneorum* Rosa-Freitas
        - janconnae* Wilkerson & Sallum
        - lineage nr *janconnae* (Gutiérrez *et al.*, 2010)
        - marajoara* Galvão & Damasceno (lineages 1 and 2) (McKeon *et al.*, 2010)
        - oryzalimnetes* Wilkerson & Motoki
    - Braziliensis Group (Linthicum, 1988)
      - braziliensis* (Chagas)
  - Argyritarsis Series (Linthicum, 1988)
    - Argyritarsis Group (Linthicum, 1988)
      - argyritarsis* Robineau-Desvoidy
      - sawyeri* Causey, Deane, Deane & Sampaio
  - Darlingi Group (Linthicum, 1988)
    - darlingi* Root
  - Lanei Group (Linthicum, 1988)
    - lanei* Galvão & Franco do Amaral
  - Pictipennis Group (Linthicum, 1988)
    - atacamensis* González & Sallum
    - pictipennis* (Philippi)
- Myzorhynchella Section (Peyton *et al.*, 1992)
  - antunesi* Galvão & Franco do Amaral
  - guarani* Shannon, 1928
  - lutzii* Cruz
  - nigritarsis* (Chagas)
  - parvus* (Chagas)
  - pristinus* Nagaki & Sallum

### **Subgenus *Stethomyia* Theobald**

- acanthotorynus* Komp
- canorii* Flock & Abonnenc
- komp* Edwards *nimbus* (Theobald) *thomasi* Shannon

### ***Nomina dubia***

- africanus* Roque
- allopha* (Peryassú)

*arnoulti* Grjebine  
*brachypus* Dönitz  
*costalis* Loew  
*courdurieri* Grjebine  
*jacobi* (Hill & Haydon)  
*minutus* Macquart  
*nero* (Doleschall)  
*pallida* (Ludlow)  
*soalalaensis* Grjebine  
*upemba* Lips  
*vulgaris* Hatori

## References

- Antunes, P.C.A. 1937a. A new *Anopheles* and a new *Goeldia* from Colombia (Dipt. Culic.). *Bulletin of Entomological Research* 28: 69–73.
- Atrie, B., Subbarao, S.K., Pillai, M.K.K., Rao, S.R.V. & Sharma, V.P. 1999. Population cytogenetic evidence for sibling species in *Anopheles annularis* (Diptera: Culicidae). *Annals of the Entomological Society of America* 92: 243–249.
- Belkin, J.N. 1962. *The mosquitoes of the South Pacific (Diptera, Culicidae)*. Volumes 1 and 2. University of California Press, Berkeley and Los Angeles.
- Booth, D.R. & Bryan, J.H. 1986. Cytogenetic and crossbreeding evidence for additional species in the *Anopheles annulipes* Walker complex (Diptera: Culicidae). *Journal of the Australian Entomological Society* 25: 315–325.
- Bower, J.E., Dowton, M., Cooper, R.D. & Beebe, N.W. 2008. Intraspecific concerted evolution of the rDNA ITS1 in *Anopheles farauti* sensu stricto (Diptera: Culicidae) reveal recent patterns of population structure. *Journal of Molecular Evolution* 67: 397–411.
- Brochero, H.H.L., Li, C. & Wilkerson, R.C. 2007. A newly recognized species in the *Anopheles (Nyssorhynchus) albitarsis* complex (Diptera: Culicidae) from Puerto Carreño, Colombia. *American Journal of Tropical Medicine and Hygiene* 76: 1113–1117.
- Chen, B., Butlin, R.K. & Harbach, R.E. 2003. Molecular phylogenetics of the Oriental members of the Myzomyia Series of *Anopheles* subgenus *Cellia* (Diptera: Culicidae) inferred from nuclear and mitochondrial DNA sequences. *Systematic Entomology* 28: 57–69.
- Christophers, S.R. 1915. The male genitalia of *Anopheles*. *Indian Journal of Medical Research* 3: 371–394.
- Christophers, S.R. 1924a. Provisional list and reference catalogue of the Anophelini. *Indian Medical Research Memoirs* 3: 1–105.
- Christophers, S.R. & Barraud, P.J. 1931. The eggs of Indian *Anopheles*, with descriptions of the hitherto undescribed eggs of a number of species. *Records of the Malaria Survey of India* 2: 161–192, 5 pls.
- Cohuet, A., Simard, F., Toto, J.C., Kengne, P., Coetzee, M. & Fontenille, D. 2003. Species identification within the *Anopheles funestus* group of malaria vectors in Cameroon and evidence for a new species. *American Journal of Tropical Medicine and Hygiene* 69: 200–205.



- Coluzzi, M., Sacca, G. & Feliciangeli, D. 1965. Il complesso *A. claviger* nella sottoregione mediterranea. *Cahiers ORSTROM, série Entomologie médicale et Parasitologie* 1965: 97–102.
- Conn, J., Puertas, Y.R. & Seawright, J.A. 1993. A new cytotype of *Anopheles nuneztovari* from western Venezuela and Colombia. *Journal of the American Mosquito Control Association* 9: 294–301.
- da Costa Lima, A. 1928. Sobre algumas anophelinas encontradas no Brasil. *Suplemento das Memórias do Instituto Oswaldo Cruz* 3: 91–113.
- de Carvalho-Pinto, C.J. & Lourenço-de-Oliveira, R. 2004. Isoenzimatic [*sic*] analysis of four *Anopheles (Kerteszia) cruzii* (Diptera: Culicidae) populations of Brazil. *Memórias do Instituto Oswaldo Cruz* 99(5): 471–475.
- Djadid, N.D., Jazayeri, H., Gholizadeh, S., Pashaeirad, S. & Zakeri, S. 2009. First record of a new member of *Anopheles* Hyrcanus Group from Iran: molecular identification, diagnosis, phylogeny, status of *kdr* resistance and *Plasmodium* infection. *Journal of Medical Entomology* 46: 1084–1093.
- Dusfour, I., Michaux, J.R., Harbach, R.E. & Manguin, S. 2007. Speciation and phylogeography of the Southeast Asian *Anopheles sunndaicus* complex. *Infection, Genetics and Evolution* 7: 484–493.
- Dyar, H.G. 1928. *The mosquitoes of the Americas*. Publication no. 387. Carnegie Institution of Washington, Washington, D.C.
- Edwards, F.W. 1921d. A revision of the mosquitos [*sic*] of the Palaearctic Region. *Bulletin of Entomological Research* 12: 263–351.
- Edwards, F.W. 1932a. *Genera Insectorum. Diptera, Fam. Culicidae*. Fascicle 194. Desmet-Verteneuil, Brussels.
- Faran, M.E. 1980. Mosquito studies (Diptera, Culicidae) XXXIV. A revision of the Albimanus Section of the subgenus *Nyssorhynchus* of *Anopheles*. *Contributions of the American Entomological Institute* 15(7): 1–215.
- Faran, M.E. & Linthicum, K.J. 1981. A handbook of the Amazonian species of *Anopheles (Nyssorhynchus)* (Diptera: Culicidae). *Mosquito Systematics* 13: 1–81.
- Foley, D.H., Cooper, R.D. & Bryan, J.H. 1995. A new species within the *Anopheles punctulatus* complex in Western Province, Papua New Guinea. *Journal of the American Mosquito Control Association* 11: 122–127.
- Foley, D.H., Paru, R., Daghero, H. & Bryan, J.H. 1993. Allozyme analysis reveals six species within the *An. punctulatus* complex of mosquitoes in Papua New Guinea. *Medical and Veterinary Entomology* 7: 37–48.
- Foley, D.H., Wilkerson, R.C., Cooper, R.D., Volovsek, M.E. & Bryan, J.H. 2007. A molecular phylogeny of *Anopheles annulipes* (Diptera: Culicidae) sensu lato: The most species-rich anopheline complex. *Molecular Phylogenetics and Evolution* 43: 283–297.
- Foster, P.G., Bergo, E.S., Bourke, B.P., Oliveira, T.M.P., Nagaki, S.S. Sant’Ana, D.C. & Sallum, M.A.M. 2013. Phylogenetic analysis and DNA-based species confirmation in *Anopheles (Nyssorhynchus)*. *PLoS ONE* 8: e54063.
- Gabaldon, A. 1940. Estudios sobre anofelinos. Serie I. 1. Descripción de *Anopheles (Nyssorhynchus) nuñez-tovari* [*sic*] n. sp. y consideraciones sobre una sub-division del grupo *Nyssorhynchus* (Diptera, Culicidae). *Publicación del División de Malariología (Caracas)* 5: 3–7.

- Gabaldon, A. & Cova-Garcia, P. 1952. Zoogeografía de los anofelinos en Venezuela IV Su posición en la región Neotrópica y observaciones sobre las especies de esta región. *Revista Venezolana Sanidad y Asistencia Social* 17: 171–209, 12 pls.
- Galvão, A.L.A. 1941b Contribuição ao conhecimento das espécies de *Myzorhynchella* (Diptera, Culicidae) [sic]. *Arquivos de Zoologia (São Paulo)* 2: 505–576, 13 pls.
- Galvão, A.L.A. 1943. Chaves para a determinação das espécies do subgênero *Nyssorhynchus* do Brasil. *Arquivos de Higiene Saúde Pública* 8(19): 141–162.
- Garros, C., Harbach, R.E. & Manguin, S. 2005b. Morphological assessment and molecular phylogenetics of the *Funestus* and *Minimus* Groups of *Anopheles* (*Cellia*). *Journal of Medical Entomology* 42: 522–536.
- Gillies, M.T. & Coetzee, M. 1987. A supplement to the Anophelinae of Africa south of the Sahara (Afrotropical Region). *Publications of the South African Institute for Medical Research* 55: 1–143.
- Gillies, M.T. & de Meillon, B. 1968. The Anophelinae of Africa south of the Sahara (Ethiopian Zoogeographical Region). *Publications of the South African Institute for Medical Research* 54: 1–343.
- Green, C.A., Cass, R.F., Munstermann, L.E. & Baimai, V. 1990. Population-genetic evidence for two species in *Anopheles minimus* in Thailand. *Medical and Veterinary Entomology* 4: 25–34.
- Green, C.A., Harrison, B.A., Klein, T.A. & Baimai, V. 1985b. Cladistic analysis of polytene chromosome rearrangements in anopheline mosquitoes, subgenus *Cellia*, series *Neocellia*. *Canadian Journal of Genetics and Cytology* 27: 123–133.
- Grjebine, A. 1966. *Faune de Madagascar. XXII. Insecies Diptères Culicidae Anophelinae*. Centre National de la Recherche Scientifique, Office de la Recherche Scientifique et Technique Outre-Mer, Paris.
- Gutiérrez, L.A., Orrego, L.M., Gómez, G.F., López, A., Luckhart, S., Conn, J.E. & Correa, M.M. 2010. A new mtDNA COI gene lineage closely related to *Anopheles janconnae* of the *Albitarsis* complex in the Caribbean region of Colombia. *Memorias do Instituto Oswaldo Cruz* 105: 1019–1025.
- Harbach, R.E. 1994a. Review of the internal classification of the genus *Anopheles* (Diptera: Culicidae): the foundation for comparative systematics and phylogenetic research. *Bulletin of Entomological Research* 84: 331–342.
- Harbach, R.E. 2004. The classification of genus *Anopheles* (Diptera: Culicidae): a working hypothesis of phylogenetic relationships. *Bulletin of Entomological Research* 95: 537–553.
- Harbach, R.E. & Kitching, I.J. 2015. The phylogeny of Anophelinae revisited: inferences about the origin and classification of *Anopheles* (Diptera: Culicidae). *Zoologica Scripta* 00(0): 000–000. doi:10.1111/zsc.12137
- Harbach, R.E., Rattarithikul, R. & Harrison, B.A. 2005. *Baimaia*, a new subgenus for *Anopheles kyondawensis* Abraham, a unique crabhole-breeding anopheline in southeastern Asia. *Proceedings of the Entomological Society of Washington* 107: 750–761.
- Harrison, B.A. 1972. A new interpretation of affinities within the *Anopheles hyrcanus* complex of Southeast Asia. *Mosquito Systematics* 4: 73–83.
- Harrison, B. A. 1980. Medical entomology studies – XIII. The *Myzomyia* Series of *Anopheles* (*Cellia*) in Thailand, with emphasis on intra-interspecific variations (Diptera: Culicidae). *Contributions of the American Entomological Institute* 17(4): iv + 1-195.

- Harrison, B.A., Rattanakul, R., Peyton, E.L. & Mongkolpanya, K. 1991. Taxonomic changes, revised occurrence records and notes on the Culicidae of Thailand and neighboring countries. *Mosquito Systematics* (1990) 22: 196–227.
- Hunt, R.H., Coetzee, M. & Fittene, M. 1998. The *Anopheles gambiae* complex: a new species from Ethiopia. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 92: 231–235.
- International Commission on Zoological Nomenclature. 1999. *International code of zoological nomenclature*. Fourth Edition. International Trust for Zoological Nomenclature, London.
- Kar, I., Subbarao, S.K., Eapen, A., Ravendran, J., Satyanarayana, T.S., Raghavendra, K., Nanda, N. & Sharma, V.P. 1999. Evidence for a new malaria vector species, species E, within the *Anopheles culicifacies* complex (Diptera: Culicidae). *Journal of Medical Entomology* 36: 595–600.
- Knab, F. 1913b. The species of *Anopheles* that transmit human malaria. *American Journal of Tropical Diseases and Preventive Medicine* 1: 33–43.
- Koekemoer, L.L., Misiani, E.A., Hunt, R.H., Kent, R.J., Norris, D.E. & Coetzee, M. 2009. Cryptic species within *Anopheles longipalpis* from southern Africa and phylogenetic comparison with members of the *An. funestus* group. *Bulletin of Entomological Research* 99: 41–49.
- Komp, W.H.W. 1937b. The species of the subgenus *Kerteszia* of *Anopheles* (Diptera, Culicidae). *Annals of the Entomological Society of America* 30: 492–529.
- Komp, W.H.W. 1942. The anopheline mosquitoes of the Caribbean Region. *National Institute of Health Bulletin* 179: 1–195.
- Lee, D.J., Hicks, M.M., Griffiths, M., Debenham, M.L., Bryan, J.H., Russell, R.C., Geary, M. & Marks, E.N. 1987b. *The Culicidae of the Australasian Region*. Volume 5. Nomenclature, synonymy, literature, distribution, biology and relation to disease. Genus *Anopheles*. Subgenera *Anopheles*, *Cellia*. Monograph Series, Entomology Monograph No. 2. Australian Government Publishing Service, Canberra.
- Levi Castillo, R. 1949. *Atlas de los anofelinos Sudamericanos*. Sociedad Filantrópica de Guayas, Guayaquil, Ecuador.
- Linthicum, K.J. 1988. A revision of the Argyritarsis Section of the subgenus *Nyssorhynchus* of *Anopheles* (Diptera: Culicidae). *Mosquito Systematics* 20: 98–271.
- Linton, Y. 2004. Systematics of the holarctic *maculipennis* complex. The 70<sup>th</sup> Annual Meeting of the American Mosquito Control Association, Savannah, Georgia, U.S.A., February 22–26, 2004.
- McKeon, S.N., Lehr, M.A., Wilkerson, R.C., Ruiz, J.F., Sallum, M.A., Povoas, M.M., Conn, J.E. & Lima, J.B.P. 2010. Lineage divergence detected in the malaria vector *Anopheles marajoara* (Diptera: Culicidae) in Amazonian Brazil. *Malaria Journal* 9: 271.
- Oshaghi, M.A., Shemshad, Kh., Yaghobi-Ershadi, M.R., Pedram, M., Vatandoost, H., Abaie, M.R., Akbarzadeh, K. & Mohtarami, F. 2007. Genetic structure of the malaria vector *Anopheles superpictus* in Iran using mitochondrial cytochrome oxidase (COI and COII) and morphologic markers: A new species complex? *Acta Tropica* 101: 241–248.
- Oshaghi, M.A., Yaghobi-Ershadi, M.R., Shemshad, Kh., Pedram, M. & Amani, H. 2008. The *Anopheles superpictus* complex: introduction of a new malaria vector complex in Iran. *Bulletin de la Société de Pathologie exotique* 101: 429–434.

- Paredes-Esquivel, C., Donnelly, M.J., Harbach, R.E., Townson, H. 2009. A molecular phylogeny of mosquitoes in the *Anopheles barbirostris* subgroup reveals cryptic species: implications for identification of disease vectors. *Molecular Phylogenetics and Evolution* 50: 141–151.
- Peyton, E.L. 1990. A new classification for the Leucosphyrus Group of *Anopheles* (*Cellia*). *Mosquito Systematics* (1989) 21: 197–205.
- Peyton, E.L., Wilkerson, R.C. & Harbach, R.E. 1992. Comparative analysis of the subgenera *Kerteszia* and *Nyssorhynchus* of *Anopheles* (Diptera: Culicidae). *Mosquito Systematics* 24: 51–69.
- Ramirez, C.C. & Dessen, E.M. 2000a. Chromosomal evidence for sibling species of the malaria vector *Anopheles cruzii*. *Genome* 43: 143–151.
- Ramirez, C.C. & Dessen, E.M. 2000b. Chromosome differentiated populations of *Anopheles cruzii*: evidence for a third sibling species. *Genetica* 108: 73–80.
- Rattanaarithikul, R. & Green, C.A. 1987. Formal recognition of the species of the *Anopheles maculatus* group (Diptera: Culicidae) occurring in Thailand, including the descriptions of two new species and a preliminary key to females. *Mosquito Systematics* (1986) 18: 246–278.
- Rattanaarithikul, R., Harrison, B.A., Harbach, R.E., Panthusiri, P. & Coleman, R.E. 2006b. Illustrated Keys to the mosquitoes of Thailand. IV. *Anopheles*. *Southeast Asian Journal of Tropical Medicine and Public Health* 37 (suppl. 2): 1–128.
- Reid, J.A. 1949. A preliminary account of the forms of *Anopheles leucosphyrus* Dönitz (Diptera: Culicidae). *Proceedings of the Royal Entomological Society of London Series B Taxonomy* 18: 42–53.
- Reid, J.A. 1950. The *Anopheles umbrosus* group (Diptera: Culicidae). Part 1: systematics, with descriptions of two new species. *Transactions of the Royal Entomological Society of London* 101: 281–318.
- Reid, J.A. 1953. The *Anopheles hyrcanus* group in south-east Asia (Diptera: Culicidae). *Bulletin of Entomological Research* 44: 5–76.
- Reid, J.A. 1968. Anopheline mosquitoes of Malaya and Borneo. *Studies from the Institute for Medical Research Malaya* 31: 1–520.
- Reid, J.A. & Knight, K.L. 1961. Classification within the subgenus *Anopheles* (Diptera, Culicidae). *Annals of Tropical Medicine and Parasitology* 55: 474–488.
- Rona, L.D.P., Carvalho-Pinto, C.J., Gentile, C., Grisard, E.C. & Peixoto, A.A. 2009. Assessing the molecular divergence between *Anopheles* (*Kerteszia*) *cruzii* populations from Brazil using the *timeless* gene: further evidence of a species complex. *Malaria Journal* 8: 60.
- Rona, L.D.P., Carvalho-Pinto, C.J. & Peixoto, A.A. 2010a. Molecular evidence for the occurrence of a new sibling species within the *Anopheles* (*Kerteszia*) *cruzii* complex in south-east Brazil. *Malaria Journal* 9: 33.
- Rona, L.D.P., Carvalho-Pinto, C.J., Mazzoni, C.J. & Peixoto, A.A. 2010b. Estimation of divergence time between two sibling species of the *Anopheles* (*Kerteszia*) *ccruzii* complex using a multilocus approach. *BMC Evolutionary Biology* 10: 91.
- Rona, L.D.P., Carvalho-Pinto, D.J. & Peixoto, A.A. 2013. Evidence for the occurrence of two sympatric sibling species within the *Anopheles* (*Kerteszia*) *cruzii* complex in southeast Brazil and the detection of asymmetric introgression between them using a multilocus analysis. *BMC Evolutionary Biology* 13: 207.
- Root, F.M. 1922a. The classification of American *Anopheles* mosquitoes. *American Journal of Hygiene* 2: 321–322.

- Root, F.M. 1923. The male genitalia of some American *Anopheles* mosquitoes. *American Journal of Hygiene* 3: 264–279.
- Ruiz, F., Quiñones, M.L., Erazo, H.F., Calle, D.A., J Alzate, J.F. & Linton, Y.-M. 2005. Molecular differentiation of *Anopheles (Nyssorhynchus) benarrochi* and *An. (N.) oswaldoi* from Southern Colombia. *Memorias do Instituto Oswaldo Cruz* 100: 155–160.
- Ruiz, F., Linton, Y.-M., Ponsonby, D.J., Conn, J.E., Herrera, M., Quiñones, M.L., Vélez, I.D. Wilkerson, R.C. 2010. Molecular comparison of topotypic specimens confirms *Anopheles (Nyssorhynchus) dunhami* Causey (Diptera: Culicidae) in the Colombian Amazon. *Memorias do Instituto Oswaldo Cruz* 105(7): 899–903.
- Ruiz-Lopez, F., Wilkerson, R.C., Conn, J.E., McKeon, S.N., Levin, D.M., Quiñones, M.L., Póvoa, M.M., Linton, Y.-M. 2012. DNA barcoding reveals both known and novel taxa in the Albitarsis Group (*Anopheles: Nyssorhynchus*) of Neotropical malaria vectors. *Parasites & Vectors* 5: 44.
- Ruiz-Lopez, F., Wilkerson, R.C., Ponsonby, D., Herrera, M., Sallum, M.A.M., Velez, I.D., Quiñones, M.L., Flores-Mendoza, C. Chadee, D.D., Alarcon, J., Alarcon-Ormasa, J. & Linton, Y.-M. 2013. Systematics of the Oswaldoi Complex (*Anopheles, Nyssorhynchus*) in South America. *Parasites & Vectors* 6: 324.
- Sallum, M.A.M., Foster, P.G., dos Santos, C.L.S., Flores, D.C., Motoki, M.T. & Bergo, E.S. 2010. Resurrection of two species from synonymy of *Anopheles (Nyssorhynchus) strodei* Root, and characterization of a distinct morphological form from the Strodei Complex (Diptera: Culicidae). *Journal of Medical Entomology* 47: 504–526.
- Sallum, M.A.M., Peyton, E.L., Harrison, B.A. & Wilkerson, R.C. 2005b. Revision of the Leucosphyrus group of *Anopheles (Cellia)* (Diptera, Culicidae). *Revista Brasileira de Entomologia* 49 (Supl. 1): 1–152.
- Sallum, M.A.M., Peyton, E.L. & Wilkerson, R.C. 2005a. Six new species of the *Anopheles leucosphyrus* group, reinterpretation of *An. elegans* and vector implications. *Medical and Veterinary Entomology* 19: 158–199.
- Sarala, K.S., Nutan, N., Vasantha, K., Dua, V.K., Malhotra, M.S., Yadav, R.S. & Sharma, V.P. 1994. Cytogenetic evidence for three sibling species in *Anopheles fluviatilis* (Diptera: Culicidae). *Annals of the Entomological Society of America* 87:116–121.
- Satoto, T.B.T. 2001. Cryptic species within *Anopheles barbirostris* van der Wulp, 1884, inferred from nuclear and mitochondrial gene sequence variation. PhD Thesis. University of Liverpool, England.
- Schmidt, E.R., Foley, D.H., Bugoro, H. & Bryan, J.H. 2003. A morphological study of the *Anopheles punctulatus* group (Diptera: Culicidae) in the Solomon Islands, with a description of *Anopheles (Cellia) irenicus* Schmidt, sp.n. *Bulletin of Entomological Research* 93: 515– 526.
- Schmidt, E.R., Foley, D.H., Hartel, G.F., Williams, G.M. & Bryan, J.H. 2001. Descriptions of the *Anopheles (Cellia) farauti* complex of sibling species (Diptera: Culicidae) in Australia. *Bulletin of Entomological Research* 91: 389–410.
- Sierra, D.M., Velez, I.D. & Linton, Y.-M. 2004. Malaria vector *Anopheles (Nyssorhynchus) nuneztovari* comprises one genetic species in Colombia based on homogeneity of nuclear ITS2 rDNA. *Journal of Medical Entomology* 41: 302–307.
- Silva-do-Nascimento, T.R. & Lourenço-de-Oliveira, R. 2007. Diverse population dynamics of three *Anopheles* species belonging to the Triannulatus Complex (Diptera: Culicidae). *Memorias do Instituto Oswaldo Cruz* 102: 975–982.

- Spillings, B.L., Brooke, B.D., Koekemoer, L.L., Chiphwanya, J., Coetzee, M. & Hunt, R.H. 2009. A new species concealed by *Anopheles funestus* Giles, a major malaria vector in Africa. *American Journal of Tropical Medicine and Hygiene* 81: 510–515.
- Suguna, S.G., Rathinam, K.G., Rajavel, A.R. & Dhanda, V. 1994. Morphological and chromosomal descriptions of new species in the *Anopheles subpictus* complex. *Medical and Veterinary Entomology* 9: 88–94.
- Sukowati, S., Baimai, V., Harun, S., Dasuki, Y., Andris, H. & Efriwati, M. 1999. Isozyme evidence for three sibling species in the *Anopheles sundaicus* complex from Indonesia. *Medical and Veterinary Entomology* 13: 408–414.
- Takano, K.T., Nguyen, N.T.H., Nguyen, B.T.H., Sunahara, T., Yasunami, M., Nguyen, M.D. & Takagi, M. 2010. Partial mitochondrial DNA sequences suggest the existence of a cryptic species within the *Leucosphyrus* group [*sic*] of the genus *Anopheles* (Diptera: Culicidae), forest malaria vectors, in northern Vietnam. *Parasites and Vectors* 3: 41.
- Theobald, F.V. 1907. *A monograph of the Culicidae or mosquitoes*. Volume 4. British Museum (Natural History), London.
- Vu, T.P., Nguyen, D.M., Tran, D.H. & Nguyen, N.V. 1991. *Anopheles (Anopheles) cucphuongensis*: a new species from Vietnam (Diptera: Culicidae). *Mosquito Systematics* (1990) 22: 145–148.
- White, G.B. 1985. *Anopheles bwambae* sp.n., a malaria vector in the Semliki Valley, Uganda, and its relationships with other sibling species of the *An. gambiae* complex (Diptera: Culicidae). *Systematic Entomology* 10: 501–522.
- Wilkerson, R.C., Parsons, T.J., Klein, T.A., Gaffigan, T.V., Bergo, E. & Consolim, J. 1995. Diagnosis by random amplified polymorphic DNA polymerase chain reaction for four cryptic species related to *Anopheles (Nyssorhynchus) albitarsis* (Diptera: Culicidae) from Paraguay, Argentina, and Brazil. *Journal of Medical Entomology* 32: 697–704.
- Wilkerson, R.C., Reinert, J.F. & Li, C. 2004. Ribosomal DNA ITS2 sequences differentiate six species in the *Anopheles crucians* complex (Diptera: Culicidae). *Journal of Medical Entomology* 41: 392–401.
- Zavortink, T.J. 1973. Mosquito studies (Diptera, Culicidae) XXIX. A review of the subgenus *Kerteszia* of *Anopheles*. *Contributions of the American Entomological Institute* 9(3): 1–54.