

1 Abdominal tg2 at least five or more times as long as wide; abdominal st1 extending approx. halfway back under tg2; alula and pulvilli absent. Leptogastrinae ... 15

Abdominal tg2 no more than four times as long as wide; st1 confined beneath tg1; alula and pulvilli usually present, but occasionally one or the other may be absent ... 2

2 Prothoracic tibia with an apical unarticulated spur (i.e., a spine-like process of the distal tibial margin, somewhat sigmoid in shape); prosternum separated from proepisternum by membranous area. Dasypogoninae ... 21

Prothoracic tibia without any spine-like tibial processes (macrosetae may be present); prosternum either fused to or separated from proepisternum by membranous area ... 3

3 R2+3 joining R1 proximal to end of R1, cell r1 thus closed (either stalked or closed on wing margin) ... 10

R2+3 ending in C, cell r1 thus open on wing margin ... 4

4 Frons narrowed at level of antennal insertion and then abruptly diverging dorsally (frons much wider at vertex than at antennal insertion); posterior margin of compound eyes distinctly sinuate in ventral 1/2; prosternum fused to proepisternum, forming precoxal bridge. Stichopogoninae ... 69

Frons approx. same width at level of antennal insertion and vertex or only slightly diverging; compound eye more or less oval or posterior margin slightly sinuate in ventral 1/4; prosternum either fused to or separated from proepisternum by membranous area ... 5

5 Antennal stylus without long setulae (Rhipidocephala sometimes with ventral setulae); alula usually well-developed ... 7

Antennal stylus with long setulae on all surfaces (either loosely arranged or tightly packed); alula reduced ... 6

6 Antennal stylus robust, broader than distal end of postpedicel; stylus setulae short and tightly packed; prosternum separated from proepisternum by membranous area; restricted to Western Cape Province of South Africa ... Akatiomyia Londt, 2013

Antennal stylus narrower than distal end of postpedicel; stylus setulae long and loosely arranged; prosternum fused to proepisternum, forming precoxal bridge; widespread throughout Afrotropical Region ... Oligopogon Loew, 1847

7 Anterior tentorial pits small, slit-like, inconspicuous ventrally; wing cell m3 open or closed ... 9

Anterior tentorial pits well-developed, conspicuous antero-ventrally; wing cell m3 open. Trigonomiminae ... 8

8 Antennal postpedicel consisting of proximal bulb with elongate, but undifferentiated distal part (resembling a stylus); abdominal tg1 entirely sclerotised; metathoracic trochanter with posteriorly directed, setose protuberance; fairly robust flies, often shiny yellow-brown with glistening wings ... Damalis Fabricius, 1805

Antennal postpedicel elongate, with a distinct apical stylus; tg1 often medially unsclerotised; metathoracic trochanter without protuberance; smaller, fragile, blackish flies ... Rhipidocephala Hermann, 1926

9 Female terminalia with divided tg10 bearing acanthophorite spines (can be difficult to see in specimens with withdrawn terminalia); anepisternum never with strong macroseta at supero-posterior angle; prosternum separated from proepisternum by membranous area ... 23

Female terminalia simple (tg10 never divided and without acanthophorite spines); anepisternum usually with at least 1 macroseta at supero-posterior angle, in front of wing insertion (when absent, pulvilli also absent); prosternum fused to proepisternum, forming precoxal bridge. Laphriinae (in part) ... 74

10 Vein R2+3 closing cell r1 by an obvious, fairly straight stalk ... 13

Vein R2+3 bent anteriorly at tip and joining vein R1 just before or at vein C ... 11

11 Vein C circumambient; metathoracic femur slender, without ventro-distal macrosetae mounted on tubercles; restricted to eastern and southern Africa ... *Perasis* Hermann, 1905

Vein C terminates at or before CuA+CuP (cell cup not bordered by C); metathoracic femur stout, frequently with ventro-distal macrosetae mounted on tubercles; throughout sub-Saharan Africa and/or southern Arabia ... 12

12 Antennal postpedicel almost twice as long as scape and pedicel combined; larger flies (> 13 mm); metathoracic femur with ventro-distal macrosetae mounted on tubercles; wings with patches of yellow-brown staining; throughout sub-Saharan Africa ... *Hoplistomerus* Macquart, 1938

Postpedicel only slightly longer than scape and pedicel combined; smaller flies (< 13 mm); metathoracic femur with or without ventro-distal macrosetae mounted on tubercles; wing usually without staining; throughout sub-Saharan Africa and southern Arabia ... *Trichardis* Hermann, 1906

13 Anepisternum usually with at least 1 macroseta at supero-posterior angle, in front of wing insertion (when absent, pulvilli also absent); prosternum fused to proepisternum, forming precoxal bridge; maxillary palpus 1- or 2-segmented. Laphriinae in part ... 78

Anepisternum never with strong macroseta at supero-posterior angle; prosternum either fused to or separated from proepisternum by membranous; maxillary palpus 1-segmented ... 14

14 Antennal stylus with long setulae; postmetacoxal area sclerotised (i.e., postmetacoxal bridge complete). Ommatiinae ... 102

Antennal stylus without any setulae; postmetacoxal area at least medially unsclerotised and membranous. Asilinae ... 110

15 Claws of unequal length, median claw shorter than lateral one; trichoid spicules (reminiscent of setulae) on wing veins R and M; long posteriorly directed postsutural dorsocentral setae present; male terminalia without a surstylus; restricted to south-western Madagascar ... *Schildia* Aldrich, 1923

Claws of equal length, median and lateral claws equally long; trichoid spicules absent from wing veins R and M; usually without posteriorly directed postsutural dorsocentral setae; male terminalia always with a distinct surstylus; entire Afrotropical Region ... 16

16 Wing cell cua open ... 18

Wing cell cua closed ... 17

17 Metathoracic tibia enlarged, swollen, and widest medially; metathoracic femur in distal 3/4 long setose on all surfaces; at least 2 long ventrally-angled setae on ventral surface of metathoracic tibia; wing membrane usually brown patterned ... *Lasiocnemus* Loew, 1851  
Metathoracic tibia cylindrical and usually widest at distal tip; metathoracic femur in distal 3/4 not long setose; long ventrally-angled setae absent from ventral surface of metathoracic tibia; wings never with brown membrane (although sometimes darker through dense microtrichia) ... *Ammophilomima* Enderlein, 1914

18 Postpronotum medially with a distinct, cylindrical, peg-like protuberance ... *Euscelidia* Westwood, 1850  
Postpronotum medially without any protuberance (median postpronotum might be slightly elevated) ... 19

19 Metathoracic tibia with dorsal and ventral rows of short macrosetae; metathoracic legs long and almost cylindrical throughout ... *Mesoleptogaster* Frey, 1937  
Metathoracic tibia without distinct rows of short macrosetae (single macrosetae may be present particularly towards distal tip); metathoracic legs not particularly elongated and at least femur distinctly clubbed distally ... 20

20 Postpedicel short (as long as or only slightly longer than scape and pedicel combined); male hypandrium and gonocoxite fused to form a "lobus"; male surstylus without a movable secondary ventral lobe; surstylus always bipartite distally; females often with long macrosetae distally on st8 ... *Lobus* Martin, 1972  
Postpedicel short or long; male hypandrium and gonocoxite always separated; surstylus always with a movable secondary ventral lobe; surstylus with only a single tip (although sometimes more or less blunt with distinct dorso- and ventro-distal points); females without long macrosetae distally on st8 ... *Leptogaster* Meigen, 1803

21 Prothoracic tibial spur slender, sigmoid, and not associated with a proximal tarsal process, but at most a group of stout, peg-like, black, tarsal macrosetae; 2 well-developed apical scutellar macrosetae present; male epandrium and hypandrium not fused (suture distinctly visible) ... *Saropogon* Loew, 1847  
Prothoracic tibial spur stout and associated with a well-developed proximal tarsal process; apical scutellar macrosetae highly reduced to absent; male epandrium and hypandrium fused forming continuous ring (no suture apparent) ... 22

22 Ocellar tubercle prominent; median occipital sclerite with 2 vertical macrosetae; postpronotal lobe without macrosetae; weak dorsocentral macrosetae may be present postsuturally ... *Pegesimallus* Loew, 1958  
Ocellar tubercle not prominent; median occipital sclerite with 4-6 vertical macrosetae; postpronotal lobe with 1-2 stout macrosetae; pre- and postsutural dorsocentral macrosetae present ... *Caroncoma* Londt, 1980

23 Anatergite asetose ... 32  
Anatergite setose ... 24

24 Antennal stylus reduced, composed of a greatly reduced segment-like article (not always evident) and an apical seta-like sensory article in cavity on distal postpedicel ... 31  
Antennal stylus composed of 2-3 distinctly discernible articles (1-2 segment-like articles plus apical seta-like sensory article) ... 25

25 Occiput with obvious macrosetae (includes postocular and occipital setae) ... 27  
Occiput without macrosetae (i.e., weak postocular and occipital setae only) ... 26

26 Antennal scape distinctly longer than pedicel; eye : face width ratio  $< 1.1 : 1$ ; male hypandrium less than  $1/2$  as long as epandrial lobes ... *Diocobroma* Hull, 1962  
Scape and pedicel of approx. same length; eye : face width ratio  $> 1.3 : 1$ ; male hypandrium approx. as long as epandrial lobes ... *Dogonia* Oldroyd, 1970

27 Proepisternum with a few strong macrosetae in addition to setae; anteprenotum and scutum with very strong macrosetae giving a bristly appearance ... *Anasillomos* Londt, 1983  
Proepisternum with setae only (some may be stronger than others, but never as strong as scutal macrosetae); anteprenotum and scutum with setae or regular macrosetae ... 28

28 Abdominal tg1-4 with group of strong macrosetae dorsolaterally; antennal stylus composed of 2 articles (1 segment-like article plus apical seta-like sensory article); male terminalia bulbous; female tg7 and tg8 of approx. same length ... *Ontomyia* Dikow & Londt, 2000  
Only abdominal tg1 with group of strong macrosetae dorsolaterally; antennal stylus composed of 3 articles (2 segment-like articles plus apical seta-like sensory article); male terminalia slender, never bulbous; female tg8 distinctly shorter than tg7 (*Fishermyia* female unknown) ... 29

29 Facial swelling well-developed on entire face ... *Oratostylum* Ricardo, 1925  
Facial swelling weak, only ventral margin moderately-developed ... 30

30 Two apical scutellar macrosetae present; mystax occupying ventral  $1/3$  of face only; antennal postpedicel elongate, spindle shaped,  $> 1.5$  times as long as scape and pedicel combined; restricted to Madagascar ... *Fishermyia* Londt, 2012  
Four or more apical scutellar macrosetae present; mystax occupying almost entire face although sometimes weak in dorsal part; antennal postpedicel usually somewhat clavate,  $< 1.5$  times as long as scape and pedicel combined; restricted to southern Africa ... *Remotomyia* Londt, 1983

31 Facial swelling occupying approx.  $3/4$  of face; mystax entirely covering face; pre- and postsutural dorsocentral setae well-developed; vein M1 not strongly arched anteriorly; postmetacoxal membrane covered with long setae ... *Daspletis*, Loew, 1858  
Facial swelling occupying at most ventral  $1/2$  of face; mystax primarily confined to ventral  $1/2$  of face; only postsutural dorsocentral setae well-developed; vein M1 usually strongly arched anteriorly; postmetacoxal membrane usually asetose ... *Microstylum* Loew, 1838

32 Vein C circumambient (around entire wing margin, even when weakly-developed as in *Trichoura*) ... 43  
Vein C not circumambient, cell cup and alula without bordering vein C (i.e., C terminates at or before point where vein CuP joins wing margin) ... 33

33 Pulvilli well-developed ... 38

Pulvilli minute or absent. Willistoninae in part ... 34

34 Abdomen cylindrical, not obviously dorsoventrally flattened (width : length ratio of  $tg2 < 1.5$ ) ... 37

Abdomen broad and obviously dorsoventrally flattened (width : length ratio of  $tg2 > 2$ ) ... 35

35 Vein C terminating before reaching CuA+CuP; cell r5 closed and stalked (stalk frequently failing to reach wing margin) ... *Sisyrnodytes* Loew, 1856

Vein C terminating at point where CuA+CuP reaches wing margin; cell r5 open ... 36

36 Cell m3 open; supernumerary crossvein (R3) developed as short stump-vein on R4; pulvilli poorly developed, but clearly discernible; male hypandrium somewhat flat or only gently concave ... *Acnephatomyia* Londt, 2010

Cell m3 closed and stalked; supernumerary crossvein (R3) absent on R4; pulvilli minute, difficult to detect; male hypandrium distinctly cup-shaped ... *Astiptomyia* Londt, 2010

37 Small flies (wing length  $< 3.5$  mm); empodium absent; supernumerary crossvein (R3) absent on R4; scutal macrosetae well-developed, many times longer than accompanying setae ...

*Ammodaimon* Londt, 1985

Larger flies (wing length  $> 6.0$  mm); empodium well-developed; supernumerary crossvein (R3) developed as short stump-vein on R4; scutal macrosetae moderately developed, not many times as long as accompanying setae ... *Sporadothrix* Hermann, 1907

38 Postmetacoxal area sclerotised (i.e., postmetacoxal bridge complete) ... *Rhabdogaster* Loew, 1858

Postmetacoxal area entirely membranous ... 39

39 Scutum greatly elevated antero-dorsally and hump-like ... *Oxynoton* Janssens, 1951

Scutum of more usual shape, not hump-like ... 40

40 Metathoracic coxa anteriorly with elongate, distally rounded, peg-like process ... *Ischiolobos* Londt, 2005

Metathoracic coxa anteriorly without peg-like process ... 41

41 Strong mystacal macrosetae extending over entire face; 1–4 long postalar macrosetae present ... *Amphisbetetus* Hermann, 1906

Strong mystacal macrosetae either confined to lower 1/2 of face or absent (weak mystacal setae present); postalar macrosetae usually absent (1 or 2 macrosetae in some species) ... 42

42 Mystacal macrosetae restricted to a single row on lower facial margin; abdominal tergites primarily pubescent (small median apubescent spots present); Palearctic and Southern Arabia ... *Wadipogon* Bosak & Hradsky, 2011

Mystacal macrosetae more extensive, if restricted to single row on lower facial margin then weaker mystacal setae also present on face; abdominal tergites usually apubescent and asetose; primarily in Southern Africa ... *Afroholopogon* Londt, 1994

43 Maxillary palpus 2-segmented (weak distal segment may be tucked away in oral cavity) ... 46  
Maxillary palpus 1-segmented (usually fairly robust and curved, such that their distal ends converge) ... 44

44 Proboscis with spine-like processes distally; antennal stylus not clearly differentiated, apical seta-like sensory article situated sub-apically in cavity on postpedicel ... *Hynirhynchus* Lindner, 1955

Proboscis of more usual form and without spine-like processes distally; antennal stylus clearly differentiated, apical seta-like sensory article situated apically in cavity on stylus ... 45

45 Proboscis shorter than antenna; mystax occupying ventral 1/3 of face; male mesothoracic tarsomeres 4-5 with highly modified, rather spade-shaped setae (usually reddish in colour) ... *Habropogon* Loew, 1847

Proboscis longer than antenna; mystax occupying ventral 1/2 of face; male mesothoracic tarsomeres 4-5 with regular setae only ... *Pycnomerinx* Hull, 1962

46 Head distinctly wider than high in anterior view ... 51

Head almost circular in anterior view (i.e., face narrow) ... 47

47 Katatergite setose ... 49

Katatergite aetose ... 48

48 Prothoracic femur with large, proximo-ventral spinose process (i.e., strongly raptorial) ... *Gonioscelis* Schiner, 1866

Prothoracic femur of more usual form and without large spinose process ... *Stenopogon* Loew, 1847

49 Dorsocentral macrosetae developed pre- and postsuturally ... *Haroldia* Londt, 1999

Dorsocentral macrosetae developed only postsuturally ... 50

50 Antennal stylus composed of 2 articles (1 segment-like article plus apical seta-like sensory article); male hypandrium usually bifurcate distally ... *Afroscleropogon* Londt, 1999

Antennal stylus composed of 3 articles (2 segment-like articles plus apical seta-like sensory article); male hypandrium usually simple ... *Rhacholaemus* Hermann, 1907

51 Proboscis strongly downward-curved, resembling a parrot's beak ... *Ancylorhynchus* Berthold, 1827

Proboscis of more usual form, not strongly down-curved ... 52

52 Facial swelling strongly projecting ventrally only (not dorsally), giving a pointed, nose-like appearance; mystacal macrosetae largely confined to small area at apex of facial swelling ... *Lycostommyia* Oldroyd, 1980

Facial swelling not projecting ventrally and of more usual form; mystacal macrosetae placed more widely on facial swelling ... 53

53 Mystax not occupying entire face, distinct gap between dorsal mystacal setae and antennal sockets ... 59

Mystax occupying entire face, even when weakly-developed dorsally ... 54

54 Antennal postpedicel widening toward middle (in lateral view), apical 1/2 appearing strongly incised ventrally ... *Pedomysia astroptica* Londt, 1994

Antennal postpedicel either distinctly laterally compressed or cylindrical ... 55

55 Antennal postpedicel distinctly laterally compressed, strap-like; stylus also laterally compressed ... *Hermannomyia* Oldroyd, 1962

Antennal postpedicel more or less cylindrical (may appear slightly laterally compressed); stylus more or less cylindrical ... 56

56 Large, bee-mimicking flies (wing length > 15 mm); maxillary palpus large, well-developed; anepimeral macroseta absent ... *Bana* Londt, 1992

Small flies (wing length < 10 mm); maxillary palpus moderately developed; anepimeral macroseta usually present ... 57

57 Male terminalia club-like; male epandrium greatly developed, hemispherical; male hypandrium greatly reduced ... *Corymyia* Londt, 1994

Male terminalia of more usual form; male epandrium not greatly developed; male hypandrium not greatly reduced ... 58

58 Mystax well-developed, occupying entire face; scutellum with many apical scutellar setae, usually some discal scutellar setae (central area usually asetose); male gonocoxite with 2 subequal, pointed, distal processes, lateral one with at most a small tumid dorso-distal projection ... *Connomyia* Londt, 1992

Mystax moderately developed, occupying entire face, but usually weak dorsally; scutellum usually with few apical scutellar setae, rarely few discal scutellar setae present; male gonocoxite with lateral process having a distal or dorso-distal flange-like process ... *Danomyia* Londt, 1993

59 Anepimeral macroseta present; metathoracic empodium laterally compressed and blade-like ... *Empodiodes* Oldroyd, 1972

Anepimeral macroseta absent; metathoracic empodium seta-like, not laterally compressed and blade-like ... 60

60 Facial swelling at most gently developed, dorsal part not distinctly defined ... 62

Fascial swelling strongly-developed in ventral 3/4, dorsal part distinctly defined ... 61

61 Body entirely metallic blue-black; postpedicel elongate, cylindrical, approx. twice as long as scape and pedicel combined; wing fairly uniformly black ... *Teratopomyia* Oldroyd, 1980

Body not entirely metallic blue-black; postpedicel strongly club-shaped, approx. as long as scape and pedicel combined; wing largely transparent with dark spots (especially a 'stigma-like' marking at base of cell r1) ... *Hypenetes* Loew, 1858

62 Mystax occupying at least ventral 1/2 of face ... 67

Mystax occupying at most ventral 1/3 of face ... 63

63 Wing cells m3 and cua closed and stalked; male hypandrium reduced and largely fused with

gonocoxites ... *Trichoura* Londt, 1994

Wing cells m3 and cua open at wing margin (even when only narrowly); male hypandrium moderately well-developed and not fused with gonocoxites ... 64

64 Male epandrial lobes fused medially for at least proximal 1/2 of length ... 66

Male epandrial lobes separated, only joined proximally ... 65

65 Larger flies (wing length > 5 mm) ... *Antiscylaticus* Londt, 2010

Small flies (wing length < 5 mm) ... *Microphontes* Londt, 1994

66 Discal scutellar setae present (approx. 4); male epandrial lobes fused medially for almost entire length (only slight distal indentation) ... *Irwinomyia* Londt, 1994

Discal scutellar setae absent; male epandrial lobes fused medially for approx. 1/2 of length ... *Macroetra* Londt, 1994

67 Antennal postpedicel widening toward middle (in lateral view), apical 1/2 appearing strongly incised ventrally ... *Pedomyia* Londt, 1994

Postpedicel spindle-shaped ... 68

68 Male epandrial lobes short, fused medially for approx. 1/3 of length; male hypandrium elongate, ventrally directed with upturned distal region ... *Agrostomyia* Londt, 1994

Male epandrial lobes long, entirely separated medially or very narrowly joined proximally; male hypandrium more or less straight and distally directed ... *Scylaticus* Loew, 1858

69 Pulvilli present, even if only poorly developed ... 71

Pulvilli absent ... 70

70 Cell m3 closed; mystacal setae circular in cross-section ... *Turkmenomyia* Paramonov, 1930

Cell m3 open; mystacal setae dorso-ventrally flattened ... *Rhadinus* Loew, 1856

71 Pulvilli poorly-developed, about half length of claw; currently confined to Kenya ...

*Nanoculcita* Londt & Copeland, 2017

Pulvilli well-developed, almost reaching distal end of claw ... 72

72 Two well-developed ocellar macrosetae present; cell m3 with a long stalk at base; usually small, or even tiny flies (< 10 mm); habitat sandy banks of streams, rivers, and lakes ...

*Stichopogon* Loew, 1847

Ocellar macrosetae weak or absent; cell m3 with a short basal stalk, or none ... 73

73 Scutum entirely grey pubescent; larger flies (> 10 mm); littoral zones along East African coast and Indian Ocean Islands ... *Clinopogon* Bezzi, 1910

Scutum apubescent; smaller flies (< 10 mm); restricted to Southern Arabia ... *Dichropogon* Bezzi, 1910

74 Pulvilli poorly developed (approx. 1/2 length of claws) ... *Prytanomyia* Özdikmen, 2006

Pulvilli well-developed (as long as or a little shorter than claws) ... 75



75 *Anepisternum* with strong macroseta on supero-posterior angle; small flies (< 8 mm); face narrower than width of one eye in anterior view; scape twice as long as pedicel ... *Gerrolasius* Hermann, 1920

*Anepisternum* without obvious strong macroseta on supero-posterior angle; larger flies (> 8 mm); face as wide or wider than width of one eye; scape less than twice as long as pedicel ... 76

76 *Mystax* composed almost entirely of fine setae uniformly covering face; fine setae of thorax and abdomen longish and soft; no obvious macrosetae anywhere; bee-like in appearance ... *Pilophoneus* Londt, 1988

*Mystax* composed of strong macrosetae largely restricted to ventral facial margin; fine setae of thorax and abdomen tiny; thoracic and abdominal macrosetae obvious and moderately well-developed; not bee-like in appearance ... 77

77 Postpedicel approx. as long as scape and pedicel combined; thorax and abdomen extensively asetose; restricted to Madagascar ... *Ericomyia* Londt, 2015

Postpedicel much longer than scape and pedicel combined; thorax and abdomen entirely setose; restricted to sub-Saharan Africa ... *Laphyctis* Loew, 1858

78 Postmetacoxal area membranous (some *Proagonistes* with almost complete bridge, but dorsoventral suture evident) ... 84

Postmetacoxal area sclerotised (i.e., postmetacoxal bridge complete, no suture evident) ... 79

79 Small to tiny flies (< 10 mm); restricted to Sub-Saharan Africa ... 81

Larger flies (> 10 mm); restricted to Madagascar ... 80

80 Male cerci short, extending barely beyond tip of epandrium ... *Katharma* Oldroyd, 1960

Male cerci very long, extending well beyond tip of epandrium ... *Katharmacercus* Tomasovic, 2014

81 Antennal postpedicel without stylus and with seta-like sensory article situated just beyond half length; scutum anteriorly without distinct macrosetae; scutellum with tubercular projection apically; anatergite asetose ... *Afromosia* Londt, 2015

Antennal postpedicel with distinct stylus, seta-like sensory article situated sub-apically and laterally on postpedicel; scutum anteriorly with pair of small macrosetae; scutellum simple, smoothly rounded; anatergite setose ... 82

82 Antennal stylus as long as or longer than scape; postocular macrosetae poorly developed ... *Dichaethyrea* de Meijere, 1914

Antennal stylus shorter than scape; postocular macrosetae well-developed ... 83

83 Face narrow (eye : face width ratio > 1.5); scutum punctate; mystax of both sexes without laterally situated dorsoventrally flattened scale-like setae ... *Loewinella* Hermann, 1912

Face wide (eye : face width ratio < 1.5); scutum shiny at most slightly punctulate; mystax of males with dorsoventrally flattened, shiny scale-like macrosetae ... *Goneccalypsis* Hermann, 1912

84 Apical portion of vein M3 perfectly aligned with proximal portion of M2 (forming a cross);

restricted to Madagascar ... *Orthogonis* Hermann, 1914

Wing veins not so aligned (except for *Anypodetus nigrifacies* where alignment is almost perfect); found throughout Afrotropical Region ... 85

85 Proboscis short to moderate in length, often stout and somewhat triangular in cross-section ... 88

Proboscis long, narrow and laterally compressed (knife-like) ... 86

86 Metathoracic femur considerably expanded medio-distally and with ventro-distal macrosetae mounted on tubercles ... *Storthingomerus* Hermann, 1919

Metathoracic femur not obviously expanded medio-distally and with only regular ventro-distal macrosetae (not mounted on tubercles) ... 87

87 Antennal postpedicel at most twice as long as scape and pedicel combined; female ovipositor short and not markedly tubular; smaller (total length < 20 mm), not obviously robust, setaceous, or bee-like flies ... *Choerades* Walker, 1851

Postpedicel more than twice as long as scape and pedicel combined; female ovipositor somewhat elongate and tubular; large (total length > 20 mm), robust, setaceous, and bee-like flies ... *Dasyllina* Bromley, 1935

88 Maxillary palpus cylindrical in cross-section; female ovipositor short and not markedly tubular ... 92

Maxillary palpus laterally compressed and leaf-like; female ovipositor projecting distally as a slender tube ... 89

89 Cell r5 closed; broad flies bee-like in appearance (mimic carpenter bees) ... *Hyperechia* Schiner, 1866

Cell r5 open; not bee-like in appearance ... 90

90 Facial swelling only poorly developed; postpedicel approx. as long as scape and pedicel combined ... *Andrenosoma* Rondani, 1856

Facial swelling well to strongly developed; postpedicel approx. 1.5 times as long as scape and pedicel combined ... 91

91 Larger flies (> 20 mm) mimicking pompilid wasps; scutum blackish (sometimes with red-brown lateral parts) ... *Proagonistes* Loew, 1858

Smaller flies (< 20 mm); scutum brown-yellow to reddish and covered with golden setae ... *Systropalpus* Hull, 1962

92 Vein M2 not reaching wing margin ... *Ctenota* Loew, 1873

Vein M2 reaching wing margin ... 93

93 Postgena simple, not ventrally extended and flange-like ... 95

Postgena with well-developed, ventral flange-like projection (in lateral view) ... 94

94 Metathoracic legs greatly elongate (metathoracic femur approx. twice as long as mesothoracic femur); abdomen somewhat constricted in anterior 1/2; larger flies (approx. 20-36

mm) ... *Lamyra* Loew, 1851

Metathoracic legs normally proportioned (metathoracic femur no more than 1.5 times as long as mesothoracic femur); abdomen more or less parallel-sided and not noticeably constricted; smaller flies (approx. 10-27 mm) ... *Stiphrolamyra* Engel, 1928

95 Cell r5 closed ... 96

Cell r5 open ... 98

96 Maxillary palpus bulbous (almost spherical); mystax composed of fine setae only ...

*Afromelittodes* Oldroyd & Bruggen, 1963

Maxillary palpus not markedly bulbous (cylindrical); mystax composed of strong macrosetae ... 97

97 Antennal postpedicel with numerous well-developed dorsal setulae; scape usually approx. twice as long as pedicel; often rather bee-like in appearance ... *Laxenecera* Macquart, 1838

Antennal postpedicel without any setulae; scape only slightly longer than pedicel; never bee-like in appearance ... *Nusa* Walker, 1851

98 Pulvilli absent; anepisternum without macrosetae on supero-posterior angle ... *Anypodetus* Hermann, 1907

Pulvilli present; anepisternum with strong macrosetae on supero-posterior angle ... 99

99 Antennal postpedicel bearing a well-defined segment-like stylus tipped with a terminal pit-enclosed seta-like sensory article ... *Laphystotes* Oldroyd, 1974

Antennal postpedicel merely tipped with a terminal, obliquely positioned pit-enclosed seta-like sensory article ... 100

100 Generally pale yellow-brown to red-brown flies; legs entirely yellow-brown to red-brown ... *Smeryngolaphria* Hermann, 1912

Generally dark red-brown to black flies; legs extensively or entirely blackish ... 101

101 Mystax of males at least laterally overlaid by shiny scale-like setae; proximal 1/2 of wing transparent, distal 1/2 uniformly covered with dense microtrichia ... *Notiolaphria* Londt, 1977

Mystax of both sexes not overlaid by shiny scale-like setae; wing membrane more extensively covered with black microtrichia ... *Nannolaphria* Londt, 1977

102 Mystax simple, dorsal setae not arranged in distinct vertical rows ... 108

Mystax with some dorsal macrosetae arranged in 2 distinct vertical rows ... 103

103 Apical scutellar macrosetae absent; ventral setulae on antennal stylus arranged in a single row ... *Metommatius* Hull, 1962

Apical scutellar macrosetae present; ventral setulae on antennal stylus arranged in 2 distinct divergent rows ... 104

104 Facial swelling only slightly developed ventrally ... 106

Facial swelling moderately well-developed (at least ventral 1/2 of face developed) ... 105

105 Facial swelling moderately well-developed, abruptly produced in ventral 2/3 of face; proboscis shorter than compound eye in lateral view; proboscis more or less cylindrical medially (only slightly higher than wide); postpedicel small, approx. as wide as scape; 2-3 stout, long presutural dorsocentral macrosetae ... *Afroestricus* Scarbrough, 2005

Facial swelling less developed, only ventral 1/2 of face developed; proboscis as long as or slightly longer than compound eye in lateral view; proboscis oval in diameter medially (higher than wide); postpedicel wider than scape; presutural dorsocentral macrosetae short ...

*Longibeccus* Scarbrough, 2010

106 Abdominal tg2-4 strongly laterally constricted ... *Emphysomera* Schiner, 1866

Abdomen parallel-sided, tg2-4 without unusual constriction ... 107

107 Macroseta on anepimeron stout; male mystax usually thin, individual macrosetae tapering evenly from proximal to distal; male st3-4 without pattern of erect macrosetae and/or dense setae ... *Ommatius* Wiedemann, 1821

Macroseta on anepimeron usually absent (when present only setose, rarely macrosetose); male mystax usually with several thick macrosetae of uniform diameter medially, tapering only at or just before apex; male st3-4 with pattern of erect macrosetae and/or dense setae ...

*Pygommatius* Scarbrough & Marascia, 2003

108 Face narrow, at antennal insertion  $< 1/5$  as wide as head at greatest width; postpedicel 2-6 times as long as scape and pedicel combined; antennal stylus short, much shorter than postpedicel ... *Michotamia* Macquart, 1838

Face wide,  $> 1/5$  width of head; postpedicel short, approx. as long as scape or as scape and pedicel combined; antennal stylus long, usually more than 3 times as long as postpedicel ... 109

109 Mystax composed of dense macrosetae medially; antennal stylus setulae short, arranged in 1 row; numerous ocellar setae positioned fan-like posteriorly; larger robust flies ( $> 10$  mm) ... *Cophinopoda* Hull, 1958

Mystax composed of only sparse setae medially; antennal stylus setulae long, arranged in 2 rows; only 2 ocellar setae posteriorly; smaller flies ( $< 9$  mm) ... *Thallosia* Oldroyd, 1970

110 Anatergite setose ... 136

Anatergite asetose (setae may be present on mesopostnotum (mediotergite)) ... 111

111 Antennal stylus composed of 3 articles (2 unequal segment-like articles plus apical seta-like sensory article); facial swelling not distinctly defined or gently convex; dorsocentral macrosetae usually pre- or postsuturally ... 118

Antennal stylus composed of 2 articles (1 segment-like article plus apical seta-like sensory article); facial swelling slightly developed ventrally; dorsocentral macrosetae only postsuturally ... 112

112 Wing either without supernumerary crossvein (R3) on R4 or supernumerary crossvein (R3) developed as short stump-vein on R4 ... 116

Wing with complete supernumerary crossvein (R3) on R4 (connecting R2+3 and R4) ... 113

113 Supernumerary crossvein (R3) shorter and at most running parallel to R4+5 for a short

distance; cell r4 long and diverging gradually towards wing margin; microtrichia on posterior wing margin arranged in 2 rows (diverging from plane of wing membrane); fewer than 8 apical scutellar macrosetae present; discal scutellar setae composed of setae only (no macrosetae) ... 115  
Supernumerary crossvein (R3) long and running parallel to R4+5 for a considerable distance before reaching fork of R4 and R5; cell r4 short and diverging rapidly near wing margin; microtrichia on posterior wing margin arranged in a single row (lying in same plane as wing membrane); 8 or more apical scutellar macrosetae; discal scutellar setae and macrosetae present ... 114

114 Vertex of regular width with ocellar tubercle of regular shape and size; ocellar tubercle usually not visible in lateral view ... *Promachus* Loew, 1848  
Vertex wide and entirely occupied by ocellar tubercle; ocellar tubercle distinctly visible in lateral view ... *Tuberconspicus* Tomasovic, 2013

115 Supernumerary crossvein (R3) very short (approx. as long as section of R4 between fork of R4+5 and point at which crossvein joins R4) ... *Alcimus* Loew, 1848  
Supernumerary crossvein (R3) longer ... *Philodicus* Loew, 1848

116 Supernumerary crossvein (R3) absent on R4; female ovipositor telescopic, comprised of abdominal segments 5 and following; restricted to Indian Ocean islands Madagascar and Mauritius ... *Lycoprosopa* Hull, 1962  
Supernumerary crossvein (R3) developed as short stump-vein on R4; female ovipositor not obviously telescopic, comprised of abdominal segments 8 and following; restricted to northern Afrotropical Region (Arabian Peninsula, Senegal to Sudan) and northern Africa ... 117

117 Two apical scutellar macrosetae present; metathoracic coxa with 2-3 lateral macrosetae; wing cell r5 open or closed; female ovipositor tubular, cercus spinose with well-developed macrosetae ... *Apoclea* Macquart, 1838  
Four to six apical scutellar macrosetae present; metathoracic coxa with a single lateral macroseta; wing cell r5 open; female ovipositor laterally compressed, cercus aspinose ... *Erax* Scopoli, 1763

118 Dorsal postocular setae long and markedly proclinate ... 123  
Dorsal postocular setae short to moderately long and at most weakly proclinate ... 119

119 Antennal stylus shorter or approx. same length as postpedicel ... 121  
Antennal stylus distinctly longer than postpedicel ... 120

120 Postpronotal lobes with macrosetae in addition to fine setae; metathoracic coxa with a single lateral macroseta; microtrichia on posterior wing margin arranged in 2 rows (diverging from plane of wing membrane) ... *Dysclytus* Loew, 1858  
Postpronotal lobes with fine setae only; metathoracic coxa with 4-5 lateral macrosetae; microtrichia on posterior wing margin arranged in a single row (lying in same plane as wing membrane) ... *Torasilus* Londt, 2005

121 Dorsocentral macrosetae well-developed pre- and postsuturally; metathoracic coxa with more than 2 lateral macrosetae ... *Zelamyia* Londt, 2005

Dorsocentral macrosetae well-developed only postsuturally; metathoracic coxa with 2 lateral macrosetae ... 122

122 Female cercus with fine setae only (without dorso-distal projection) ... *Acasilus* Londt, 2005  
Female cercus with fine setae and dorso-distal spine-like projection ... *Juxtasilus* Londt, 2005

123 Microtrichia on posterior wing margin arranged in 2 rows (diverging from plane of wing membrane) ... *Robertomyia* Londt, 1990  
Microtrichia on posterior wing margin arranged in a single row (lying in same plane as wing membrane) ... 124

124 Wing cell r5 closed well before wing margin ... *Megadrillus* Bigot, 1857  
Wing cell r5 open ... 125

125 Female ovipositor in lateral view less than twice as long as high ... 130  
Female ovipositor in lateral view at least twice as long as high ... 126

126 Metathoracic coxa with fine setae only (without macrosetae) ... 129  
Metathoracic coxa with at least 1 lateral macroseta together with fine setae ... 127

127 Cell d markedly constricted at mid-length ... *Synolcus* Loew, 1858  
Cell d not markedly constricted at mid-length ... 128

128 Facial swelling smoothly if only slightly convex; antennal stylus as long as or slightly longer than postpedicel; scutum not markedly humped; scutal mane (i.e., long, tightly-packed, fine setae arranged in a narrow strip mid-dorsally) absent ... *Dasophrys* Loew, 1858  
Facial swelling not developed; antennal stylus shorter than postpedicel; scutum markedly humped; scutal mane well-developed ... *Gibbasilus* Londt, 1986

129 More than 6 apical scutellar macrosetae present; scutal mane (i.e., long, tightly-packed, fine setae arranged in a narrow strip mid-dorsally) well-developed, but without clearly discernible acrostichal macrosetae ... *Hippomachus* Engel, 1927  
Six or fewer apical scutellar macrosetae present; scutal mane well-developed with clearly discernible acrostichal macrosetae ... *Labarus* Londt, 2005

130 Female ovipositor laterally compressed and in lateral view distinctly longer than high; female cercus smoothly rounded distally; male st8 with bifurcate medial process distally; male phallus long, Z-shaped, each straight section being of similar length and general development ... *Millenarius* Londt, 2005  
Female ovipositor usually tubular in form, but when somewhat laterally compressed never distinctly longer than high in lateral view; male st8 usually without a medial process distally (when a process is present it is never bifurcate but knob-like or as a smoothly-rounded dorsoventrally flattened projection); male phallus short to moderately long, usually fairly straight, but if somewhat Z-shaped, basal section always much more robust than other sections. *Neolophonotus* Engel, 1925 (species groups as follows) ... 131

131 Metathoracic coxa with at least 1 (often more) lateral macroseta in addition to fine setae;

postpronotal lobe with or without setae ... 133

Metathoracic coxa with fine setae only; postpronotal lobe always with setae ... 132

132 Scutal mane (i.e., long, tightly-packed, fine setae arranged in a narrow strip mid-dorsally) usually weakly developed with only weak, loosely arranged setae, usually pale coloured setae (rarely absent) in posterior part or absent anteriorly; when scutal mane is present it is bicoloured (black anteriorly, pale yellow or white posteriorly) ... *Neolophonotus angustibarbus* group

Scutal mane well-developed with longish setae and arranged loosely or as a tightly-packed row; scutal mane unicolorous black along entire length (may be bordered by smaller pale coloured setae) ... *Neolophonotus suillus* group

133 Postpronotal lobes aetose (rarely 1-3 isolated, erect setae present) ... 135

Postpronotal lobes setose with several setae ... 134

134 Scutal mane (i.e., long, tightly-packed, fine setae arranged in a narrow strip mid-dorsally) weakly to moderately developed, bicoloured (black setae anteriorly, white setae posteriorly) ... *Neolophonotus chionthrix* group

Scutal mane usually well-developed, unicolorous black (may be bordered by pale coloured setae; exceptions with white setae anteriorly and black setae posteriorly) ... *Neolophonotus comatus* group

135 Scutal mane bicoloured (black setae anteriorly, black or yellow-white setae posteriorly) or unicolorous (white setae along entire length) ... *Neolophonotus pellitus* group

Scutal mane unicolorous black (often bordered by pale coloured setae; exceptions have white setae anteriorly and black setae posteriorly) ... *Neolophonotus squamosus* group

136 Three or fewer apical scutellar macrosetae present ... 138

Four or more apical scutellar macrosetae present ... 137

137 Facial swelling well-developed; male phallus strongly curved ... *Machimus* Loew, 1849

Facial swelling confined to lower half of face; male phallus straight ... *Eremisca* Hull, 1962

138 Female st1-5 pubescent, st6-10 shiny apubescent; female ovipositor telescopic, comprised of 6th and following abdominal segments ... *Astochia* Becker, 1913

At least female st1-6 pubescent; female ovipositor more or less conical, comprised of 8th and following abdominal segments ... 139

139 Antennal stylus composed of 3 articles (2 clearly evident segment-like articles plus apical seta-like sensory article) ... 141

Antennal stylus composed of 2 articles (1 segment-like article plus apical seta-like sensory article) (some *Malagasy* species with 3 articles) ... 140

140 Mesothoracic femur not conspicuously swollen and without a cluster of well-developed macrosetae ventrally; proboscis straight; dorsocentral macrosetae developed pre- and postsuturally; female st1-7 pubescent, st8-9 shiny apubescent; female cercus finely setose ... *Heligmonevra* Bigot, 1858

Mesothoracic femur swollen and with a conspicuous cluster of well-developed macrosetae ventrally; proboscis curved upwards distally; dorsocentral macrosetae developed only postsuturally; female st1-6 pubescent, st7-9 shiny apubescent; female cercus spinose, with well-developed macrosetae ... Hoplophomerus Becker, 1925 / Curvirostris Tomasovic, 2015

141 Postpronotal lobe (and much of scutum) covered with uniformly short setae (a few species have setae of intermediate length); metathoracic coxa usually with 2 lateral macrosetae; male epandrium with characteristic sub-apical dorso-medial lobe; male phallus straight, laterally compressed and with at most tiny distal prongs; female ovipositor relatively short, only slightly laterally compressed distally ... Afromochtherus Lehr, 1996

Postpronotal lobe with fine, long setae; metathoracic coxa usually with 1 lateral macroseta (Notomochtherus with approx. 3 long, weak setae, hardly differentiated from accompanying setae); male epandrium and phallus differently developed; female ovipositor of various forms ... 142

142 Male phallus strongly curved and exceptionally long and often coiled; terminal abdominal segments with characteristic deep (laterally compressed) appearance; male hypandrium not markedly constricted medially ... Valiraptor Londt, 2002

Male phallus more or less straight to bowed; terminal abdominal segments tubular and not laterally compressed; male hypandrium slightly (Notomochtherus) to markedly constricted medially ... 143

143 Metathoracic femur chiefly yellow, with or without distinct dark red-brown or blackish marks or bands ... 146

Metathoracic femur uniformly dark red-brown to black (proximal or distal end may be paler) ... 144

144 Metathoracic coxa with approx. 3 weakly developed lateral macrosetae; male phallus abruptly bent upwards at approx. mid-length; female ovipositor broader than deep ... Notomochtherus Londt, 2002

Metathoracic coxa with a single lateral macroseta; male phallus more or less straight or with a slight curve ... 145

145 Dorsocentral setae well-developed pre- and postsuturally; female cercus finely setose; female ovipositor laterally compressed; male phallus with characteristic shape (shaft gently bowed, prongs short and weakly developed, pump proximally situated (see Theodor 1976)) ... Cerdistus Loew, 1849

Dorsocentral setae well-developed only postsuturally; female cercus usually spinose, short macrosetae dorsally or finely setose with strongly sclerotised, upturned tip; female ovipositor conical; male phallus of characteristic development (more or less straight or slightly sinuous, prongs short and moderately well-developed, lateral pair upwardly directed, median prong downwardly directed, pump distally situated (see Londt & Tsacas 1987)) ... Congomochtherus Oldroyd, 1970

146 Metathoracic femur with well-defined dark red-brown patches or bands (other than dark distal ends) ... 150

Metathoracic femur almost entirely yellow (may have poorly defined pale brown patches or



dark distal ends) ... 147

147 Antennal scape and trochanters yellowish ... 149

Antennal scape and trochanters blackish ... 148

148 Restricted to central Africa ... *Tsacasiella kivuensis* (Tsacas, 1969)

Restricted to southern Africa ... *Caenoura* Londt, 2002

149 Facial swelling occupying ventral 1/2 of face and moderately developed; male terminalia not greatly elongate, epandrium with a dorso-medial process; male gonocoxite not markedly elongate, gonostylus elongate and much longer than gonocoxite, phallus downwardly curved distally, prongs minute ... *Sphagomyia* Londt, 2002

Facial swelling occupying less than 1/2 of face and only weakly developed; male terminalia greatly elongate, epandrium usually with a small ventro-distal process; male gonocoxite, gonostylus, and phallus long, narrow and relatively straight ... *Tsacasiella* Lehr 1996

150 Male st8 with a prominent disto-medial process ... *Gongromyia* Londt, 2002

Male st8 without a prominent disto-medial process ... 151

151 Antennal postpedicel at least twice as long as scape; male epandrium characteristically shaped, shortish and converging strongly distally; male phallus bent abruptly upwards at approx. mid-length and with 3 short, well-developed terminal prongs ... *Dikowmyia* Londt, 2002

Postpedicel less than twice as long as scape; male epandrium and phallus of different shape ... 152

152 Male epandrium with complicated arrangement of lobes and processes distally; female ovipositor shortish, broad proximally, laterally compressed distally ... *Aneomochtherus* Lehr, 1996

Male epandrium simple, without lobes and processes; female ovipositor longish, laterally compressed for most of length ... *Melouromyia* Londt, 2002