

Chloropidae from the Arabian Peninsula

(Diptera: Cyclorrhapha)

John C. Deeming, Hathal M. Al-Dhafer

Abstract. 119 named species, belonging to 48 genera are recorded from the Arabian Peninsula. Of these 21 species are described as new to science, being *Scoliophthalmus cryptoneviformis*, *Elachiptera acanthellata*, *Pselaphia acuticornis*, *P. albiseta*, *P. sabroskyi*, *P. yemenensis*, *Polyodaspis abhaensis*, *Calamoncosis sorghivora*, *Tricimba africana*, *Aphanotrigonum vanemdeni*, *Incertella dimorphica*, *Sabroskyina sinuata*, *Trachysiphonella dawahi*, *T. recurva*, *Eutropha dancei*, *E. longicornis*, *Chloropsina enigma*, *Merochlorops vanharteni*, *Lagaroceras argillum*, *Stenophthalmus baderi* and *S. occidentalis*. Seven species are placed in new combination, being *Melanochaeta umbrosa* (Becker), *M. vulgaris* (Adams), *M. scapularis* (Adams), *M. atricornis* (Adams) and *M. flavofrontata* (Becker) to *Lasiochaeta*, *Conioscinella amabilis* (Becker) to *Gaurax* and *Chlorops lucidifrons* Becker to *Lasiosina*. *Lasiosina aurea* Dely-Draskovits is placed as a junior synonym of *L. lucidifrons* (Becker) and *Aprometopis sylvestrii* Séguéy is placed as a junior synonym of *Strobliola flavofacies* (Becker). *Calamoncosis occulta* (Becker) is partially re-described. Immature stages are described where available.

Key words. Grass flies, new species, synonyms, host plants, taxonomy, Arabia, Middle East.

Introduction

The Chloropidae, commonly known as the “Grass Flies” is a large and ubiquitous family of about 180 genera and 2500 species and has a very diverse larval biology. Many genera are shoot flies of cereal crops and grasses, and of these *Chlorops* Meigen, *Elachiptera* Macquart and *Oscinella* Becker are best known for the damage their larvae cause. *Dicraeus* Loew larvae feed on the developing seeds of grasses and cereals. Species capable of causing primary attack to shoots are frequently found as secondary invaders of shoots already attacked by *Atherigona* Rondani (Muscidae) larvae and those of lepidopterous stem-borers. This is particularly so in the genus *Scoliophthalmus* Becker. The larvae of *Lipara* Meigen and *Eurina* Meigen develop in the terminal shoots of reeds and some species cause substantial galls to develop. Species of *Cryptonevra* Lioy and *Incertella* Sabrosky are frequently reared as inquilines in such galls. *Gaurax* Loew species have been reared from fungi. *Thaumatomyia* Zencker larvae prey upon root-aphids. *Batrachomyia* Kreffft larvae are subdermal parasites of frogs. Larvae of *Speccafrons* Sabrosky develop in spider egg capsules; *Pseudogaurax* Malloch species have been reared both from spider egg capsules and mantid oothecae, and *Kurumemyia* Kanmiya from mantid oothecae. The larvae of *Lasiambia palposa* (Fallén) and *L. coxalis* (von Roser) prey upon grasshopper eggs. *Cadrema* Walker appears to be very varied in its larval biology, having been reared from such diverse media as aphid honeydew (which contains all the organic débris deposited on it by the wind), stranded marine molluscs and

human bowel-contents. In the Neotropics *Hippelates* Loew and *Liohippелates* Duda develop in sugar-cane refuse that has been plowed into the soil. The adults of some species of these genera feed on lacrimal and sebaceous fluids at the eyes of man and have been found to be the vectors of the pathogens of conjunctivitis and Brazilian Purpuric Fever (TONDELLA et al. 1991:157, 1994), which latter disease is a notorious killer of children. *Hippelates* Loew adults have also been recorded (SABROSKY 1974: 833) as being attracted to the lesions of yaws. An excellent resumé of chloropid larval biology is given by FERRAR (1987 part 1: 106-120 text; part 2: 613-622 figures). Adult biology is also diverse. *Eutropha* Loew and *Pemphigonotus* Lamb adults are found on the sea shore or near to it and will feed on stranded fish and jellyfish. A species of *Eutropha* has even been reared from dead seals. In Africa *Anomoeoceros* Lamb females are attracted to spiders in their webs, presumably attracted to gore from the spiders' prey, and species of *Mimosepsis* Sabrosky resemble ants and coexist with them.

There are records of large introductions of insects from the Indian subcontinent into Eastern Arabia by severe storms (LARSEN & PEDGLEY 1985). This may well explain the recent appearance of four Oriental genera of Chloropidae in the Arabian Peninsula. One of these is *Caviceps* Malloch (see DAWAH & ABDULLAH 2006: 30), of which a single Arabian specimen of a new species is known, but which is probably an ancient introduction, since another new species exists in Nigeria. A new species is described here of the essentially Oriental *Merochlorops* Howlett in Maxwell-Lefroy.

At the time of the publication (1984) of the Catalogue of Palaearctic Diptera the only species of Arabian Chloropidae recorded were *Siphunculina striolata* (Wiedemann) and *Pachylophus proximus* Adams. The one species that one would have thought to have been Arabian, *Anacamptoneurum arabicum* (Becker, 1910), was in fact described from Suez, Egypt! DAWAH & ABDULLAH (2006) listed 33 species (and a further 2 determined to generic level) from Saudi Arabia. DEEMING (2011) listed 33 species mainly from the United Arab Emirates (UAE), bringing the total of Arabian species to 55.

In this paper the Arabian Peninsula is defined as that which is south and east of a line drawn between Aqaba and the mouth of the Euphrates.

Material and methods

Unless stated otherwise all specimens are dry-mounted, either on cards, points or micropins. Individual puparia of reared specimens are in gelatin capsules pinned under specimens or are gummed to the mount. Dissections are in Euparal on micromounts or in van Doesburg tubes of glycerine, in both cases pinned beneath the specimens from which they came. All figures were made using a camera lucida, which tends towards a slightly foreshortened image, and a variety of compound and binocular microscopes, apart from Figs 61-62 using a squared eyepiece on a binocular microscope.

Since transliterations of Arabic into English vary according to persons and maps, in cases where the locality for different specimens is spelt differently the locality is cited according to the label in order that cited specimens can be recognised in collections.

Abbreviations: NMWC = National Museum of Wales, Cardiff; BMNH = Natural History Museum, London; OUM = Oxford University Museum; JU = Jazan University; KSU = King Saud University, Riyadh; NHMB = Natural History Museum, Basle; TAU = Tel Aviv University.

Taxonomic Account

Key to Arabian genera of Chloropidae

The layout of this key is not meant to indicate relationships of genera or act in identifying non-Arabian species, but is rather a tool of convenience for identification.

- 1 A distinct incurved humeral bristle present in addition to the usual backwardly-curved humeral (*Siphonellopsinae*) *Apotropina* Hendel
- No incurved humeral bristle present 2
- 2 Costa extending to apex of vein M1+2..... (*Oscinellinae*) 3
- Costa ending between apices of R4+5 and M1+2 (*Chloropinae*) 32
(if either a combination of milky white wing and posterior crossvein absent or mesopleuron haired and third antennal segment acute the species is an abnormal *Oscinellinae*, so continue to couplet 3)
- 3 Ocellar bristles procurved and divergent. Mesopleuron haired 4
- Ocellar bristles upright, cruciate or recurved, parallel or convergent, never procurved. Mesopleuron unhaired 5
- 4 Eye oval, horizontal and gena often broad and shiny. Long-bodied species with acute third antennal segment. Arista glabrous..... *Scoliophthalmus* Becker
- Eye higher than long and gena narrower. More robust species. Arista..... haired *Rhodesiella* Adams
- 5 Both mesonotum and scutellum with long straight spinelike pale bristles. Abdomen dorsally covered by syntergum 1+2 *Anatrichus* Loew
- Not so 6
- 6 Hind tibia with a long ventral apical or preapical spur, which is much longer than the width of the tibia 7
- If an apical ventral spur is present it is weakly developed and no longer than width of tibia 8
- 7 Head and thorax yellow. Frontal triangle undusted, shiny *Cadrema* Walker
- Frontal triangle and thorax black, the former dusted with a small shiny spot adjoining each ocellus *Hippelates* Loew
- 8 Ocellar bristles upright and cruciate 9
- Ocellar bristles backwardly-directed, even if cruciate 10
- 9 Scutellum with dorsal surface flat, often trapezoid, the marginal bristles arising from more or less distinct tubercles *Elachiptera* Macquart
- Scutellum rounded in outline, convex dorsally, without distinct tubercles..... *Lasiochaeta* Corti
- 10 Frontal triangle with scattered hairs 11
- Frontal triangle, apart from the ocellar bristles, with hairs restricted to the lateral margins. If margins of frontal triangle are not visible outside ocellar prominence the antennae are set in deep sharp-sided pits 14
- 11 Frontal triangle short and dusted. Third antennal segment enlarged, sometimes somewhat dimorphic between the sexes *Pselaphia* Becker
- Frontal triangle longer, undusted. Third antennal segment not enlarged 12
- 12 Notopleural bristles 1 + 2. Gena narrow 13
- Notopleural bristles 1 + 3. Gena broad, largely shiny *Polyodaspis* Duda

- 13 Eye densely haired. Scutellar marginal bristles situated on more or less evident tubercles. Ovipositor laterally flattened, knife-like *Calamoncosis* Enderlein
 – Eye at most sparsely haired. No evident scutellar tubercles. Ovipositor fleshy *Hapleginella* Duda
- 14 Third antennal segment much shorter than long, reniform *Gaurax* Loew
 – Third antennal segment usually at least as long as wide, but if shorter it is not reniform 15
- 15 Scutellum short, not unusual in structure 16
 – Scutellum extended, much longer than wide, with flattened dorsal surface and close-set apical bristles. Arista apically situated *Pseudogaurax* Malloch
- 16 Scutellum apically truncate, trapezoid, with apical bristles separated by a distance almost equal to their length. Notopleural bristles usually 1 + 1 17
 – Scutellum not of this form. Notopleurals usually 1 + 2 18
- 17 Frons about as wide as long. Frontal triangle almost equilateral.
 Eye bare or only with scattered hairs *Aphanotrigonum* Duda (in part)
 – Frons much longer than wide. Frontal triangle in front of anterior ocellus narrow and tapering to a fine point. Eye compactly short haired *Meijerella* Sabrosky
- 18 Mesonotum with three longitudinal grooves, which are more or less distinctly granulate *Tricimba* Lioy
 – Mesonotum without distinct granulate longitudinal grooves. Shallow depressions or fine linear grooves may be present 19
- 19 Vein R2 + 3 very short, so that second costal sector much shorter than the third. First basal cell short and broad. Scutellar bristles short *Siphunculina* Rondani
 – Vein R2 + 3 much longer 20
- 20 Apical section of vein R4 + 5 curving first towards costa and then away from it 21
 – Not so 22
- 21 Hind tibia with a short black apical spur, that is not wider than the width of the tibia, sometimes only half as wide *Arcuator* Sabrosky
 – Hind tibia lacking a spur. Section of vein M1 + 2 between crossveins shorter than posterior crossvein *Sabroskyina sinuata* **sp. n.**
- 22 Second costal sector (mg2) very long, sometimes twice as long as the combined lengths of the third (mg3) and fourth (mg4), the third sector very short 23
 – Second costal sector very much shorter 24
- 23 Head very much higher than long, with very concave face and projecting mouth margin. Mesonotum with 3 shallow longitudinal grooves medially and on dorsocentral lines *Caviceps* Malloch
 – Not this combination of characters *Dicraeus* Loew
- 24 Hind part of gena with a black shiny triangular area 25
 – Not so 27
- 25 Fore femur swollen and bearing ventral serrations *Epimadiza* Becker
 – If fore femur appears somewhat swollen, it is lacking ventral serrations 26
- 26 Third antennal segment with a distinct dorsoapical angle. Scutellum with a part of quite close-set long apical bristles and 7 very short laterals on either side *Anacamptoneurum* Becker
 – Third antennal segment, if angulate, roundedly so. Scutellum with apical bristles widely separated and with much fewer laterals *Lasiambia* Sabrosky

- 27 Antennae situated in sharp-sided pits, formed by a broad ridge extending from lunula, through face and epistoma to the ventrally-facing clypeus .. *Strobliola* Czerny
 – Not so 28
- 28 Frontal triangle dusted 29
 – Frontal triangle shiny, though ocellar prominence frequently dusted* 1+2 notopleural bristles present (*if the combination of an acute third antennal segment and a very faintly dusted frontal triangle treat as undusted) 31
- 29 1+1 notopleural bristles Mesonotal hairs arranged in longitudinal rows *Incertella* Sabrosky
 – 1+2 notopleural bristles 30
- 30 A distinctive shiny black spot present on either side against inner margin of humerus *Aphanotrigonum vanemdeni* sp. n.
 – No such spot present adjoining inner margin of humerus *Conioscinella* Duda
- 31 First basal cell very much broadened at mid-length *Sabroskyina* Beschovski
 – First basal cell scarcely wider at middle than at end *Oscinella* Becker
- 32 Hind femur thickened, the hind tibia correspondingly curved 33
 – Not so 34
- 33 Arista slender, with short or minute pubescence *Meromyza* Meigen
 – Arista somewhat thickened, or at least with long dense hairing, the arista appearing broad and flat *Pachylophus* Loew
- 34 Arista thickened, always black haired 35
 – Arista fine or, if a little thickened, the shaft or hairs white 38
- 35 Arista visibly composed of three segments, of which the second is longer than the first. Gena as deep or deeper than third segment 36
 – Antenna visibly composed of two segments. Gena not deeper than third antennal segment 37
- 36 Three pairs of strong black dorsocentral bristles *Semarangia* Becker
 – A single pair of dorsocentrals, the prescutellar *Elachiptericus* Becker
- 37 Frontal triangle large and broad, nearly equilateral, shiny and lacking a thick marginal ridge. Pleuron shiny. Fore tarsus slender *Steleocerellus* Frey
 – Frontal triangle narrow, depressed and pollinose apart from a strong polished ridge along either lateral margin. Pleuron dusted. Fore tarsus compressed, in side view broadened and flattened *Mepachymerus* Speiser
- 38 Arista vividly white 39
 – Not so 42
- 39 A distinctive deep black spot on Frontal triangle medially in front of anterior ocellus 40
 – No such spot present 41
- 40 Hairs and bristles predominantly black. A shiny black spot present beneath prothoracic spiracle *Parectecephala* Becker
 – Hairs and bristles predominantly white. No such spot present *Metopostigma* Becker
- 41 Third antennal segment very much longer than deep *Lagaroceras* Becker
 – Not so. Third antennal segment with a more or less distinct dorsoapical angle *Stenophthalmus* Becker

- 42 Arista short, completely bare on all but base *Eutropha* Loew
 – Arista with pubescence, even if so short as to be only visible at high magnification 43
- 43 Third antennal segment more than twice as long as deep.
 Gena narrow *Neoloxotaenia* Sabrosky
 – Third antennal segment much shorter 44
- 44 Orbital bristles few in number (3-4) and usually strong *Lasiosina* Becker
 – Orbital bristles more numerous and weak 45
- 45 Almost totally undusted species with rather long third antennal segment.
 Gena broad, over one third height of eye *Assuania* Becker
 – Not this combination of characters 46
- 46 Surface of scutellum quite flat, forming a distinct angle with the rim 47
 – Surface of scutellum gently rounded in profile 48
- 47 Thorax very strongly humped and scutellum long, triangular *Homops* Speiser
 – Thorax flatter and scutellum more semicircular in shape *Thaumatomyia* Zencker
- 48 Discal cell wide, the posterior crossvein at least three times as long as anterior crossvein *Merochlorops ceylanica* (Duda)
 – Discal cell narrow, the posterior crossvein no longer than anterior crossvein 49
- 49 Mesonotum, including humerus totally black, the notopleuron yellow *Merochlorops vanharteni* **sp. n.**
 – Mesonotum black or yellow in ground colour, but humerus always yellow *Chloropsina* Becker

Siphonellopsinae

Genus *Apotropina* Hendel, 1907: 98, replacement name for *Ectropa* Schiner, 1868: 242 (preoccupied). Type species: *Ectropa viduata* Schiner, by original designation. The generic synonym *Lasiopleura* Becker, 1910a: 130 appears in the literature more commonly than either of the above names.

Key to Arabian species of *Apotropina*:

- 1 Frontal triangle strongly shining on all but anterior margin and ocellar prominence.
 External vertical bristle very weak and hairlike, only one third of the length of the internal vertical *gregalis* (Lamb)
 – Frontal triangle dusted throughout. External vertical bristle stronger and quite three quarters of the length of the internal vertical *vittata* (Sabrosky)*

* The *A. longepilosa* (Strobl) species group, which extends from Portugal to Mongolia and the far east of Russia, and which might occur in Arabia, would run to this species, but differs from it in having the internally-directed humeral bristle longer than half the height of the eye and the acrostichal bristles as long as the postocellars.

Apotropina gregalis (Lamb, 1937)

Described (1937: 430) in the genus *Oscinella* from Namibia and recorded from Nigeria by SABROSKY (1982: 272), who commented on the habit of this species to form aggregations. Material from Mali, Niger and the Cape Verde Isles is in the collections of the NMWC.

Material: 1 ex. (abdomen obscured by amyl acetate mountant) Yemen: near Ta'izz, field on road to Mocha, ca. 1070 m a.s.l., 16.xii.1937, H. SCOTT & E. B. BRITTON (BMNH); 1♂ Ta'izz, ix.2000, light trap, A. VAN HARTEN & A. R. AL YARIMI; 1♂ Ta'izz, 26-28.v.1998, light trap, A. VAN HARTEN & A. AWAD; 1♂4♀ Sana'a, ix.1992, A. VAN HARTEN; 1♂1♀ Lahj, vii.2000; Malaise trap, A. VAN HARTEN & A. SALLAM; 1♀, Al Kowd, vii-ix.2001, light trap, A. VAN HARTEN & S. AL HARURI; 1♂1♀ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♂ Saudi Arabia: Aseer, Maraba, 1-30.v.2004, Malaise trap, H. A. DAWAH (NMWC).

Apotropina vittata (Sabrosky, 1959)

Described (1959: 418) as a species of *Lasiopleura*, now placed as a junior synonym of *Apotropina*, from Lesotho and further recorded from South Africa, Ethiopia, "Rhodesia" (Zambia or Zimbabwe) and Madagascar.

Material: 1♂ Saudi Arabia: Aseer, Al Soda dam, 1.ii.2012, J. C. DEEMING; 1♂ SE Zimbabwe: Malilangwe, 15.vi.1997, W. ROSSI; 1♀ Ethiopia: Oromo Prov., Zwai, ILRI, 1650m. 21-23.ii.2005, Malaise trap in *Pennisetum purpureum*, M. R. WILSON; 1♀ Namibia: W. Caprivi Park, Kwando River, swept from floating grasses and vegetation, 15.xii.1999, MANN, MARAIS & NEWMAN (NMWC).

Oscinellinae**Genus *Rhodesiella* Adams, 1905: 197**

Type species: *Rhodesiella tarsalis* Adams, 1905, by original designation.

Key to Arabian species of *Rhodesiella*:

1. Haltere yellow throughout 2
 - Haltere with knob black 4
2. Legs including coxae yellow, infusate only on each apical tarsal segment. Lateral scutellar marginal quite 0.3-0.5 x as long as apical marginal *fedtshenkoi* Nartshuk
 - Legs with extensive black markings on femora. Lateral scutellar marginal shorter, sometimes difficult to see 3
3. Hind femur very heavily developed, its depth equal to length of eye and with a double row of studs ventrally. Lateral scutellar marginal, though very short, situated on a distinct tubercle *subditica* (Lamb)
 - Hind femur not more strongly developed than the other femora. Vein R4+5 very strongly bent forwards, strongly diverging from M1+2, the membrane of the middle of the wing with a darker smudge *divergens* (Malloch)
4. Mesonotum and scutellum black, heavily pitted, the rugosity of the dorsum of scutellum coarser than that of mesonotum *rugosa* (Lamb)
 - Mesonotum and scutellum less heavily pitted, with a metallic bluish reflection *flavitarsis* Sabrosky

Rhodesiella rugosa (Lamb, 1912)

Described (1912: 333) into the genus *Meroscinis* from the Seychelles and tentatively recorded from South Africa. Recorded from Saudi Arabia by DAWAH & ABDULLAH (2006: 27).

Material: 1♀ Oman: Dhofar, Salalah, Dahareez, grasses and chenopods in coconut grove, 12.x.1990, J. C. DEEMING; 1♀ Dahareez, on ratooned millet, 8.xi.1992, J. C. DEEMING; 1♀ same data but on Rhodes grass (*Chloris gayana*); 1♀ same data but from tomato plot (all in NMWC); 1♂ Dahareez, coconut plantation, 12.x.1990, M. J. EBEJER; 1♀ Ain Hamran, 10.x.1990, M. J. EBEJER (both in EBEJER coll.); 1♀ Salalah, plain near Razat, 24.iv.1992, M. D. GALLAGHER (NMWC); 2♂ Salalah, garden, 24.iv.1992, M. D. GALLAGHER (ONHM & NMWC); 1♂ Yemen: Al Kowd, 15-28.ii.1993, A. VAN HARTEN; 1♂ Al Kowd, vi-ix.2001, light trap, A. VAN HARTEN & S. AL HARURI; 1♂ Al Kadan, 3.xii.1997-17.i.98, Malaise trap, A. VAN HARTEN & H. M. NASER; 3♂, 1♀ Al Kadan, i.2003, light trap, A. VAN HARTEN & T. ABDUL-HAQ; 1♂ Ta'izz, ix.1999, light trap, A. VAN HARTEN & A. AWAD; 1♂, 1♀ same data but viii.1999; 3♂ same data but iii-iv.2002, light trap, A. VAN HARTEN; 1♂ Ar Rujum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER; 1♂ Egypt: Minya, Kom-el-Dik, 29.xi.2000, P. SKIDMORE; 1♀ Shirbin, 29.xii.2000, S. EL-SERWY; 1♀ same data but x.2000; 1♀ El-Simbillswain, 25.viii.2000, S. EL-SERWY; 12♂, 3♀ Sri Lanka: Kandy, Malaise trap, 30.xi.1985, J. DEN HOLLANDER; 1♂, 1♀ Batalagota, 26.xi.1985, J. DEN HOLLANDER; 2♂ Saudi Arabia: Aseer, Keratha, Al-Ethrebany farm, 15.v-11.vi.2006, Malaise trap, H. A. DAWAH; 3♀ Abu Aresh, Almahdag Village, 11.xii-13.i.2012, Malaise trap, H. A. DAWAH; 1♂ Aseer, Maraba, 15.x-30.xi.2004, Malaise trap, H. A. DAWAH (all in NMWC).

Rhodesiella flavitarsis Sabrosky, 1957

Described (1957: 2) from Cape Verde Is., this species also occurs in The Gambia and Nigeria.

Material: 1♂ Yemen: Ta'izz, 23.vii.1998, light trap, A. VAN HARTEN & A. AWAD (NMWC).

Rhodesiella subditica (Lamb, 1937)

Described (1937: 424) in the genus *Epicelyphus* from Sierra Leone, this species is further recorded from Ivory Coast, Kenya, Malawi, Nigeria, Rwanda, Tanzania, Uganda and Zambia. Further material in NMWC is from The Gambia.

Material: 1♀ Yemen: Al Lahima, vi-vii.2001, Malaise trap, A. VAN HARTEN (NMWC).

Rhodesiella divergens (Malloch, 1931)

Described (1931b: 57) from Rhodesia (Zimbabwe or Zambia) into the genus *Macrostyla* Lioy, this species is widespread in subsaharan Africa.

Material: 1♀ Yemen: Ta'izz, xi.1999, light trap, A. VAN HARTEN & A. AWAD; 2♂ same data but viii.1999; 2♂ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 4♂, 6♀ same data but 5.v-17.vi.2002; 1♂ Ar Rujum, I-iv.2001, Malaise trap, A. VAN HARTEN; 2♂, 1♀ same data but 16.x.2000 (all in NMWC).

Rhodesiella fedtshenkoi Nartshuk, 1978

Described (1978: 83) from Kyrgyzstan and further recorded from Japan. The material listed here appears on colour characters to be most similar to the Chinese species *R. pallipes* (Duda, 1934), but differs from it in having the clothing hairs of the mesonotum pale and in characters of wing venation. In CHERIAN'S (2002) key to Indian *Rhodesiella* spp. it would run to

his new species *lungeiensis* or *khasiensis*, but differs from both in having the scutellum shorter and with only a single lateral marginal bristle. However, on characters of the very distinctive male genitalia it is certainly *R. fedtshenkoi* Nartshuk, agreeing perfectly with NARTSHUK's original (1978: 84, Figs 1-3; 85, Figs 4-6) figures except that the scutellum is slightly longer than in NARTSHUK's Fig. 3. The Japanese material of *R. fedtshenkoi* cited by KANMIYA (1983: 44-46) has the legs extensively black. The Arabian material is black with black bristles, with legs including coxae but excluding some apical tarsal segments, abdominal segments 1+2, clothing hairs of mesonotum, mesopleuron and scutellum, haltere and third antennal segment yellow, this last dorsoapically angulate; scutellum as long as broad, with upper surface convex and 2 pairs of marginal bristles, the apical quite as long as scutellum and set on minute wart-like projections and the subapical pair only two fifths as long; frontal triangle flat, extending to apex of frons, lacking violet reflections; male hind trochanter with pale hairs that are as long as or longer than the base of the hind femur. The character of the colour of hairs of the male hind trochanter we cite here, since in undescribed but very similar species from Ethiopia and Kenya either black hairs or a black spine are present. The Greek material here listed does not have the strikingly yellow combined tergite 1+2 and has the apical tarsal segments deep black.

Material: 1♀ Yemen: Medina Al-Shirq, 20.ii.1991, A. VAN HARTEN, H. MAHDI & M. MAHYOUB; 1♀ Al Kadan, 3.xii.1997-17.ii.98, Malaise trap, A. VAN HARTEN & H. M. NASER; 1♀, Ta'izz, viii.1999, light trap, A. VAN HARTEN & A. AWAD; 1♂ Ta'izz, 3-24.i.1999, light trap, A. VAN HARTEN & M. MAHYOUB; 2♂2♀ Ta'izz, vii.1999, light trap, A. VAN HARTEN & A. AWAD; 2♀ Ta'izz, ix.2000, light trap, A. VAN HARTEN & A. R. AL YARIMI; 15♂2♀ Ta'izz, 26-28.v.1998, light trap, A. VAN HARTEN & A. AWAD; 3♀ Al Kowd, x.2000, light trap, A. VAN HARTEN & S. AL HARURI; 2♀ Lahj, ix.2000, Malaise trap, A. VAN HARTEN & A. SALLAM; 1♀ same data but x.2000; 2♀ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♀ same data but 4.viii-15.x.2003; 4♀ same data but 24.vi-4.viii.2003; 1♀ same data but 5.v-17.vi.2002; 2♀ Suq Bani Mansour, 28.viii-26.ix.2001, Malaise trap, A. VAN HARTEN; 1♂ Al Lahima, 1.i-9.iv.2001, Malaise trap, A. VAN HARTEN; 1♀ same data but i-iv.2001 (all in NMWC); 1♀ Saudi Arabia: Aseer, Keratha, Al-Ethrebany farm, 15.v-11.vi.2006, Malaise trap, H. A. DAWAH (JU); 1♀ Aseer, Maraba, cultivation under palms, 1.ii.2012, J. C. DEEMING (NMWC); 2♀ Abha, Madenat Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (JU); 1♂ Riyadh, Deirah, sticky trap amongst grapes, 20.vi.2010, H. AL-DHAFFER, A. EL GHABAWY & A. EL TORKEY (KSU); 15♀ Greece, Pindos Mts. near Grevena, 490m, Venetiko River, 25.vi.2010, M. J. EBEJER & J. C. DEEMING; 1♂, 2♀ Macedonia, Lake Kerkini, 62m, Sidirochori, stream, 27.vi.2010, M. J. EBEJER; 1♀ Morocco: Bou Jarif/Goulimine, 22.ii.1992, P. C. MATTESON; 1♂ Tunisia: Fernana oued, meadow, 14.v.1995, M. J. EBEJER (NMWC); 2♂ Turkey: Muğla province, Köyceğiz, stream in damp *Platanus* wood, 12.vii.1997, M. J. EBEJER; 1♂, 3♀ Cyprus: Akamas, Agios Georgios, beach and stream, 28.iv.2002, M. J. EBEJER (EBEJER coll.).

Genus *Scoliophthalmus* Becker, 1903: 147

Type species: *Scoliophthalmus trapezoides* Becker, 1903, by monotypy.

Key to Arabian species of *Scoliophthalmus*:

1. Costa extending to vein M1+2 2
- Costa extending to vein R4+5 or a little further, but disappearing before reaching M1+2 3

2. Mesonotal hairs long and erect, as long as width of costal cell, in about eight rows between dorsocentral lines *micans* Lamb
 - Mesonotal hairs very short, compact and decumbant, shorter than length of r-m crossvein *micantipennis* Duda
3. Legs and frons entirely black. Clothing hairs of mesonotum and scutellum white *trapezoides* Becker
 - Anterior margin of frons yellowish. Legs yellow on most of tarsi, trochanters and knees. Mesonotal hairs and scutellum black, those on mesonotum very short and compact *cryptonevriformis* **sp. n.**

Scolioptthalmus trapezoides Becker, 1903

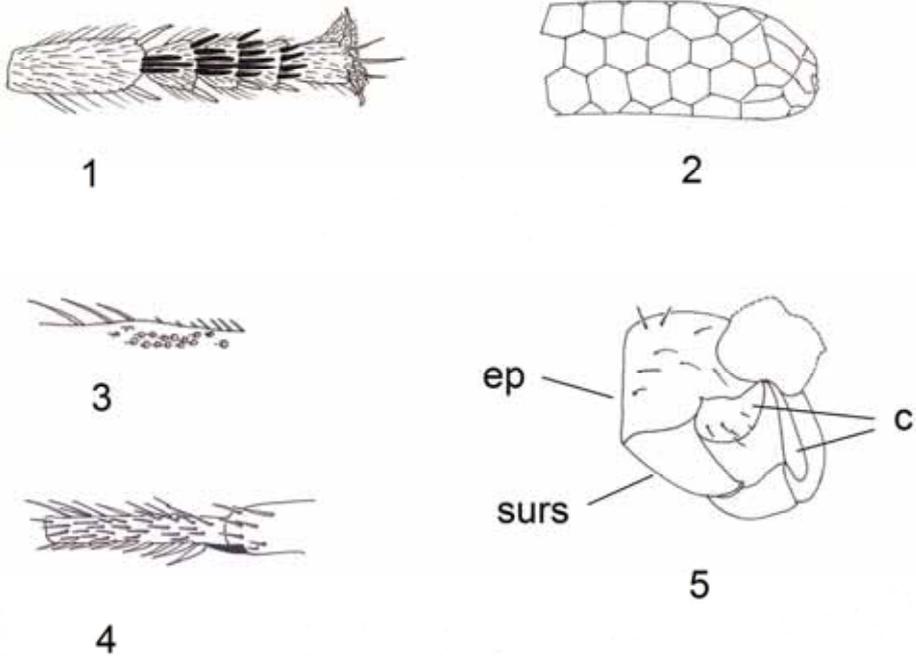
Described (1903: 147) from Egypt and further recorded from Kenya, Uganda, Tanzania, Zambia, Mozambique, Senegal, Burkina Faso, Nigeria, Cameroun, and South Africa. It is recorded from SW Saudi Arabia by DAWAH & ABDULLAH (2006: 28). This species has been reared in Africa from cultivated sorghum, bulrush millet and maize. Other hostplants listed by DEEMING (1972: 20) are *Sorghum verticilliflorum*, *Pennisetum purpureum*, *Hyparrhenia cyanescens*, *Sporobolus pyramidalis*, *Oryza barthii*, *Echinochloa* sp., *Eleusine coracana* and *Setaria sphacelata*.

Material: 1♀, Yemen: Sana'a, ca. 2400 m a.s.l., 10-15.x.1937, C. RATHJENS, det. J. W. ISMAY (BMNH); 1♂ Tai'z, v. 2000, light trap, A. VAN HARTEN & A. R. AL YARIMI; 1♀ Ar Rujum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. Hager. (NMWC); 2♀ Saudi Arabia: Jizan, Almuruj village, 11.iii.2010, H. AL-DHAFAER & A. EL GHARBAWY; 1♂ Riyadh, Al-mossa Farm, 7.iv.2010, M. AL-HORY (KSU).

Scolioptthalmus cryptonevriformis **sp. n.** ♂♀ (Figs 1-2)

Material: Holotype ♂ Yemen: Lahj, xii.1999 A. VAN HARTEN & A. SALLAM. Paratypes 11♂, 10♀ Al Kowd, iv.1993, Malaise trap, A. VAN HARTEN; 1♂ same data but 1-14.ii.1993; 1♀ same data but ix.2003, light trap; 1♀ same data but i-ii.2003, A. VAN HARTEN & S. AL HARURI; 1♀ same data but vii.2000; 6♂, 7♀ Lahj, 4.v.2001, Malaise trap, A. VAN HARTEN; 1♂ same data but 15.vi.2000; 2♂, 1♀ same data but x.2000, A. VAN HARTEN & A. SALLAM; 2♂, 3♀ same data but xii.2000; 3♀ same data but ii.2001; 1♂ same data but iv-v.1999; 1♂ same data but vii.2000; 1♂, 1♀ same data but viii.2000; 1♀ same data but x.2000 (NMWC).

Description. ♂ A shiny black species, dirty yellow on antenna with exception of arista and dorsoapical angle of third antennal segment, on knees and apical third of fore and mid legs, on trochanters and basal three tarsal segments of all legs, on stem of haltere and on shafts of surstyli; fore margin of frons and the depressed triangular parafacialia brown, the latter densely grey dusted, pleura and abdomen with very weak grey dusting. All hairs and bristles black, apart from some yellow clothing hairs on tarsal segments, especially noticeable on the ventral surfaces of the fore and hind tarsi. Wing hyaline with brown veins, the membrane slightly paler basad of the anterior crossvein; squama and its fringe white: costa extending to just beyond mouth of R2+3, which vein is sinuate; R4+5 a little bowed forwards at apex; no enlargement of femora or curving of tibiae; mid tibial organ situated more basal than is usual, extending from 0.20-0.32 of dorsal surface and consisting of a group of close-set studs bearing apical setae; mid tarsus adorned with rows of sturdy ventral bristles (Fig. 1), of which most are black; no specialized setal groups on ventrally-situated parts of tergites; tergites 2-4 almost equal, 5 slightly longer; shaft of surstylus straight. Length about 3 mm, of wing 2 mm.



Figs 1-5. 1-2: *Scoliophthalmus cryptonevriiformis* sp. n.; 1- male, underside of mid tarsus; 2- end of ovum. – 3-5. *Elachiptera acanthellata* sp. n. 3- male, mid femoral organ from in front; 4- male, hind basitarsus and apex of hind tibia from in front; 5- male, terminalia in ventrolateral view.

Female: Resembling male except in sexual characters. Tergites 2 and 4 equal in length, 3 a little shorter and 5 noticeably longer; cerci short, rounded, bearing only short fine bristles.

Egg. From a female which died in the act of oviposition 26 eggs were removed, these being considered to be mature. They are of exceptional structure, each being rod-like, about ten times as long as wide (difficult to assess due to curling upon drying), equal in length to two thirds of the abdomen and with a honeycomb surface sculpture of hexagons (Fig. 2) (cf. DUDA'S (1933: 4, Fig. 9) figure of surface sculpture of egg of *Chlorops pumilionis* Bjerkander).

Differential diagnosis: This species is very similar to the widespread *S. trapezoides* Becker and the Turkish *S. civeleki* Deeming, 2006 in having third antennal segment with acute dorsoapical angle and in having the costa not reaching vein M1+2, but differs from both in having the surface of the frontal triangle finely granulose and thereby not shiny and in having the posterior crossvein reduced to a tiny stump-vein on M1+2. The legs are more extensively yellow than in *S. civeleki* and these are entirely black in *S. trapezoides*. Furthermore, whereas in *S. civeleki* the mesonotal hairs are as long as the anterior crossvein and in six rows between the dorsocentrals, in the new species they are extremely short and in some 18 rows between the dorsocentrals. The first basal cell is a little widened at two thirds of its length in *S. civeleki*, but in the new species it is narrow throughout. However, the relation-

ship of the new species to *S. civeleki* may not be close, as the basiphallus lacks the distinctive six black processes found in *S. civeleki* (for which see figure in DEEMING 2006: 87, Fig. 2). Whereas the cerci of *S. civeleki* each has a pair of long bristles (p. 87: Fig. 3), those of the new species do not.

Remarks: ISMAY (1994) draws attention to a very similar setal adornment occurring on the fourth tarsal segment in male *Cryptonevra* and figures *C. diadema* (Meigen) (p. 7: Fig. 21) and *C. flavitarsis* (Meigen) (p. 7: Fig. 25; p. 9: Fig. 28). Since *Cryptonevra* and *Scoliophthalmus* are very similar in build and develop in large grasses and cereals it may well be that these bristles have a similar function, possibly for stridulation. The difference is that in *Scoliophthalmus* they are found in both sexes.

Etymology. The foreshortened costa coupled with the matt frontal triangle gives this species at first sight the appearance of being a species of *Cryptonevra* Lioy, 1864, hence the specific name.

Scoliophthalmus micantipennis Duda, 1935

Described (1935: 238) from what is now Tanzania, this species is widespread in Subsaharan Africa from South Africa to Ethiopia. It is a shoot fly of cultivated sorghum. DEEMING (1972: 20) further records it from cultivated maize and bulrush millet, *Pennisetum purpureum*, *Hyparrhenia cyanescens*, *Sporobolus pyramidalis*, *Oryza barthii*, *Echinochloa* sp., *Eleusine coracana* and *Setaria sphacelata*.

Material: 1♀ Saudi Arabia: Baha, Wadi Ghanuna, 12.v.2011, H. AL FADLY, A. EL TORKEY, M. SHARA & H. SETYANINGRUM (KSU).

Genus *Elachiptera* Macquart, 1835: 621

Type species: *Chlorops brevipennis* Meigen, 1830, by original designation.

Key to Arabian species of *Elachiptera*:

- 1 Thorax completely black. Head, legs and base of abdomen yellow *simplicipes* Becker
- Thorax predominantly or at least partially yellow 2
2. In both sexes basal abdominal tergites (1-3) fused into a single platelike sclerite that occupies more than half abdominal length *occipitalis* Becker
- Tergites 1+2 separate from 3 3
3. Male with an oblong shiny black spot on either side extending from base of dorsocentral bristle almost to suture. In the female this spot tends to be dusted and more difficult to see *bimaculata* (Loew)
- Mesonotum with different markings 4
4. Hind tibia with a short black curved ventral or slightly anteroventral spurlike bristle preapically situated. Thorax predominantly black, but humeri distinctly orange-yellow *acanthellata* sp. n.
- Hind tibia lacking such a spur. Thorax predominantly yellow but scutellum and dorsocentral lines black 5
5. Two pleural markings black. Tubercles at bases of scutellar marginal bristles distinct *sibirica* (Loew)
- Pleural dark markings indistinct. Scutellar tubercles indistinct *rufescens* (Walker)

Elachiptera bimaculata (Loew, 1845)

Described (1845: 49) into the genus *Crassiseta* von Roser, a junior synonym of *Elachiptera*, this species is widespread in the Mediterranean, southern Europe, North Africa and the Canary Islands.

Material: 1♂, 1♀ Saudi Arabia: Aseer, Abha Farm Centre, Malaise trap, iii-vi.2001, H. A. DAWAH; 8♂, 3♀ same locality, 2.ii.2012, J. C. DEEMING & H. A. DAWAH (NMWC & JU); 1♀ Dryeah, 15.x.1980, on *Eruca sativa*, K. ALMOTLAQ (KSU). In the Abha material females have more extensive dark markings on both the mesonotum and pleura, with the distinctive pair of mesonotal spots largely obscured by heavier dusting.

Elachiptera sibirica Loew, 1858

Described (1858a:73) from Siberia and further recorded from Italy, Austria, Hungary, Roumania, Bulgaria, the Ukraine, the Far East of the former U.S.S.R., Mongolia, Japan and China by NARTSHUK (1984: 231), from Slovakia by ROHÁČEK (1996:99), from France by SÉGUY (1934: 479), from China by YANG & YANG (1991: 473, 475) and from North Korea by KANMIYA & SLOVÁK (1991: 623). NARTSHUK (1976: 353) and KANMIYA (1983: 87-89) commented on the variability of colour pattern in this species. The material listed below has the frontal triangle yellow, infusate only between ocelli, a solid black M-shaped marking on upper occiput, the hind eye margin narrowly bordered with black, the pronotum shiny black, dark dorsocentral lines becoming progressively wider posteriorly, these fusing just before base of dorsocentral bristles, the notopleuron yellow, a large shiny black marking covering lower part of mesopleuron and anterior face of sternopleuron, fusing ventrally and extending as a fine point between bases of mid coxae, a dusted black marking surrounding base of haltere and posterior spiracle, tapering to a point at hind coxa.

Material: 1♂, 2♀ Saudi Arabia: Abha, Madenate Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (NMWC).

Elachiptera occipitalis Becker, 1910

Described (1910b: 423).from Kenya and widespread in subsaharan Africa. It has been reared from sorghum seedlings in Uganda.

Material: 1♀ Yemen: Ibb, associated with sorghum, ix.1987 (BMNH); 3♂, 4♀ Ta'izz, ix-x.1999, light trap, A. VAN HARTEN & A. AWAD; 2♀ Al Kadan, v.2002, light trap, A. VAN HARTEN & T. ABDUL HAQ (NMWC & Sana'a).

Elachiptera simplicipes Becker, 1910

Described (1910d: 425) from Kenya and widespread in tropical Africa. Recorded from SW Saudi Arabia by DAWAH & ABDULLAH (2006: 26). In Ethiopia it has been reared from shoots of *Eragrostis tef*.

Material: 1♂ Yemen: Ta'izz, ix. 1999, light trap, A. VAN HARTEN & A. AWAD; 1♀ same data but 23.viii.1998; 1♂, 1♀ Ta'izz, 3-24.i.1999, A. VAN HARTEN & M. MAHYOUB; 2♂ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♀ Al Lahima, 9.iv-5.vi.2001, Malaise trap, A. VAN HARTEN; 1♀ Ar Rujum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER; 1♂ Oman: Dhofar, Ain Sahwoort, 9.xi.1992, J. C. DEEMING; 1♂ Saudi Arabia: Maraba, 1.ii.2012, cultivation under palms, J. C. DEEMING (all in NMWC).

Elachiptera acanthellata sp. n. ♂♀ (Figs 3-5)

Material: Holotype ♂ Yemen: Ta'izz, ix.1999, light trap, A. VAN HARTEN & A. AWAD (NMWC). Paratypes 2♂, 2♀ same data as holotype; 2♂, 1♀ same data but 23.vii, 1999; 1♂, 2♀ same data but viii.1999; 2♂ (1 with Laboulbeniales) Ta'izz, 3-24.i.1999, light trap, A. VAN HARTEN & M. MAHYOUB; 1♂, 2♀ Ta'izz, vii.2002, light trap, A. VAN HARTEN & A. R. AL YARIMI; 1♂ same data but v-vi.2002; 5♂, 6♀ Ibb, 10.ix.1987, associated with sorghum, sp. 1-49 CIE A19903 (NMWC, JU, KSU, BMNH); 1♀ Kenya, Samburu River Lodge, 23.viii.1983, A. FRIEDBERG (TAU); 1♀ Malawi (as Nyasaland), Limbe, ix.1916, R. C. WOOD (BMNH).

Description. Male. All bristles black, clothing hairs of thorax and legs pale, those of arista and tergites black; head black on upper occiput, ocellar prominence, frontal triangle apart from hind corners, the remainder yellow; frontal triangle shiny, pale grey dusted on vertex on a line extending between the external vertical bristles, pale dusted on yellow parts; antenna yellow, the third segment deeper than long, quadrate to reniform, narrowly infusate at insertion of the lanceolate, shiny arista; palpus yellow; clypeus more or less shiny, brown; thorax black, grey dusted dorsally, largely shiny on pleura, dirty yellow in humerus, notopleuron, propleuron, mesopleuron, upper pteropleuron and upper half and hind margin of hypopleuron; postnotum black, shiny; wing hyaline with brown veins; anterior crossvein at level of mouth of R1; R2+3 and R4+5 straight, parallel; posterior crossvein slightly oblique; haltere yellow; legs yellow with more apical tarsal segments and a broad band on hind tibia somewhat infusate; tergites and terminalia black, weakly dusted. sternites somewhat infusate, grey dusted; internal vertical bristle much shorter and weaker than external, difficult to differentiate from the line of inwardly-directed bristles bordering frontal triangle; ocellar and postocellar bristles short and weak; three orbital bristles, becoming progressively longer and stronger posteriorly; vibrissa short to minute; depth of gena equal to that of fore femur; palpus not extending beyond clypeus; mouthparts short; mesonotum with three distinct longitudinal lines of punctures; scutellum conical but apically truncate, its dorsal surface rugose, the long pair of apical marginal bristles set on slightly raised bases, longer than scutellum and separated from each other by a distance equal to width of ocellar prominence, a pair of short weak preapical marginals; 1 humeral, 1+2 notopleural, 1 dorsocentral and 1 postalar bristle present; femoral organ of mid leg (Fig. 3) consisting of sixteen studs each bearing a very short fine seta, these studs set in two rows, which are in contact; hind tibia with a short black apical spur (Fig. 4), which is about as long as width of tibia at apex, this ventrally-situated, its apex curved into an anteroventral position; external genitalia (Fig. 5), hypandrium narrow. Length about 1.8mm, of wing 1.9mm. – Female resembling male, except in sexual differences.

Differential diagnosis. This species most closely resembles the Palearctic *E. scrobiculata* (Strobl, 1901), having the same weakly developed tubercles at the base of the apical scutellar marginal bristles, differing from it in the presence of the hind tibial spur, the arista being spatulate and having head with the exception of the frontal triangle and upper occiput, humerus, notopleuron, upper half of pleura and legs predominantly orange yellow. From *A. lerouxi* (Séguy) as redescribed by SABROSKY (1951: 789) it differs in having the greater part of the mesopleuron dusted, the mesonotum dusted throughout and the hind corners of the frontal triangle dusted.

Remarks. The specimen commented upon by COLLIN (1949: 221) in BMNH from “Nyasaland” and bearing a label “*Elachiptera* sp. ! (rufescens Wlk?) det. Sabrosky ‘44” is this species and it is included in the type series. The 4 specimens labelled as cotypes of *E. rufescens*

(Walker) in BMNH are in moderately good condition and no such hind tibial spur is evident on any of them.

Elachiptera rufescens (Walker, 1871)

Described (1871: 345) as a species of *Oscinis* from Cairo, but a note accompanying the cotypes dated 14.i.1948 and in H. OLDROYD's handwriting is to the effect that the museum register entry for them is 77-5 and gives Syria as the locality of collection. Though apparently doubt exists as to their provenance, NARTSHUK (1984: 230) lists *E. trisulcata* (Becker, 1903) as a junior synonym of *rufescens*, and this species was described from Cairo, Assiut and Assuan, all Egyptian localities.

Material: 3♂, 4♀ Saudi Arabia: Abu Aresh, Faisal Al Refae, sweeping weedy preheading forage sorghum, J. C. DEEMING & H. A. DAWAH; 6♂, 1♀ Abu Aresh, Almahdag, 4.ii.2012, J. C. DEEMING & H. A. DAWAH (NMWC); 1♂, 5♀ Morocco; Errachidia, 2 km N of Erfoud, agriculture under date palms, 1.v.2012, M. J. EBEJER (EBEJER coll.).

Genus *Lasiochaeta* Corti, 1909: 147

Type species: *Lasiochaeta pubescens* (Thalhammer, 1896:164) by monotypy. NARTSHUK & VON TSCHIRNHAUS (2012) discovered from the examination of the types that the type species of *Melanochaeta* Bezzi, 1906: 50 (which was a replacement name for *Pachychoeta* Bigot, 1857, preoccupied), being *Elachiptera aterrima* Strobl, 1880 (= *Oscinis capreolus* Haliday 1838), by monotypy, was in fact a species of *Oscinella*. Since *Oscinella* Becker, containing pest species, had such a vast agriculturally-orientated literature, they very rightly applied for the suppression of *Melanochaeta*, even though it predates *Oscinella*. As a replacement generic name to accommodate species included in *Melanochaeta* they revised *Lasiochaeta* from synonymy under it.

Key to the Arabian species of *Lasiochaeta*:

1. Arista unflattened, compactly setulose *umbrosa* (Becker)
 - Arista blade-like, setulose 2
2. Thorax predominantly reddish-yellow; frontal triangle orange to yellow *flavofrontata* (Becker)
 - Thorax predominantly black; the humerus and propleuron yellow..... *scapularis* (Adams)
 - Thorax entirely black 3
3. Ocellar tubercle smooth and polished, not pollinose except at extreme rear *atricornis* (Adams)
 - Ocellar tubercle densely and conspicuously grey pollinose *vulgaris* (Adams)

Lasiochaeta vulgaris (Adams, 1905) **comb. nov.**

Described (1905: 191) as a species of *Crassiseta* Roser (= *Elachiptera* Macquart) from Rhodesia, this species is widespread and common in Subsaharan Africa.

Material: 1 ex. Yemen: Medina Al-Shirq, 20.ii.1991, A. VAN HARTEN, H. MAHDI & M. MAHYOUB; 1♂ Saudi Arabia: Tanoma, al-Kerya, 27.iii.2003, H. A. DAWAH; 1♂ Abha, Madenat Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH; 1♀ Farazan Island (Red Sea), 9.ii.2012, J. C. DEEMING; 1♂, 3♀ Aseer, Al Soda dam, 1.ii.2012, J. C. DEEMING (all in NMWC). The specimen from Yemen is infected with a Laboulbeniales parasitic fungus.

Lasiochaeta scapularis (Adams, 1905) **comb. nov.**

Described (1905: 189) into the genus *Crassiseta* from Rhodesia, this species is common and widespread in subsaharan Africa. Further material in NMWC is from Sierra Leone, The Gambia, Ghana, Nigeria, Kenya, Uganda, Tanzania and Zimbabwe. *M. scapularis* is very similar to the widespread *Lasiochaeta pubescens* (Thalhammer, 1898), which is widespread in temperate Europe, North Africa, Madeira, the Azores and east to Iran and Afghanistan and which may well be found in Arabia. Whereas the arista of *M. scapularis* is flattened like a knife blade, that of *L. pubescens* only appears broadened by the compact hairs it bears. Until very recently *L. pubescens* was included in *Melanochaeta* (NARTSHUK & VON TSCHIRNHAUS 2012).

Material: 1♀ Yemen: Ar Rujum, 16.xi.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER; 3♂, 4♀ Saudi Arabia: Abu Aresh, Faisal Al Refae, sweeping weedy preheading forage sorghum, J. C. DEEMING & H. A. DAWAH; 1♀ Aseer, Keratha, Al-Ethrebany farm, 15.v-11.vi.2006, H. A. DAWAH (NMWC).

Lasiochaeta atricornis (Adams, 1905) **comb. nov.**

Described (1905: 190) as a species of *Crassiseta* from Rhodesia and since recorded widely in eastern subsaharan Africa from Ethiopia to South Africa.

Material: 1♂, 7♀ Yemen: Dhamar, 13.iii.1991, swept in alfalfa field, A. VAN HARTEN, H. MAHDI & M. MAHYOUB; 3♀ Sana'a, i & viii.1991, A. VAN HARTEN (NMWC).

Lasiochaeta flavofrontata (Becker, 1903) **comb. nov.**

Described (1903: 151) from Egypt into the genus *Crassiseta*, this species is further recorded from Israel by KAPLAN (1977: 78) and is recorded from UAE, Oman, Bahrain, Yemen and Lebanon (DEEMING 2011: 792). Further material in NMWC is from Libya, Niger, Nigeria, Mali and Tchad.

Material: 1♂ Oman: Jebel Shams, 2500m, 7.v.1989, M. J. EBEJER; 23♂, 18♀ Muscat, 23 km W of Seeb Airport, 2.xi.1990, grasses bordering sunken pond, M. D. GALLAGHER & J. C. DEEMING (NMWC); 5♂, 4♀ Dhofar, Ain Hamran, 10.x.1990, M. J. EBEJER; 1♂ Dhofar, Mugsail marsh, 11.x.1990, M. J. EBEJER; 2♂ Saudi Arabia: Al Hassa, 23.vi.2008, palm grove, K. ALHUDAIB; 1♂, 2♀ Aseer, Keratha, Al-Ethrebany farm, 15.v-11.vi.2006, Malaise trap, H. A. DAWAH (NMWC); 1♀ Hutet Bani Tamim, 30.xii.2010, AL DRYHIM, AL DHAFER, FADL & AL GHARBAWI (KSU).

Lasiochaeta umbrosa (Becker, 1924) **comb. nov.**

Described from Taiwan (1924: 120) in the genus *Elachiptera* and further recorded from Viet Nam, Cambodia, India, Japan, Philippines and Thailand. NARTSHUK & VON TSCHIRNHAUS (2012: 52) having resurrected *Lasiochaeta* from synonymy under *Melanochaeta*, this species must be placed in new combination.

Material: 1♂, 2♀ Oman: Muscat, Al Ansab, 27.xii.1989, M. J. EBEJER; 3♀ same data but 23.ii.1989; 1♂, 3♀ same data but 26.i.1990; 1♂, 1♀ same data but 16.iii.1990; 2♀ Muscat, 9.i.1988, M. J. EBEJER; 3♂, 3♀ Quriyat, Wadi Daiqah, 27.1.1989, M. J. EBEJER; 1♀ Batinah, Sohar, on grass, 5.xii.1992, J. C. DEEMING; 1♀ NW Syria: Ras el Bassit, 24.ix.1998, coastal marsh, M. R. WILSON; 1♂ Kenya: Embu, Hotel Iz. Walton, 16.iv.1983, K. A. SPENCER; 1♀ Sri Lanka: Kandy, 30.xi.1985, Malaise trap, J. DEN HOLLANDER; 2♂, 2♀ Sulawesi Utara: Lake Mala, 17.viii-13.ix.1985, light trap, A. H. KIRK-SPRIGGS (NMWC & EBEJER coll.).

Genus *Anatrichus* Loew, 1860: 97

Type species: *Anatrichus erinaceus* Loew, 1860, by monotypy.

Key to Arabian *Anatrichus* species:

- 1 Hind basitarsus with a ventral bristle near base and which is longer than the other bristles of the scopula *erinaceus* Loew
- Hind basitarsus lacking this bristle *pygmaeus* Lamb

Anatrichus pygmaeus Lamb, 1918

Described (1918: 348) from Sri Lanka and widespread from there eastwards to Japan, this species also extends into Africa, where it has been misidentified as *A. erinaceus*. African material in NMWC is from Nigeria, Liberia, Gambia, Egypt and Ethiopia, and previous records (DEEMING 1972: 21) of material reared from *Echinocloa* sp. and sorghum in Nigeria apply to this species rather than *A. erinaceus*, and in Nigeria one of us has also reared it from *Pennisetum pedicellatum* and *Eleusine indica* shoots. It is most probable that DUDA's (1933: 21) record of *A. erinaceus* from Egypt applies to this species, as there material has been reared from wheat stems at Sids Agric. Research Station, Beni-Sueif by the late Dr. EL-SERWY.

Material: 1♀ Yemen: Wadi Jaira, tributary of Wadi Siham, ca. 900 m a.s.l., 10.iii.1938, H. SCOTT & E. B. BRITTON (BMNH); 1♂ Saudi Arabia: Riyadh, AL DIRIYAH, 15.x.2009, H. SETYANINGRUM (KSU).

Anatrichus erinaceus Loew, 1860

Described (1860: 97) from Namibia, this species is widespread within the afrotropical region. GADALLAH & BOSLY (2006: 342) report it as feeding around the eyes of camels in the Jeddah region of Saudi Arabia.

Material: 1♂ Yemen: Ibb, associated with sorghum, 10.ix.1987; 4♂, 3♀ Ta'izz, light trap, ix.1999, A. VAN HARTEN & A. AWAD; 1♀ same data but ix.2000, A. VAN HARTEN & A. R. AL YARIMI; 1♂, 1♀ same data but v-vi.2002 (all NMWC); 1♀ Magmaah, 180 km NW of Riyadh, pilgrim's road, 26.ii.1976 (KSU).

Genus *Epimadiza* Becker 1910b: 439

Type species: *Oscinis rugosa* de Meijere, 1906, by designation of ENDERLEIN (1911: 213).

Key to Arabian species of *Epimadiza*:

- 1 Wing with three broad black bands. Fore femur only slightly enlarged, without spines or denticles *fascipennis* Sabrosky
- Wing lacking dark markings 2
- 2 Hind femur with a row of 3-5 strong black preapical bristles anteroventrally 3
- Hind femur lacking such bristles 4
- 3 Both fore coxa and knob of haltere black *nigricoxa* Sabrosky
- Fore coxa bright orange and haltere knob black *rugosa* (de Meijere)
- 4 Fore coxa black. Fore femur in profile almost triangular in shape developed ventrally into a single big, blunt tooth *gallicola* Séguy
- Fore coxa orange 5

- 5 Mesonotum with bare habitus, sparsely punctured with only 2-3 irregular rows of mesonotal hairs between the acrostichals and each dorsocentral line *nigrescens* Duda
 – Mesonotum very compactly covered in short hairs 6
- 6 Apical scutellar marginal bristles approximated, the basal interval at most twice the diameter of one of the tubercles on which they are situated.
 Legs predominantly orange, especially the femora *auripes* Sabrosky
 – Apical scutellar bristles separated by a distance equal to about half the length of the scutellum 7
- 7 Fore tarsus apically black, the basal two segments whitish yellow *flavibasis* Sabrosky
 – Fore tarsus entirely black *pectinata* Sabrosky

Epimadiza auripes Sabrosky, 1947

Described (1946: 845) from a single female from Cape Province, South Africa. Unfortunately the holotype in BMNH is missing from its mount, though a few leg fragments remain. Since these fragments could in terms of molecular investigation provide a diagnosis for the species no neotype can be established.

Material: 1♀ Yemen: Ar-Rujum, 15.i-9.iv.2001, Malaise trap, A. VAN HARTEN; 1♀ same data but 16.x.2000-15.i.2001, A. VAN HARTEN & A. M. HAGER; 3♂ Sana'a, Malaise trap, iv.1998, A. VAN HARTEN; 1♀ same data but vii-ix.1998; 4♀ Aldabra Isand: Picard, 1974-1976, R. PRYS-JONES (NMWC).

Epimadiza fascipennis Sabrosky, 1945

Described (1945: 460) from Malawi and further recorded from Nigeria, there is material in NMWC from Botswana and the Transvaal. In Nigeria one of us (JCD) found this species running on the bark of tree trunks and waving its wings.

Material: 1♀, Yemen: Al Lahima, 1.i-9.iv.2001, Malaise trap, A. VAN HARTEN (NMWC).

Epimadiza flavibasis Sabrosky, 1947

Described (1946:850) from Uganda and Kenya.

Material: 1♂, 1♀ Yemen: Ar Rujum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. Hager; 2♂ 12 km NW of Manakhah, 3.vii-21.viii.2001, A. VAN HARTEN; 1♂, 2♀ same data but 5.v-17.vi.2002, Malaise trap, A. VAN HARTEN; 1♂ Al Kowd, x.2000, light trap, A. VAN HARTEN & S. AL HARURI; 1♀ Al Lahima, 9.iv-5.vi.2001, Malaise trap, A. VAN HARTEN (NMWC).

Epimadiza gallicola Séguy, 1933 (Figs 6-7)

Described (1933: 48) from Mozambique, this species is widely distributed in subsaharan Africa. SABROSKY (1947: 841) recorded specimens reared from damaged fruit of kolo, cotton, coffee and castor, stating that larvae were probably saprophagous. One of us (JCD) is able to confirm this, having reared the species in Nigeria from damaged cotton bolls, but also having found the larvae feeding in the frass of *Hypsipyla robusta* Moore and *Catopyla dysorphaea* Bradley (both Pyralidae) in mahogany fruits and the frass of *Cryptophlebia leucotreta* Meyrick (Tortricidae) in citrus.

Material: 9♂, 7♀ Yemen: Medinat-ash-Shirq, 5.vii.2000, ex coffee berries with holes of coffee berry moth, A. VAN HARTEN & M. MAHYOUB (NMWC & Sana'a); series labelled

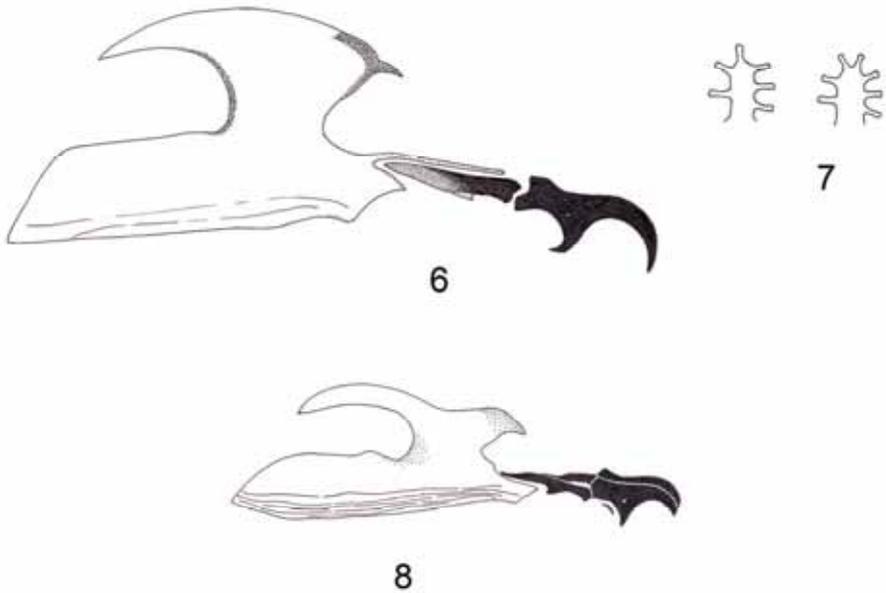


Fig. 6-7 *Epimadiza gallicola* (Séguy). 6- Cephalopharyngeal skeleton from puparium; 7- Puparium, anterior spiracles. – Fig. 8. *Polyodaspis picardi* Séguy: Cephalopharyngeal skeleton from puparium.

“Arabia: Fita. 16.iv.1983, ex galls of ? *Acacia etbaica*” (NMWC). This locality is in Saudi Arabia close to the Yemeni border.

Puparium 3 mm in length, dark yellow in colour with surface strongly ridged, the ridges between the the minute anal plate and posterior spiracles especially strongly developed, hoodlike; anterior spiracles (Fig. 7) consisting of 6-7 moderately long digitations on a short tall spiracular base; posterior spiracles divergent at an angle of 90°; cephalopharyngeal skeleton (Fig. 6) pale yellow with deep ventrobasal cornu, black on mandibular sclerite and on apical half of hypostomal.

Epimadiza nigrescens Duda, 1933

Described (1933: 112) from Israel and widely distributed in Africa, this species is recorded by DAWAH & ABDULLAH (2006: 26) from Saudi Arabia.

Material: 1♀ Saudi Arabia: Muzahimiyah, Al Khamrah, 13.iv.2011, at light, Y. DRAYHIM, H. AL-DHAFFER, A. AL GHABAWY & H. SETYANINGRUM (KSU); 1♀ Riyadh, Rhodet Khorim, 19.ii.2012, J. C. DEEMING (NMWC).

Epimadiza nigricoxa Sabrosky, 1947

Described (1946: 833) from Kenya, largely from material recorded as ex *Vernonia pauciflora*. Amnon FREIDBERG also collected an adult in Kenya (Chepsonoi, E. Kakamega, 8-9.xi.1983) in a flowerhead of *Vernonia calvoana* (Asteraceae).

Material: 1♂ Yemen: 12 km NW of Manakhah, 15.v-24.vi.2003, Malaise trap, A. VAN HARTEN (NMWC).

Epimadiza pectinata Sabrosky, 1947

Described (1946: 849) from South Africa.

Material: 1♀ Yemen: 12 km NW of Manakhah, 5.v-17.vi.2002, Malaise trap, A. VAN HARTEN (NMWC).

Epimadiza rugosa (de Meijere, 1906)

Described (1906: 334) from Cameroun in the genus *Oscinis*, this species is further known from Ghana and Sierra Leone. Material in NMWC is also from Mali and Kenya.

Material: 1♂ Saudi Arabia: Aseer, Abha Farm Centre, Malaise trap, iii-vi.2001, H. A. DAWAH; 1♂, 1♀ Yemen: 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN (NMWC).

Genus *Anacamptoneurum* Becker, 1903: 155

Type species: *Anacamptoneurum obliquum* Becker, 1903, by monotypy.

Anacamptoneurum obliquum Becker, 1903

Described (1903: 155) from Egypt and further recorded from Cyprus, Cameroun, Nigeria, Sudan, Tanzania, Botswana, Saudi Arabia and Palestine. In Saudi Arabia it is recorded by DAWAH & ABDULLAH (2006: 25) and from UAE, Oman, Yemen and Lebanon by DEEMING (2011: 785). Further material in NMWC is from Ethiopia, Niger, Senegal, Mali, Gambia, South Africa, Libya, Turkey and India. DEEMING (1972: 21) records hostplants as being cultivated sorghum, maize, bulrush millet, *Andropogon gayanus* and its var. *bisquamulatus* and *Hyparrhenia cyanescens* in Africa and wheat in Cyprus.

Material: 1♀ Yemen: wadi at foot of Jebel Harir, ca. 1500 m a.s.l., 31.x.1937, H. SCOTT & E. B. BRITTON (BMNH); 3♂, 2♀ Bani Hushish, from maize ear, 12.v.1991, M. MAHYOUB; 1♀ Al Kowd, ix.2003, light trap, A. VAN HARTEN (NMWC); 5 ex. Saudi Arabia: Riyadh, ex maize stalk with *Sesamia* and *Stenophthalmus ocellatus*, 16.viii.1979, A. S. TALHOUK; 1♀ Riyadh, 23.i.1980, A. S. TALHOUK (NHMB); 1♀ Jizan Road, Ahad Al Masarcha 11.iii.2010, light trap, AL DHAFER & EL GHARBAWY (KSU). 2♂, 3♀ Oman: Wadi Mu'aydin, 22°57'N, 57°39'E, c. 650 m, on flowering *Saccharum griffithii* in wadi bed, 1.xi.1990, M. D. GALLAGHER & J. C. DEEMING; 1♂2♀ Ghul, 23°09'N, 57°12'E, on forage sorghum under date palms, 2.xi.1990, M. D. GALLAGHER & J. C. DEEMING; 1♂ same data but on preheading irrigated forage *Pennisetum* under date palms (all in NMWC). One of the females from Wadi Mu'aydin has its pleurae covered in hypopi of Acarid mites.

Genus *Polyodaspis* Duda, 1933: 224

Replacement name for *Macrothorax* Lioy, a junior homonym preoccupied by *Macrothorax* Desmarest, 1851). Type species *Siphonella ruficornis* Macquart, 1835.

Key to Arabian species of *Polyodaspis*:

- 1 Thorax yellow in ground colour *abhaensis* sp. n.
 – Thorax black *picardi* Séguy

Polyodaspis picardi Séguy, 1946 (Fig. 8)

Described (1946: 6) from southern France and further recorded by EBEJER (2010: 136) from the Balearic Islands, Malta and Cyprus. The type specimen of this species in Muséum national d'Histoire naturelle, Paris was examined by VON TSCHIRNHAUS and was reported by NARTSHUK (2011: 342) as belonging to the genus *Lasiambia*. However, VON TSCHIRNHAUS (pers. comm.) has recently informed us that on a wider examination of species he cannot separate *Polyodaspis* from *Lasiambia*. Further work, which cannot be done here, is necessary before possible generic synonymy can be established. The Sana'a specimen listed has the dark rings on the tibiae less well developed than the remaining material and the femora completely yellow. This is probably on account of the greater heat and sunlight to which that population is exposed.

Material: 1♂ Yemen: Sana'a, iv.1998, Malaise trap, A. VAN HARTEN; 1♀ Kenya: 40 km W of Kakamega, 26.x.2004, on *Pennisetum purpureum*, M. R. WILSON; 2♂, 2♀ with puparia Greece: Crete, Nomós Lasithi, Mirtos river valley, larvae coll. 20.x.1997 ex deadheart tillers of *Arundo donax* bordering dry river bed, adults emerged 19.xi-2.xii.1997, J. C. DEEMING & M. R. WILSON; 1♀ Peleponessos, swamp N. of Paralio Astros, 22-31.viii.1988, M. F. CLARIDGE; 1♀ Cyprus: beach 10 km W of Pissouri, 23.iv.2002, J. C. DEEMING; 1♀ Tunisia: Bizerte, Ras Jebel, Ghar El Melh, on shore of salt lake, 17.v.1995, J. C. DEEMING; 1♀ Malta: Fiddien, 20.v.1995, J. C. DEEMING; 1♀ Portugal: Algave, N. of Rio Seco, maize field, 27.vii.1998, M. R. WILSON (NMWC).

Puparium (from Mirtos river valley *Arundo donax*) yellowish brown, 2.5mm in length, 0.6mm in greatest breadth; anterior spiracle consisting of 4 digitations on a narrow spiracular base; posterior spiracles rather long, scarcely divergent; cephalopharyngeal skeleton (Fig. 8)

Polyodaspis abhaensis sp. n. ♀ (Figs 9-10)

Material: Holotype ♀ Saudi Arabia: Abha, Madenat Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (NMWC).

Description. ♀ An orange-yellow species (Fig.9), shiny in appearance, black between ocelli, on apical tarsal segments and claws, on dorsal surface of tergite 4 and on a round marking on shoulder of tergite 3, on rings on femora and tibiae and on a narrow leaf-shaped marking on lower margin of sternopleuron, all major bristles black and wing with all veins yellow, the haltere creamy yellow. Head with frons as long as broad, bearing pale reclinate clothing hairs and with four weak reclinate orbitals on either side; ocellars reclinate, much weaker than the upright postocellars; internal vertical weaker than external; upper occipital hairs dark; gena of a silky appearance, as wide as fore tibia, with vibrissa and all genal hairs pale; third antennal segment rather large, reniform and weakly infusate on the dorsoapical angle, the arista pale; palpus broad; proboscis robust, short-geniculate. Thorax (Fig.10) with scutellum, humerus and prescutellar declivity black haired, otherwise pale haired; notopleuron with 1 + 3 bristles, the uppermost bristle of the posterior group very weak. Wing with basal cell strongly widened at point of radial fork, the crossveins separated by a distance slightly more than twice the length of the anterior crossvein, the posterior crossvein very oblique, so that the anteroapical corner of the discal cell is of an angle of about 60°. Abdomen with

combined basal tergite desclerotized, pale haired apart from a few black hairs laterally. Legs stout, with a mixture of pale and black hairs. Length about 2 mm. Male unknown.

Differential diagnosis: This species closely resembles *Polyodaspis lamborni* Duda from Malawi, differing from it in the following respects:

<i>P. abhaensis</i> sp.n.	<i>P. lamborni</i> Duda (types examined)
Black rings on femora and tibiae narrow, nowhere occupying more than one third of their length	Infusate markings more diffuse on femora, on all tibiae occupying more than one half of their length
Scutellum almost triangular, with 6 pairs of long lateral marginal bristles situated on tubercles	Scutellum long-semicircular with 8 pairs of shorter lateral bristles situated on tubercles
Mesonotum lacking extensive black markings	Mesonotum with 4 distinct black shiny vittae, the median 2 fused anteriorly and ending almost as far short of scutellum as its length, the lateral pair narrowly divided at suture, the part anterior to it almost round and the part behind it half as wide, tapering posteriorly
Frontal triangle yellow	frontal triangle more or less diffusedly infusate
More distinctive shiny pleural spot on lower margin of mesopleuron	Sternopleuron with a large shiny black triangular marking
Distinctive tergal markings in female, male unknown	Female tergites totally yellow, in male apical half of abdomen somewhat infusate

Genus *Lasiambia* Anonymus, 1937

Type species: *Oscinella fycoperda* Becker 1910: 164. *Lasiambia* Enderlein 1936: 188, being an unavailable name, due to no type species having been designated at description, the type species was fixed by SABROSKY (1941: 754), though unbeknown to him a previous type designation made by an unknown author in Imperial Institute of Entomology, 1937 had been made. The complicated generic synonymy is given and explained by CHANDLER (1998: 147, 148, Note 6), EVENHUIS et al. (2008: 5, 17) and NARTSHUK (2012: 16). A generic synonymy is *Goniopsita* 1930: 69.

Key to Arabian species of *Lasiambia*:

- 1 Wing whitish hyaline. Haltere black *albidipennis* (Strobl)
 – Wing greyish hyaline. Knob of haltere yellow *brevibucca* (Duda)

Lasiambia albidipennis (Strobl, 1893)

Described (1893: 129) into the genus *Oscinis* from coastal regions of the former Yugoslavia and recorded by DEEMING (2011: 792) from Spain, Jerusalem, UAE and Saudi Arabia.

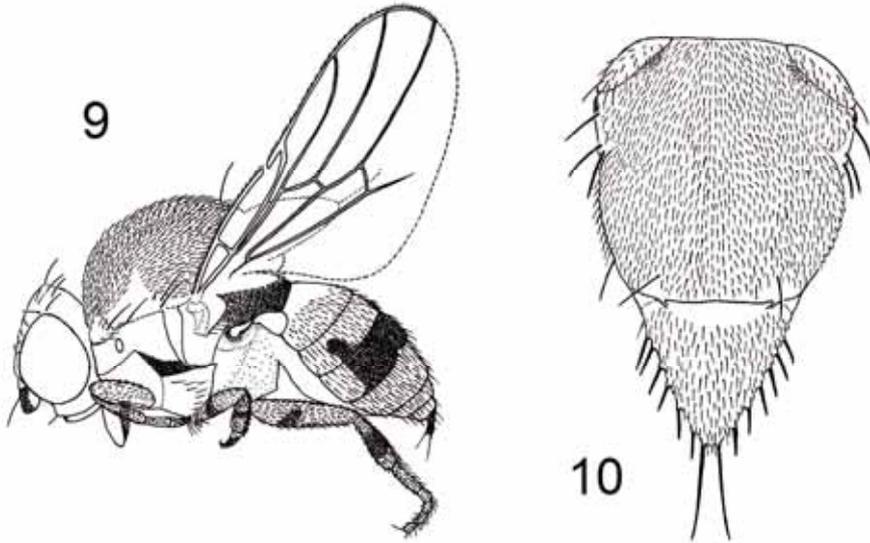


Fig. 9-10. *Polyodaspis abhaensis* sp. n. – 9. female in profile; 10. thorax from above.

Lasiambia brevibuca (Duda, 1933)

Described (1933: 107) into the genus *Goniopsita* Duda, 1930, a generic synonym, from Poland, Finland and France and widespread in Europe and further recorded (DEEMING 2011: 972) from UAE.

Genus *Calamoncosis* Enderlein, 1911: 235

Type species: *Lipara rufitarsis* Loew, 1858a, by original designation (misidentification = *Lipara minima* Strobl, 1893).

Key to the Arabian species of *Calamoncosis*:

- 1 Vibrissal angle projecting, acute. Proboscis long, geniculate. Wing membrane darkened *aenescens* (Becker)
- Vibrissal angle obtuse, not projecting. Proboscis short. Wing membrane slightly fumose *sorghivora* **sp. n.**

Calamoncosis aenescens (Becker, 1916)

Described (1916: 435) into the genus *Siphonella* from Uganda.

Material: 2♀ Yemen: 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♂ same data but 5.v-17.vi.2002; 1♀ same data but 6.vii-21.viii.2002; 1♂ same data but 24.vi-4.viii.2003; 1♀ Ethiopia: Alemaya, vii-viii.1986, T. MESFIN; 1♀ Kenya: Rift Valley, Ol Arabe Gorge, 11.xi.1988, R. K. BUTLIN; 1♀ Mozambique: Niassa Prov., Cuamba,

2008, M. OLMÍ (all NMWC); 1♀ Namibia: Kavango, Popa Falls, 19-22.i.1993, F. KOCH (Humboldt University, Berlin).

Remark. This species belongs in the subgenus *Rhaphiopyga* Nartshuk, 1971b.

Calamoncosis sorghivora sp. n. ♂♀ (Figs 11-20)

Material: Holotype ♂ Yemen: Tihama, near ice factory, in damaged sorghum stem, 9.iv.1984, G. SCHEIBELREITER (NMWC). Paratypes 1♂, 6♀ same data as holotype, these accompanied by 1 pharate adult female and its puparium and various puparia and puparial fragments unmatched to adults; 1♂, 1♀ Saudi Arabia: Abu Aresh, Almahdag, 4.ii.2012, J. C. DEEMING & H. A. DAWAH (NMWC).

Description. ♂ A black species, deep velvety black on frons, dirty yellow on antenna, lunule, facial keel, palpus, knob of haltere, tarsi, knees and apices of tibiae, the dusting rather weak and yellowish grey, with hairs and bristles black except for those on proboscis and most of those on tarsi and yellow parts of legs; the eye pale haired; the arista dirty white with a dirty yellow base, the wing slightly greyish hyaline with yellowish brown veins and the squamal fringe dark grey. Head (Fig. 11) 1.44 times as wide and 1.23 times as deep as long; frons straight-sided, 1.21 times as long as its greatest width, this at anterior ocellus exactly one half of width of head, decreasing to 0.42 times at anterior margin; eye 1.30 times as long as long, its depth 4.40 times that of gena; frontal triangle straight- or slightly concave-sided, extending to mid length of frons, dusted between ocelli, on either side with a marginal row of hairs, reclinate anteriorly and becoming inclinate posteriorly, these considerably longer than the interocellar spaces; postocellar bristles long and strong, backwardly-directed, slightly longer than the external vertical and ocellar; the internal vertical scarcely longer than the orbitals and numerous other hairs clothing frons; ocellars reclinate, their bases separated by a distance equal to the width of an ocellus; cheek very narrow, at level of antenna not wider than base of arista; face short and dusted; facial keel prominent, extending from lunule three quarters of distance to clypeus, abruptly ending, beneath this the face membranous; vibrissa weak; gena undusted, with a silken sheen; occiput weakly dusted; third antennal segment with a dorsoapical angle; rostrum sclerotized and geniculate, with fleshy labella, both basal and apical segments and 1.38 times as long as broad. Thorax as broad as head; mesonotum convex, 3.3 times as long as scutellum (Fig. 12), this latter dorsally strongly convex and meeting the former in a deep furrow, both dorsally clothed with short recumbant hairs having distinct punctures at their bases (these hairs may appear paler when viewed from in front, but are nevertheless black); the mesonotum undusted, the scutellum dorsally with fine dusting only visible when viewed from in front, the margins and undersurface more strongly dusted; a single prescutellar dorsocentral bristle, which is slightly shorter than the outer postalar, but appreciably longer than the inner; a prescutellar row of some 4 intradorsocentral hairs longer than the others; humeral bristle short and rather weak; 1+2 strong notopleural bristles; pleura dusted with a large polished area covering most of mesopleuron, pteropleuron and sternopleuron, this last with numerous scattered hairs but no bristles. Wing (Fig. 13). Legs lacking specialized chaetotaxy of structure; mid femoral organ present; hind tibia with sensory area occupying middle one third of its length on posterodorsal surface. Abdomen with sclerites uniformly but weakly dusted; tergites 3-5 equal in length, 2 and 6 shorter, the former slightly wider and the latter only half as wide as tergite 5; the tergites, sternites and epandrium with numerous scattered setae of uniform length; integument behind sternite 5 simple and bearing a pair of setae overlying the hypandrium, elsewhere densely spiculate; cerci a simple narrow

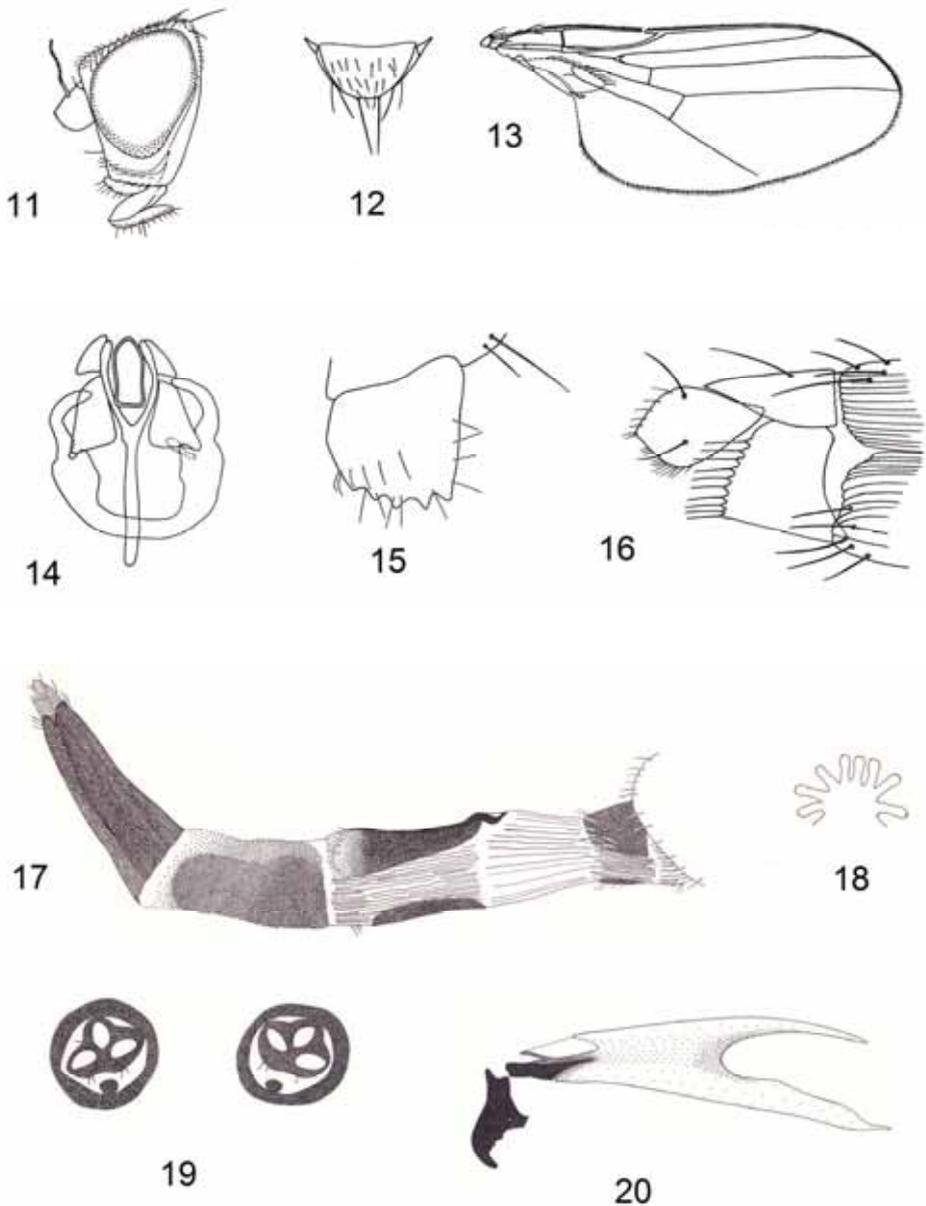


Fig. 11-20. *Calamoncosis sorghivora* sp. n. – 11. head in profile; 12. scutellum from above; 13. wing; 14. male, phallic complex; 15. male, surstylus; 16. terminal sclerites of ovipositor in profile; 17. female ovipositor in profile; 18. puparium, anterior spiracle; 19. puparium posterior spiracles from behind; 20. puparium, cephalopharyngeal skeleton.

arch; surstylus (Fig. 15) trapezoid, its truncate apical margin with a row of teeth, the most posterior of which is the strongest and, unlike the others, inwardly-directed; phallic complex (Fig. 14), the pregonites in contact with but not fused to the hypandrium and distinctly separated from the postgonites. Length about 1.80 mm, of wing 1.70 mm.

Female resembling male, apart from sexual differences, somewhat larger (length with ovipositor retracted 2.90mm, of wing 2.20 mm) with head slightly different in shape, being 1.59 times as wide and 1.30 times as deep as long; frons 1.45 times as long as its greatest width, at anterior ocellus half head width, narrowing to 0.46 at anterior margin; eye 1.20 times as deep as long, its depth 4.45 times that of gena; ovipositor (Fig. 17) long, blade-like, with tergite and sternite of segment 8 fused basally, heavily sclerotized and furrowed, the intersegmental membrane preceding it heavily spiculate, especially so beneath on all but apex; supraanal sclerite (Fig. 16) discrete from cercus, which is short and droplet-shaped; subanal sclerite short, with an apical fringe of hairs, these three terminal sclerites yellow.

Puparium 3.0-4.5 mm in length, 1.0-1.2 mm in greatest width, slightly dorsoventrally flattened, yellow and shiny, heavily transversely ridged posterior to the narrow band-shaped anal plate and lacking spicular zones; anterior spiracle (Fig. 18) consisting of a rosette of 8 digitations on a transverse base; posterior spiracles (Fig. 19) separated from one another by their individual width, black and bearing minute simple hairs apically. – Cephalopharyngeal skeleton (Fig. 20) black and dirty white.

Differential diagnosis. From the structure of the ovipositor this species would be referable to the subgenus *Rhaphiopyga* Nartshuk, 1971b. It is very similar to *C. occulta* (Becker, 1911), described from New Guinea and Java, differing from it in having the wing membrane paler and in the structure of the ovipositor, especially in having the subgenital plate much longer than in *C. occulta*. The ovipositor of *C. occulta*, drawn from type material, is illustrated here (Figs 21-22).

Remarks. When on 4th April 1984 Dr G. SHEIBELREITER was collecting *Chilo* larvae from the sorghum shoots from which the type series emerged, he found that about 5% of the shoots examined contained cyclorrhaphous pupae, most of which had already emerged. These proved to belong to the new species described above. There is a single record of an unidentified species of *Calamoncosis* reared from sorghum (*Sorghum bicolor*) in Uganda (LEPELLEY 1959: 22). We have been unsuccessful in locating the specimens upon which the record is based. However, material reared by Dr. I. W. B. NYE from *Sorghum vulgare* and *S. verticilliflorum* in East Africa in 1956-57 was found in the British Museum (Natural History), London and appears to be conspecific with that from Yemen, as also is wild-caught material from Mali and Kenya. However, since it is probable that other closely-related species may yet be found, prudence dictates that the type series should be restricted to the Arabian material. The fact that huge quantities of rain-fed sorghum of many different cultivars are grown in Africa and yet the crop is found so rarely to be attacked by *Calamoncosis* spp. points to it being only those plants in poor physiological condition that are susceptible to attack, presumably when they are suffering water-stress.

The following is the combined type material of *Calamoncosis occulta* (Becker, 1911) examined. Type material was described as “1 Exemplar von Neu-Guinea: Lemien, Berlinhafen (Biró) Hungarian Natural History Museum und 6 Exemplare von Java (Jacobson) Institute of Taxonomic Zoology, Zoological Museum of the University of Amsterdam.” This material comprises: In Budapest (1) New Guinea ♀, right wing missing, otherwise in good condition, bearing Becker det. label and further “syntypus” label (labelled “Biró 96”). (2) ♂ “Java 1. '06, Semarang, Jacobson” (machine-printed label) and de Meijere det label. In Amsterdam

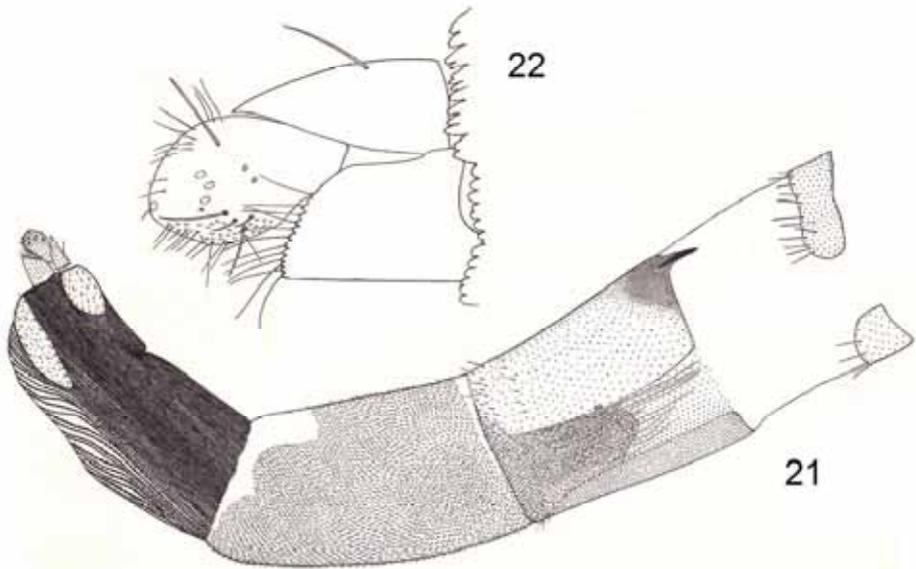


Fig. 21-22. *Calamoncosis occultus* (Becker) female syntype ex Jacobson coll. – 21.ovipositor in profile; 22. terminal sclerites of ovipositor in profile.

(1) 3♀ in good condition labelled as (2) above, but printed on a different machine, but with the dates of all 4 specimens written in the same hand, one of them bearing a BECKER det. label and a lectotype label in the handwriting of SABROSKY and all three bearing cotype labels in SABROSKY's hand. (2) 1♀ in very poor condition (wings, antennae and most legs and bristles missing) with handwritten label "Java, Jacobson". (3) 1♀ in good condition with handwritten label "Java, Jacobson". (4) 1♀ in good condition labelled "E. Jacobson, Samarang, Java, Juni 1910" and bearing a BECKER det. label. Since this last specimen was collected in 1910 and the species was described from seven specimens in 1911, it is likely that it is the only one of the series that was not available at the time of description and has no type status. The male genitalia are identical to that of the new species and the ovipositor of one of JACOBSON's specimens is figured here (Figs 16-17) for purposes of comparison.

Genus *Siphunculina* Rondani 1856: 128

Type species: *Siphunculina brevinervis* Rondani, 1856, by original designation.

Key to Arabian species of *Siphunculina*:

- 1 Mesonotum with irregular patches and lines of pale grey pollinosity, only the bases of the setae remaining black. Frontal triangle with a distinct tongue of pale grey pollinosity extending forwards on either side of the anterior ocellus almost to margin of triangle *striolata* (Wiedemann)
- Mesonotum and frontal triangle shiny, completely devoid of dusting *ornatifrons* (Loew)

Siphunculina striolata (Wiedemann, 1830)

Described (1830:597) into the genus *Chlorops* from China, this species is widespread in the Old World, occurring from St. Helena and Madeira through the Mediterranean to Arabia and known also from Cameroun, Ethiopia, the Seychelles and Tromelin Is.

Material: 1♀ Yemen: Waht, ca. 10 km S of Lahej, at light in government rest house, 11.i.1940, P. W. R. PETRI, det. J. W. ISMAY; 8 ex. Aden, 19.xi.1913, S. E. PRALL, det. E. E. AUSTEN under the name of its synonym *S. signata* Wollaston, 1858 (all in BMNH); 1♀, Al Kowd, i-iii.2003, light trap, A. VAN HARTEN & S. AL HARURI (NMWC).

Siphunculina ornatifrons (Loew, 1858)

Described (1858a: 65) into the genus *Oscinis* from Sicily, this species is found from the Cape Verde Islands to Hawaii and from the Mediterranean to South Africa. Material in NMWC is from the cedar forest of Horsh Ehden, Lebanon.

Material: 1♂ Yemen: Ta'izz, 1-3.iv.1998, light trap, A VAN HARTEN & A. AWAD; 2♀ same data but 23.vii.1998; 2♂ same data but ix.2000, A. VAN HARTEN & A. R. AL Yarimi; 4♂, 1♀ Mahwit, 7.vi.1991, A. VAN HARTEN; 1♂, 2♀ Sana'a, vii.1991, light trap, A. VAN HARTEN; 2♀ same data but 3.iv.1999; 1♂ Saudi Arabia: Aseer, Abha Farm Centre, Malaise trap, iii-vi.2001, H. A. DAWAH (NMWC).

Genus *Sabroskyina* Beschovski, 1987: 36

Type species: *Lioscinella mimica* Collin, 1946 by original designation.

Key to Arabian species of *Sabroskyina*:

1. Vein M1+2 very sinuate (Fig. 18) *simuata* sp. n.
- This vein straight *aharonii* (Duda)

Sabroskyina aharonii (Duda, 1933)

Described (1933: 95) as a variety of *Oscinella sziladyi* Duda from Palestine, this species is also known from the Cape Verde Is., Chad, Niger, Nigeria, Sudan, Egypt, Turkey, Saudi Arabia, Bahrain, Oman, Yemen, Seychelles, Iraq, Pakistan and Afghanistan. Further material in NMWC is from Mali.

Material: 1♂1♀ Yemen: Lahej, date palm, 15.viii.1956, N. R. FRAZER, det. F. I. VAN EMDEN (in BMNH); 1♀ Al Kowd, x.2000, light trap, A. VAN HARTEN & S. AL HARURI; 1♂ Oman: Al Khuwair, 5-9.i.1988, M. J. EBEJER; 3♂, 1♀ Wadi Abyad, swept from moist sand in dense shade beneath old disused palm and oleander grove near perennial running water, 16.x.1988, M. J. EBEJER; 1♀ Quriyat, Al Mazara, 30.xi.1990, M. J. EBEJER (EBEJER coll.); 7 ex. Saudi Arabia: Riyadh, 22.viii.1978, S. TALHOUK (NHMB); 1♀ Riyadh, Al Diriyah, 4.xi.2009, A. I. SOFFAN (KSU); 45♂, 27♀ (in glycerine) Jazan, Abu Aresh, Almahdag Village, 5-20.vi.2011, Malaise trap, H. A. DAWAH (JU).

Sabroskyina simuata sp. n. ♂♀ (Fig. 23)

Material: Holotype ♂ Zimbabwe: Harare, attracted to prey of pholcid spiders in ventilation shafts ringing *Odontotermes lateriticus* mound, 7.x.1997, M. S. CUMMINGS (NMWC). Paratypes 4♂, 4♀ same data as holotype; 1♂ Mali: Mourdiah, 13-25.viii.1986, M. MATTHEWS; 1♀ same data but 25-31.viii.1986; 1♂ same data but 19-25.ix.1986; 1♀ Kenya: Rift Valley,

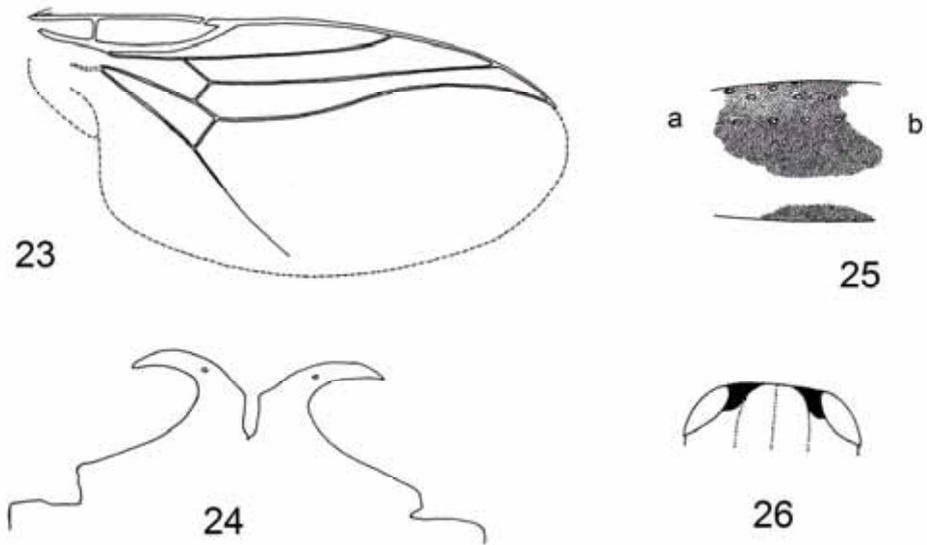


Fig. 23. *Sabroskina sinuata* sp. n. female paratype from Zimbabwe, wing. – Fig. 24. *Strobliola flavofacies* (Becker) puparium, posterior spiracles from above. – Fig. 25. *Tricimba africana* sp. n. male, mid femoral organ from in front. – Fig. 26. *Aphanotrigonum vanemdeni* sp. n. anterior margin of mesonotum.

OI Arabe Gorge, 18.xi.1988, R. K. BUTLIN; 1♂, 1♀ Oman: Wadi Nahiz, 21-25.ix.1988, M. J. EBEJER (NMWC); 1♀ Saudi Arabia: Abha, Madenat Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (JU); 2♀ Yemen: 12 km NW of Manakhah, 6.vii- 21.viii.2002, Malaise trap, A. VAN HARTEN; 1♂ Ar Ruyum, i-iv.2001, Malaise trap, A. VAN HARTEN (NMWC).

Description. ♂♀ A black species with all hairs and bristles black, apart from hairs of gena, palpus and legs, which are dirty yellow, the same dirty yellow is the anterior margin of frons, face, gena, palpus, proboscis, haltere, tergite 1, antenna with exception of apical part of third segment and arista, and legs including coxae and trochanters, though femora and tibiae (especially of hind leg) may be discoloured brownish. Frontal triangle, clypeus, mesonotum, scutellum and pleura shining black, the tergites very weakly grey dusted. Wing hyaline with brown veins. Head deeper than long, the vibrissal angle slightly more acute than a right angle; gena very narrow, almost linear; frontal triangle straight-sided, extending two thirds of length of frons, its anterior angle about 70°; postocellar bristles long, slightly diverging, much longer than the ocellars; external vertical bristle considerably longer and stronger than the internal vertical; four weak reclinate orbital bristles on either side. Mesonotal hairs extremely short and compact; chaetotaxy 1 humeral, 1+1 notopleural, 1 dorsocentral, 1 postalar; scutellum with disc and margin clothed in hairs and 6 marginal bristles, of which the apicals are twice as long as the laterals and basals, the interval between the apicals slightly more than that between them and the laterals or between the laterals and basal marginals; no visible ♂ mid femoral organ. Wing (Fig. 23) with first basal cell as wide as discal cell at apex and vein M1+2 swung forward, then backward, at three quarters of its length almost in contact with vein R4+5. Length about 1.2mm, the wing equally long.

Differential diagnosis. The wing venation of this species is highly distinctive, resembling that of *Incertella brevicosta* (Nartshuk, 1975) from Mongolia, but that species has the basal cell narrow, only half the width of the discal, and veins R4+5 and M1+2 parallel. Within *Sabroskyina* it is immediately separable from other species on account of the unusual wing venation.

Etymology. The specific name indicates the nature of vein M1 + 2.

Genus *Strobliola* Czerny, 1909: 289 in Czerny & Strobl

Type species: *Strobliola albidipennis* Czerny, 1909, by original designation. The two species listed here are better known in the literature under the generic junior synonym of *Aprometopis* Becker, 1910d:438 of which the type species is *Aprometopis flavofacies* Becker, 1910, by monotypy.

Key to Arabian species of *Strobliola*:

1. Larger (3-4mm in length inclusive of wing) species with four distinct black longitudinal striae on mesonotum (the medial one narrowly divided on mid line) and with a large rather round black sternopleural spot and a smaller and narrower hypopleural spot, all these black markings dusted*flavofacies* (Becker)
- Smaller (2 mm long) species lacking these dark markings *minima* (Lamb)

Strobliola minima (Lamb, 1918)

Described (1918:330) from southern India.

Material: 2♂, 2♀ Oman, Ghul, on preheading irrigated forage *Pennisetum* under date palms, 2.xi.1990, M. D. GALLAGHER & J. C. DEEMING; 12♂, 14♀ same data but on forage sorghum under palms; 1♀ Hazm, date palm grove beside fort, sweeping sorghum, maize and grasses, 19.x.1990, M. D. GALLAGHER & J. C. DEEMING; 1♀ 4 km W of Qfifa, Wadi Dima, on *Tamarix aphylla*, 25.x.1990, M. D. GALLAGHER & J. C. DEEMING (all in NMWC).

Strobliola flavofacies (Becker, 1910) (Fig. 24)

Described (1910c: 438) from what is now Tanzania and further recorded from Nigeria, Rhodesia, Rwanda, South Africa and Uganda. Through the kindness of the late Dr Loïc MATILE, Museum National d'Histoire Naturelle, Paris one of us (JCD) was loaned the type of *Aprometopis silvestrii* Séguéy (1932: 119) from Somalia. This differs from typical *S. flavofacies* only in minor colour differences, which can be attributed to immaturity. We place it here as a junior synonym of *S. flavofacies* **syn. nov.** Recorded from Saudi Arabia by DAWAH & ABDULLAH (2006: 25). DEEMING (1972: 12, 21) records it reared from shoots of millet and sorghum, *Pennisetum purpureum* and *Hyparrhenia cyanescens* in Nigeria, sorghum in Kenya and maize in Tanzania. It has further been reared from wheat in Nigeria, sorghum in Ethiopia and *Cymbopogon* in Ghana. Further material is from Republic of Benin and Uganda.

Material: series Yemen: Ta'izz, 5.i-2.ii.1998, A. VAN HARTEN & M. MAHYOUB and ix.1999, A. VAN HARTEN & A. AWAD; 1♀ Mukalla, vi.2003, light trap, A. VAN HARTEN & M. HUBEISHAN; series Saudi Arabia: Jazan, Faisel el Refae, 10.ii.2012, from preheading weedy forage sorghum field, J. C. DEEMING & H. A. DAWAH (NMWC & JU).

Puparium yellowish brown, shiny, 3.8 mm in length, 1.0 mm in greatest breadth, cylindrical, slightly dorsoventrally flattened; no discernible creeping welts present; anal plate in contact

with posterior rim of puparium; anterior spiracle consisting of a fan of 180° of 5 equally long and equally spaced digitations on a short spiracular base; posterior spiracles of unusual structure (Fig. 24) consisting of long blades curved away from one another at apex, with tiny respiratory openings.

Genus *Arcuator* Sabrosky 1985: 341

Type species *Hippelates stigmaticus* Lamb, 1912, by original designation.

Key to the Arabian species of *Arcuator*:

1. Third antennal segment bicoloured in both sexes, yellow with upper one third black *latimaculosus* Sabrosky
- Third antennal segment entirely black or entirely yellow, at most narrowly infuscate on dorsal margin or around base of arista 2
2. Apical ventral spur of hind tibia strong, as long as or longer than greatest diameter of tibia 3
- Hind tibial spur obviously shorter than greatest diameter of tibia, usually appearing weak and about half diameter of tibia 4
3. Gena wide, quite one third of eye height and about equal to breadth of third antennal segment *opacus* (Becker)
- Gena narrower, about one fifth of eye height and one half of breadth of third antennal segment *stigmaticus* (Lamb)
4. Third antennal segment yellow or chiefly so in both sexes *nigerensis* Sabrosky
- Third antennal segment black *deemingsi* Sabrosky

Arcuator deemingsi Sabrosky, 1985

Described (1985: 353) from Namibia and Nigeria. It has also been collected in Tanzania (Morogoro) by Dr. J. W. ISMAY, and there are further specimens from Botswana and R. P. BENIN in NMWC.

Material: 1♂ (teneral) Yemen: Ta'izz, viii.1999, light trap, A. VAN HARTEN & A. AWAD ; 3♂ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♀ same data but 24.vi-4.viii.2003; 1♂ Al Lahima, 1.i-9.iv.2001, Malaise trap, A. VAN HARTEN (all NMWC).

Arcuator latimaculosus Sabrosky, 1985

Described (1985: 347) from Zaire.

Material: 1♂ Oman: 32 km N. of Fasad, 18°45'N, 53°08'E, at light on high dry dunes and poor scrub, 29.i.1998, M. D. GALLAGHER (NMWC).

Arcuator stigmaticus (Lamb, 1912)

Described (1912: 334) in the genus *Hippelates* from the Seychelles Islands, this species is found throughout the Afrotropical Region.

Material: 1♀ Yemen: Al Kowd, 1-14.ii.1993, A. VAN HARTEN; 1♀ same data but 15-29.ii.1993; 1♂ Sana'a, light trap, 3.iv.1999, A. VAN HARTEN; 1♂ Al Kadan, 3.xii.1997-17.ii.98; Malaise trap, A. VAN HARTEN & H. M. NASER; 3♂1♀ Al Lahima, 9iv-5.vi.2001,

Malaise trap, A. VAN HARTEN; 1♂ Ar Rujum, 9.iv-5.vi.2001, Malaise trap, A. VAN HARTEN (NMWC & Ministry of Agriculture Sana'a).

Arcuator opacus (Becker, 1912)

Described (1912a: 249) in the genus *Hippelates* from Ethiopia, this species is widely distributed in subsaharan Africa and is known also from Rodriguez island. It was recorded from Saudi Arabia by DAWAH & ABDULLAH (2006: 30).

Material: 1♀ Yemen: Sana'a, viii.1991, A. VAN HARTEN; 1♀ same data but 3.iv.1999 (NMWC); 4♂, 5♀ Ta'izz, viii-xii.1999, light trap, A. VAN HARTEN & A. AWAD (NMWC & Ministry of Agriculture Sana'a); 1♂ Saudi Arabia: Makkah, Al Ugdah, 1780 m, 30-31.v.1984, W. BÜTTIKER (Basle Museum); 1♂ Abha, Wadi Bin Hasbal, 26.iv.2011, H. AL-DHAFFER, B. KONDRATIEFF, H. FADL & A. EL GHARBAWY (KSU).

Genus *Cadrema* Walker, 1859: 117

Type species: *Cadrema lonchopteroides* Walker, 1859, by original designation.

Cadrema pallida (Loew, 1866)

Described (1866: 184) from Cuba, this species is tropically cosmopolitan.

Material: 1♀ Oman: near Muscat, Qurm, light trap at mangroves, 6.xi.1987, M. J. EBEJER (NMWC); 1♀ Yemen: Al Kowd, x.2000, light trap, A. VAN HARTEN & S. AL HARURI (Ministry of Agriculture Sana'a coll.); 4♂, 3♀ Mukalla, vi.2003, light trap, A. VAN HARTEN & M. HUBEISHAN; 1♀, UAE: Sharjah, 27.iv-5.vi.2005, light trap, A. VAN HARTEN; 1♀ N. of Ajman, 16-22.xi.2006, water trap, A. VAN HARTEN (NMWC).

Genus *Tricimba* Lioy, 1864: 1125

Type species: *Oscinis lineella* Fallén, 1820, by designation of ENDERLEIN (1911: 207).

Key to Arabian species of *Tricimba*:

1. Notopleural bristles 1 + 1 2
- Notopleurals 1 + 2 5
2. Tibiae doubly dark banded, the mid and hind femora with long medial dark markings. Scutellum conical with rounded surface and 2 pairs of very strong marginal bristles. R1 slightly swollen and darkened at its junction with costa *stigma* Kanmiya
- Tibiae with either single darker bands or none 3
3. Three very long and evenly spaced orbital bristles on either side. All thoracic bristles very long, robust, straight and black. Scutellum apically truncate, yellow apically, with apical marginal bristles situated on tiny tubercles and separated from one another by a distance equal to half length of scutellum, 1-2 pairs of lateral marginals. Legs yellow *setosa* Lamb
- Orbital bristles short and inconspicuous. Scutellum with sharp-angled sides and marginal bristles on lower rim 4

4. Predominantly yellow species with a distinct black ring on each femur and tibia. Orbital bristles minute, close-set, at least 17 on either side. Scutellum conically pointed, with a pair of long close-set apical bristles and four pairs of short lateral marginals *africana* **sp. n.**
 - Darker species with few orbital setae. Legs yellow, unbanded. Dorsal margins of scutellum narrowly finely black setose, the lower rim with 3 short strong marginal bristles on either side, these situated on slight tubercles *bimarginata* Sabrosky
5. Humerus yellow. A droplet-shaped shiny spot present between anterior ocellus and anterior point of frontal triangle. The scutellar marginal bristles pale, the apical pair over twice as long as the longest lateral. Gena as deep as length of third antennal segment *humeralis* (Loew)
 - Humerus black. Frontal triangle entirely heavily grey dusted. Scutellum rounded with 3-4 short, black, evenly spaced marginal bristles on either side preceded by a minute hair. Gena narrow throughout its length, not deeper than palpal diameter *setulosa* Sabrosky

Tricimba humeralis (Loew, 1858)

Described (1858: 59) into the genus *Oscinis* Latreille from Sicily, this species is widely distributed in Europe and North Africa, its range extending south to the Sudan and from the Azores Islands to China. In Arabia recorded from Saudi Arabia by DAWAH & ABDULLAH (2006: 28) and from UAE, Oman and Yemen by DEEMING (2011: 795).

Material: 1♂ Saudi Arabia: Deirab, Pomegranate orchard, sticky trap, 20.vi.2010, AL-DHAFAER, EL GHARBAWY & EL TORKEY (Riyadh).

Tricimba (Schumanniella) setulosa (Becker, 1903)

Described (1903: 154) into the genus *Notonaulax* Becker (a junior synonym of *Tricimba*) from Egypt, this species is also known from Israel. BESCHOVSKI (1981: 120) erected the subgenus *Schumanniella* to accommodate it.

Material: 4♂, 2♀ Jordan: NW Amman, Zarqa river, 12.x.2000, W. ROSSI (NMWC); 2♂, 1♀ Saudi Arabia: Wadi Hali, 9.i.2003, H. A. DAWAH; 2♂, 1♀ The Gambia: Western Division, Bakau, crocodile pool covered in *Pistia stratiotes*, 22.xi.1993, J. C. DEEMING; 1♀ Western Division, Abuko Forest Reserve, 25.xi.1993, C. E. DYTE; 1♀ W Nigeria: Ilaro Forest, 24.iii.1974, M. A. CORNES (JU and NMWC); 1♀ Israel/Palestine: Coastal Plain, Nahr Rubin, 7.iii.1951, O. THEODOR, det. C. W. SABROSKY; 1♀ Ethiopia: Jimma, 21.x.1961, on cabbage, det. R. W. CROSSKEY (BMNH).

Tricimba stigma Kanmiya, 1983

Described (1983: 173) from Japan and its islands, a further specimen has recently been collected in Hong Kong by Dr. Clive LAU.

Material: 3♂, 1♀ Oman: Dhofar, Hajayf, grassland, 12.x.1990, J. C. DEEMING; 1♂, 1♀ Dhofar, Ain Sahwoot, roosting at mid day under rocky overhang beside pool, 9.xi.1992, J. C. DEEMING; 1♀ Yemen: 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♀ Kenya: Rift Val;ley, Ol Arabe Gorgo, 11.xi.1988, R. K. BUTLIN; 1♀ Nigeria: W Region, Ilaro Forest, 3.iii.1974, M. A. CORNES; 1♂ same data but 13.i.1974; 1♂ Abuja, 20.iii.1972, J.T. MEDLER; 1♂ Zaria, Samaru, vii.1979, J. C. DEEMING; 1♂ Mali: Mourdiah,

25.ix-3.x.1986, M. MATTHEWS (NMWC); 1♂ R. P. Benin (Dahomey): Abomey-Cala vi, c. 25 km N. of Cotonou, xii.1988, J. S. NOYES (BMNH).

Tricimba africana sp. n. ♂♀ (Fig. 25)

Material: Holotype ♂ N Nigeria: Zaria, Samaru, 30.ix.1971, J. C. DEEMING. Paratypes: 1♀ same data but 21.vi.1972; 1♂ same data but 30.ix.1975; 1♀ same data but v.1979; 1♂3♀ same data but vii.1979; 1♂ same data but viii.1979; 1♂1♀ same data but x.1979; 1♂ same data but v.1976; 1♀ same data but ix.1979; 1♀ same data but 14.x.1973; 1♀ same data but xi.1979; 2♂ same data but 24.vii.1979, on flowering ornamental *Piliostigma* sp. (Fabaceae); 2♀ Samaru, 16.vii.1985, M. C. DIKE; 1♀ same data but 18.vii.1985; 1♀ Imo State, Ikot Ekpene, 10.vii.1985, M. C. DIKE; 1♀ Ibadan, 16.i.1966, J. C. DEEMING; 1♀ Cape Verde Is: São Jorge dos Orgãos, viii.1988, A. VAN HARTEN; 1♀ same data but ix.1989; 1♂, 2♀ Mali: Mourdiah, 19-25.ix.1986, M. MATTHEWS; 2♀ same data but 25-31.viii.1986; 6♀ same data but 13-25.viii.1986; 1♀ Yanfolila, 19.ix-7.x.1986, J. DURHAM; 1♀ Rep. Pop. Benin: Abomey-Calavi, c. 25 km N. of Cotonou, xii.1988, J. S. NOYES; 8♀ Seychelles: Silhouette, La Passe, viii.2000, protein trap, J. GERLACH; 1♀ Kenya: Rift Valley, Ol Arabe Gorge, 18.xi.1988, R. K. BUTLIN; 5♂8♀ Botswana: Goodhope, 16.i.1990, Malaise trap in sorghum field, J. M. MASHONJA; 5♂ Tlokweg, 6-13.ii.1990, Malaise trap, J. M. MASHONJA; 1♂ Tlokweg, 13.iii.1990, J. M. MASHONJA; 8♀ same data but 6-13.ii.1990; (NMWC); 1♀ Namibia: Windhoek, Hoffnung Fm, 7.ii.1972, lucerne field, B. M. Southern African Expedn. (BMNH); 1♀ South Africa: Natal, Empangeni Distr., Enseleni N. Reserve, 8.x.1983, A. FRIEDBERG; 1♂, 3♀ Yemen: Lahj, 17.v.-15.vi.2000, Malaise trap, A. VAN HARTEN & A. SALLAM; 1♀ same data but viii.2000; 2♀ Al Kowd, vii.2000, light trap, A. VAN HARTEN & S. AL HARURI; 1♀ 12 km NW of Manakhah, 6.vii-21.viii.2002, Malaise trap, A. VAN HARTEN; 1♂1♀ same data but 3.vii-21.viii.2001; 1♂ same data but 5.v-17.vi.2002; 1♀ same data but 15-28.ii.1993; 5♂11♀ Aldabra Is: Picard, 1974-1976, R. PRYS-JONES (NMWC).

Description. ♂ A yellow species, black on ocellar prominence, most of occiput, three raised longitudinal vitta on mesonotum, of which the median is twice as wide as the lateral, on pleura with exception of notopleuron, propleuron, anterior parts of mesopleuron and sternopleuron, on hypopleuron with exception of fore and hind margins, on postnotum, hind margins of tergites 2-4, on a complete ring at middle of each tibia and an incomplete ring at middle of each femur; bristles yellow apart from the black ocellars and a few (variable in number) of the upper orbitals; clothing hairs of mesonotum mainly black on the black vittae, elsewhere yellow, black on dorsum of scutellum; dusting of yellow parts yellow, of black parts darker; lower parts of pleura and postnotum completely undusted; wing hyaline with pale brown veins; haltere yellow; arista yellow.

Head wider than the thorax; face concave with carina evident only between antennal bases; frons a little longer than wide, densely short haired, with very short upright and converging ocellar bristles and postocellars and external verticals twice as long; eye compactly short pale haired; gena narrow, its depth no greater than distance across ocelli; palpus not projecting forward of mouth margin; vibrissa very short; antenna short, the third segment with a very slight dorsoapical angle; arista short with long basal segment; mesonotum with median and dorsocentral lines deeply impressed and bearing short setae directed inwardly and outwardly, these extending back to level of prescutellar dorsocentral bristle, 1 humeral, 1+1 notopleural and 1 postalar also well developed; scutellum 0.4 x length of mesonotum, longer than wide, roundedly conical, with flat dorsal surface and sides both clothed in minute hairs, the lower rim bearing three pairs of lateral marginal bristles, which are short, evenly spaced

and borne on slight tubercles, the long apical marginals two thirds of scutellar length, their basal tubercles in contact with one another; legs robust, the mid femoral organ (Fig. 25) consisting of a group of ten widely-spaced studs in an anterodorsal position; wing with basal and discal cells narrow, the posterior crossvein oblique, the anterior angle to the discal cell being $c.65^\circ$, the fourth costal sector longer than the third; abdomen not unusual in any way. Length about 1.9 mm, of the wing 1.8 mm. – Female resembling male except in sexual characters.

Differential diagnosis. A species resembling *T. armata* (Séguy, 1938), differing from it in lacking the rows of spikelike bristles on the orbits and mesonotum, in the much shorter facial carina and much narrower gena. The head of *T. armata* (as *Echimba armata* (Séguy)) is figured by ANDERSSON (1977: 103, fig. M).

Tricimba setosa Lamb, 1918

Described (1918: 393) from Natal and S. Rhodesia (Zimbabwe) and redescribed by SABROSKY (1951: 778), this species is further known from Rwanda.

Material: 1♂, 1♀ on same mount N. Nigeria: Zaria, Samaru, 23.vii.1971, J. C. DEEMING; 4♂, 3♀ same data but 13.vi.1971; 1♀ same data but viii.1979; 1♂ same data but vii.1979; 1♀ same data but 10.vii.1967, m.v. trap; 1♀ Samaru, on flowering ornamental *Piliostigma* sp. 24.viii.1979, J. C. DEEMING; 1♂ Samaru, 14.vii.1985, M. C. DIKE; 1♂ same data but 16.vii.1985; 1♀ same data but 18.vii.1985; 1♀ same data but 13.vii.1985; 1♀ same data but 26.vii.1985; 1♂ Imo State, Ikot Ekpene, 10.viii.1985, M. C. DIKE; 1♀ The Gambia: W. Division, Kombo Distr., Yundum Agricultural Station, 16.vii.1998, B. A. WOODCOCK; 1♂ Mali: Mourdiah, 19-25.ix.1986, M. MATTHEWS; 1♀ Kenya: Kasarani, 10-11.vii.1989, savannah, J. W. ISMAY; 1♀ Yemen: Ar Ruyum, 9.iv-5.vi.2001, Malaise trap, A. VAN HARTEN (NMWC).

Genus *Aphanotrigonum* Duda, 1932: 35

Type species: *Chlorops trilineata* Meigen, 1830 by original designation.

Key to Arabian species of *Aphanotrigonum*:

1. Mesonotum dusted with a contrasting shiny black marking adjoining humerus on inner side for half its length. Scutellum rounded in outline, the marginal bristles not set on minute tubercles *vanemdeni* sp. n.
- Mesonotum uniformly dusted throughout. Scutellum trapezoid, the marginal bristles on minute tubercles, the apical pair widely separated 2
2. Propleuron shiny. Femora extensively black *femorellum* Collin
- Propleuron dusted, though the anterior margin of the mesonotum may be undusted. Femora predominantly pale *subfasciellum* Collin

Aphanotrigonum femorellum Collin, 1946

Described (1946: 127) from England and further recorded from Spain, Germany Czechoslovakia and Egypt (NARTSHUK 1984: 253), Oman, Turkey, Tunisia and Malta (DEEMING 2011: 785).

Material: 1♀ Saudi Arabia: Riyadh, Wadi Namar, 29.ii.2012, A. AL-ANSI (KSU).

Aphanotrigonum subfasciellum Collin, 1949

Described (1949: 218) from Egypt and further recorded from UAE, Oman, Yemen, Lebanon, Nigeria and India (DEEMING 2011: 785) and from Kuwait by AL-HOUTY (1989: 144).

Material: 4♂, 2♀ Saudi Arabia: Aseer, Maraba, Malaise trap, 1-30.v.2004, H. A. DAWAH (JU & NMWC); 3♂, 5♀ Abu Aresh, Almahdag, 4.ii.2012, J. C. DEEMING & H. A. DAWAH (NMWC); 1♂ Riyadh, Wadi Namar, 29.ii.2012, A. AL-ANSI (KSU); 1♂ Kuwait, North, 8.iv.1982, W. AL HOUTY (BMNH).

Aphanotrigonum vanemdeni sp. n. ♂♀ (Fig. 26)

A. postpositum (Duda) was described (1933: 225) into the genus *Conioscinella* Duda, 1929 from Israel, but was not included by DELY-DRASKOVITS in her 1981a revision of Palearctic species of *Aphanotrigonum*. The fact that the large connected black markings on the lower mesopleuron and upper part of the sternopleuron are completely undusted suggests that the original combination might well be the correct one. The head in profile of *A. postpositum* is figured by KAPLAN (1977: pl.7, fig. 36). Material of *A. postpositum* used for comparison is 2 ex. labelled "in cauliflower fr. Abu Gosh – Jerusalem, emerged 10.6.42, J.H. Blair" and det. F. I. VAN EMDEN (BMNH).

Material: Holotype ♂ Saudi Arabia: Abha, Madenate Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (NMWC). – Paratypes 3♀ same data as holotype; 1♀ (immature) Jazan, Abu Aresh, Almahdag Village, 5-20.vi.2011, Malaise trap, H. A. DAWAH; 1♀ Aseer, Maraba, Malaise trap in fruit form, 1-17.vi.2003, H. A. DAWAH (JU & NMWC); 1♂, 1♀ UAE: Sharjah Desert Park, 25.i-22.ii.2005, light trap, A. VAN HARTEN (NMWC).

<i>A. postpositum</i>	<i>A. vanemdeni</i> sp. n.
Vibrissal angle rounded, projecting farther in front of eye than depth of gena, c. 60-70°; proboscis geniculate, the labellum as long as fore coxa	Vibrissal angle about 90°, not projecting in front of eye; proboscis short
Fore margin of mesonotum shiny black in the middle for a width subequal to that of frons, the shiny area not reaching humeri	Black shiny area on fore margin of mesonotum extending outwards on either side in a tongue adjoining one half of humerus (Fig. 26)
Hairs and bristles of frons and vertex black	These white
Dorsocentral and postalar bristles black	These white
Dark marking on hind margin of mesopleuron vertically orientated, this and other dark pleural markings dusted	Leaf-shaped black mark on lower hind margin of mesopleuron and black area connecting it to fore coxa completely undusted, shiny

Etymology. This species is dedicated to the late Dr. Fritz VAN EMDEN, a true gentleman, whose knowledge of Diptera and Coleoptera was extensive and whose contribution to the science of entomology was great.

Genus *Conioscinella* Duda, 1929: 166

Type species: *Oscinella soluta* Becker, 1912, by designation of SABROSKY (1941: 751). This genus contains a wealth of Old World tropical species, the majority of which are very similar and the importance of minor structural differences can only be established by examination of a rich material. Its taxonomy can best be established by a generic revision.

Key to Arabian species of *Conioscinella*:

1. Mesopleuron bearing a small oval black spot on its lower margin sp. nr. *makoa* Sabrosky
 – Mesopleuron lacking a darker spot 2
2. Dorsum of scutellum yellow. Black marking on frons confined to
 ocellar prominence sp. nr. *formosa* (Becker)
 – Centre of dorsum of scutellum brown. A dark narrow triangle extending
 forwards from the black ocellar prominence for half length of frons sp.

Conioscinella sp. near *makoa* Sabrosky

Material: 2♀ UAE: Hatta, 4-11.iv.2006, light trap, A. VAN HARTEN (NMWC).

Conioscinella sp. near *formosa* (Becker)

Material: 5♂, 2♀ UAE: Sharjah Desert Park, 20.x-24.xi.2007, light trap, A. VAN HARTEN;
 1♀ S. of Ras al-Khaimah, 25-26.iii.2008, water trap, J. BOŠÁK (NMWC).

Conioscinella sp.

Material: 1♂, 2♀ Oman: Dhofar, Wadi Nahiz, 21-25.ix.1988, M. J. EBEJER (NMWC).

Genus *Microcercis* Beschovski 1978: 28

Type species: *Oscinella trigonella* Duda, 1933, by original designation. Syns. *Tropidoscinis* authors, not Enderlein, 1911 and *Incertella* authors, not Sabrosky, 1980.

Key to Arabian species of *Microcercis*:

1. Male frons greatly inflated and black throughout. Wing
 with distinct dark band following costa from mouth of
 vein R1 to beyond that of R2+3 *dimorphica* sp. n.
 – Frons flat and predominantly yellow in both sexes. Wing lacking
 such a dark band *albipalpis* (Meigen)

Microcercis albipalpis (Meigen, 1830)

Described into the genus *Chlorops* (1830: 163) without type locality, this species is wide-spread within the Palaearctic, ranging from France to China.

Material: 1♂ Oman: Fanja, grasses, sedges and low herbage in wadi bed, 24.vii.1988, M. J. EBEJER (NMWC).

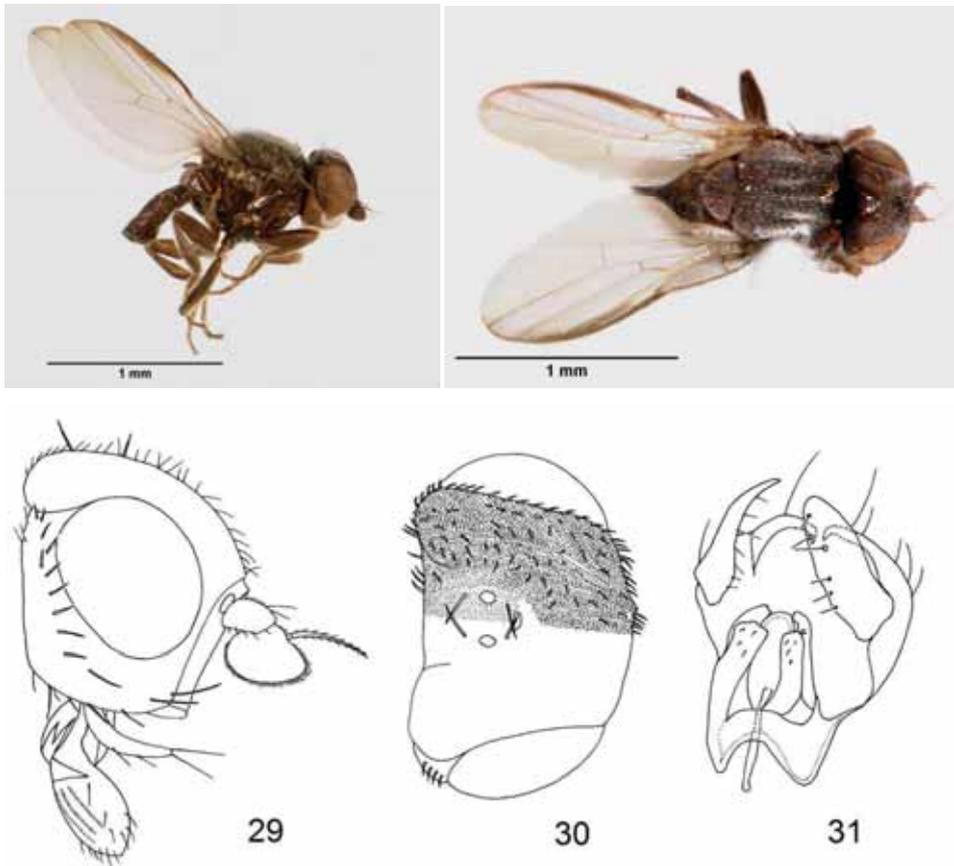


Fig. 27-31. *Incertella dimorphica* sp. n. male – 27 (above, left): whole insect in profile [photo i15969]; 28 (above right): whole insect from above [photo i15970]; 29: head in profile; 30: head from above; 31: terminalia from beneath.

Microcercis dimorphica sp. n. ♂♀ (Figs 27-31)

Material: Holotype ♂ Oman: Muscat, Seeb dunes, m.v. light, 21-22.x.1990, M. D. GALLAGHER & J. C. DEEMING (NMWC). – Paratypes 9♂, 1♀ same data as holotype; 1♂, 1♀ Muscat, Bandar al Jissah, on chenopods, 8.x.1990, M. D. GALLAGHER & J. C. DEEMING; 1♀ Muscat, Qurm beach, 23.x.1990, J. C. DEEMING; 1♂, 1♀ Batinah, Shinass, at light in mangrove creek, 9.vi.1994, M. D. GALLAGHER; 1♀ Ra's al Ghubbah, at light, 19.iv.1997, M. D. GALLAGHER; 1♂, 9♀ Dhofar, Salalah, Dahareez, grasses and chenopods in coconut grove, 12.x.1990, J. C. DEEMING & M. J. EBEJER; 11♂ same data but 9.xi.1992; 6♂, 5♀ UAE: N. of Ajman 1-20.ix.2007, water trap, A. VAN HARTEN; 1♂, 1♀ same data but 16.ix-22.x.2006; 2♀ same data 1-20.ix.2007; 7♂, 30♀ same data but 21.ix-25.x.2007; 2♀ Bahrain: Adhari Pool area, irrigated farms and ditches, 4.vi.2000, C. R. TURNER; 1♀ same data but

14.vi.2000; 1♀ Yemen: Mukalla, vi.2003, light trap, A. VAN HARTEN & M. HUBAISHAN (NMWC, BMNH, KSU, JU).

Description. ♂ A black species, dirty yellow on face, gena, tarsi, and obscurely on base of haltere and with all hairs and bristles black apart from those on head, which appear white in reflected light and those of palpi and mouthparts and some of those on tarsi, which are pale (Figs 27-28). Head (Figs 29-30) with frons greatly inflated, in profile projecting high above eye margin, the surface spiculate, matt black with folds and creases; the extent of the frontal triangle uncertain; ocellar and postocellar bristles cruciate; gena deep, 0.34 times depth of eye; which is devoid of hairs; mouthparts and palpi short, neither projecting forward beyond mouth margin; the arista short haired, face and gena dull yellow dusted; postgena as wide as gena; third antennal segment somewhat pointed. Thorax dorsally weakly grey dusted, a little more heavily so on propleuron, prosternum, upper hind corner of mesopleuron and a patch above fore coxa, upper pteropleuron and sclerites above metathoracic spiracle; 1 humeral, 1+2 notopleural, 1 dorsocentral, 1 postalar bristle, mesonotal hairs scattered; scutellum twice as wide as long with a pair of long apical bristles, these separated from one another at base by a distance equal to length of humeral crossvein, a pair of lateral marginals that are half as long as the apicals and a pair of minute basal marginals. Legs weakly grey dusted; mid femoral organ lacking; basitarsi lacking enlarged bristles ventrobasally, though a scopula is visible on hind basitarsus; hind tibia lacking a sensory area. Wing hyaline with pale brown veins, with M1+2 ending at wing tip, it and R4+5 almost parallel throughout their lengths. Abdomen shining, very weakly dusted on dorsal-facing surface of tergites; no visible sternites, the underside of the abdomen being wholly spiculate membrane; genitalia (Fig. 31). Length about 1.7 mm, of wing the same.

Female resembling male in all but sexual characters, the frons neither inflated nor spiculate, yellow, but with external and internal vertical bristles on a dark ground, with frontal triangle extending forward of anterior ocellus only to a distance equal to that separating ocelli.

Differential diagnosis. A species immediately recognisable due to the combination of a dark fumose line behind the costa from shortly after the mouth of R1 to R2+3 and less intensively almost to mouth of R4+5 and in the male by the peculiar swollen and spiculate frons.

Etymology. The specific name indicates the sexual dimorphism exhibited by this species.

Genus *Caviceps* Malloch, 1924: 355

Type species: *Caviceps flavipes* Malloch 1924, by original designation.

Caviceps sp. (Figs 32-33)

A single specimen of an unidentified species of this Australasian and Oriental genus was recorded by DAWAH & ABDULLAH (2006: 30) from Saudi Arabia. Photographs of this specimen appear here (Figs 32-33). – Further material: 1♀ Yemen: Sana'a, viii-ix.1998, Malaise trap, A. VAN HARTEN (NMWC).

Remark: Whereas in the Saudi Arabian specimen the dorsal hairs on the scutellum are black in strong contrast to the white apical marginal bristles, in the Yemen specimen all the scutellar hairs and bristles are white. Only when males become available will it be possible to ascertain as to whether the two female specimens are conspecific.



Fig. 32-33. *Caviceps* sp. n. female. – 32. whole insect in profile [photo i15964]; 33. whole insect from above [photo i15965].

Genus *Dicraeus* Loew, 1873: 51

Type species *Dicraeus obscurus* Loew, 1873: 51 by monotypy.

Dicraeus bothriochloae Nartshuk, 1978

Described (1978: 86) from Turkmenistan and further recorded from Tajikistan, UAE, Oman, India and Saudi Arabia.

Material: 1♂ Saudi Arabia: Jazan, Gizan, 30.i.2012, J. C. DEEMING; 1♂, 2♀ Yemen: Al Kadan, Malaise trap, 3.xii.1997-17.ii.1998, A. VAN HARTEN & H. M. NASER; 1♂ Lahj, iii.2001, Malaise trap, A. VAN HARTEN & A. SALLAM; 1♀ same data but x.2000; 1♀ Ta'izz, 5.i-ii.1998, light trap, A. VAN HARTEN & M. MAHYOUB; 1♀ same data but 3-24.1.1999; 1♀ Sana'a, ii.1993, Malaise trap, A. VAN HARTEN; 1♀ Mahwit, 7.vi.1991, A. VAN HARTEN (NMWC).

Genus *Trachysiphonella* Enderlein, 1936: 187

Type species: *Oscinis pumilio* Zetterstedt, 1848 (monobasic) (= a misidentification of *Chlorops scutellatus* von Roser, 1840).

Key to Arabian species of *Trachysiphonella*:

1. Median dark line of mesonotum stopping short of the dorsocentral bristle *carinifacies* Nartshuk
- Median dark line of mesonotum extending to tip of scutellum 2
2. Males 3
- Females 4
3. Cerci widely separated, downwardly-directed and apically rounded *dawahi* sp. n.
- No visible cerci, but epandrium in cercal position with a pair of downwardly-curved sharp-pointed projections *recurva* sp. n.
4. Ovipositor robust, the cerci short, heavily strong spined, many of the spines curved towards base *recurva* sp. n.
- Cerci lacking strong bristles, elongate, basally yellow, apically shiny black *dawahi* sp. n.

Trachysiphonella carinifacies Nartshuk, 1964

Described (1964: 305) from Mongolia and further recorded from Kazakhstan, Tajikistan, UAE, Yemen and Greece.

Material: 1♂, 6♀ Oman: Seeb dunes, m.v. trap, 21.x.1990, M. D. GALLAGHER & J. C. DEEMING (NMWC).

Trachysiphonella dawahi sp. n. ♂♀ (Figs 34-35)

Material: Holotype ♂ Yemen: Al Kowd, 15-28.ii.1993, A. VAN HARTEN. Paratypes 2♂, 2♀ Al Lahima, 1.i-9.iv.2001, Malaise trap, A. VAN HARTEN; 1♂, 1♀ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♂ same data but 15.v-24.vi.2003; 3♀ Ta'izz, 26-28.v.1998, light trap, A. VAN HARTEN & A. AWAD; 1♂ Ta'izz, vii.2002, light trap, A. VAN HARTEN & A. R. AL YARIMI; 1♀ Oman: Dhofar, Wadi Nahiz, 21-25.ix.1988, M. J. EBEJER (all in NMWC); 1♀ Saudi Arabia: Aseer, Maraba, 1-31.xii.2004, Malaise trap, H. A. DAWAH (JU).

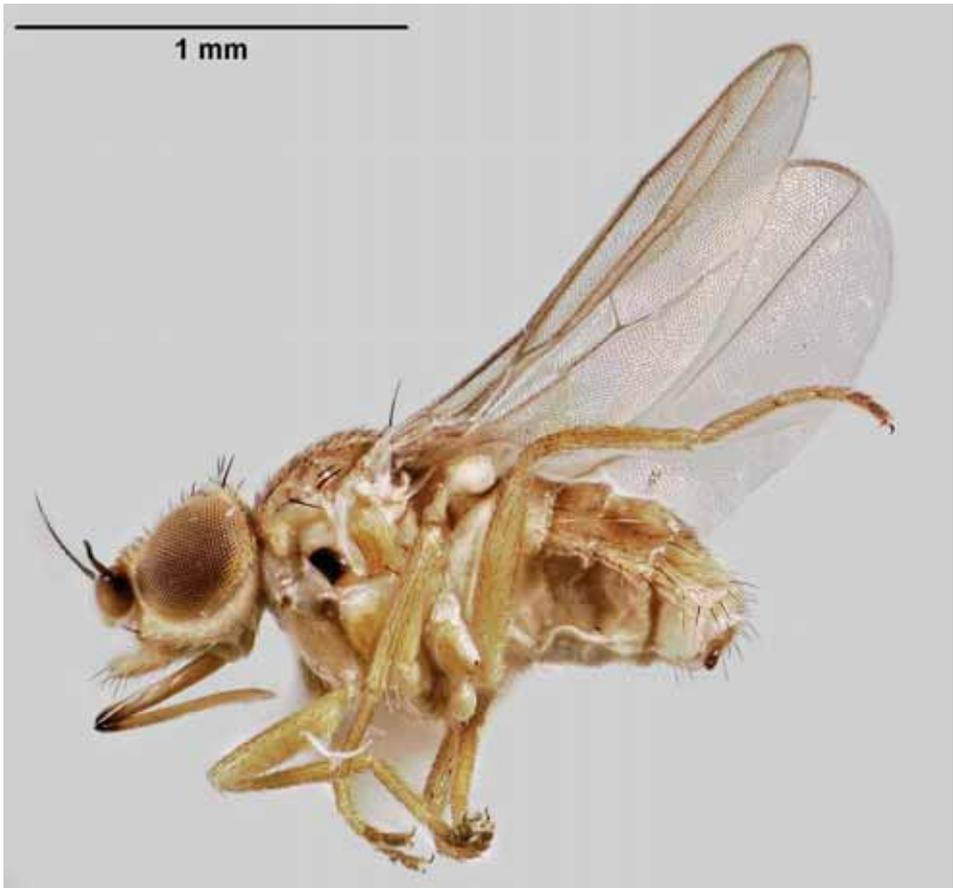


Fig. 34. *Trachysiphonella dawahi* sp. n. – 34. female, whole insect in profile [photo i15971].

Description. ♂ A yellow species with arista, hairs and bristles black, deep black on ocellar prominence and on a shiny leaf-shaped marking on lower margin of mesopleuron and less intensively on the bend of the geniculate proboscis, with weak darker markings in the form of a median mesonotal line extending to apex of scutellum and continued on tergites 3-5, a similar weak mesonotal line extending from suture to dorsocentral bristle, on the shoulders of tergite 2 with an indistinct darker spot; dusting yellowish grey, faint on dorsal surface, on abdomen and legs, more heavily developed on gena; eye densely short pale haired; in some specimens the dorsoapical angle of the third antennal segment vaguely infuscate (Fig. 34). Head as high as long, with frons and mouthmargin converging anteriorly at an angle of c. 50°; vibrissal angle prominent, c. 70°; gena narrow, hardly wider than fore tibia; proboscis long, geniculate, when folded projecting forwards beyond vibrissal angle for a distance equal to two thirds of head length; palpus projecting forward to a distance intermediate between vibrissal angle and bend of proboscis; frons as long as wide, with sides converging anteriorly and frontal triangle hardly half as long as frons; 4-5 weak orbital bristles, which are as long

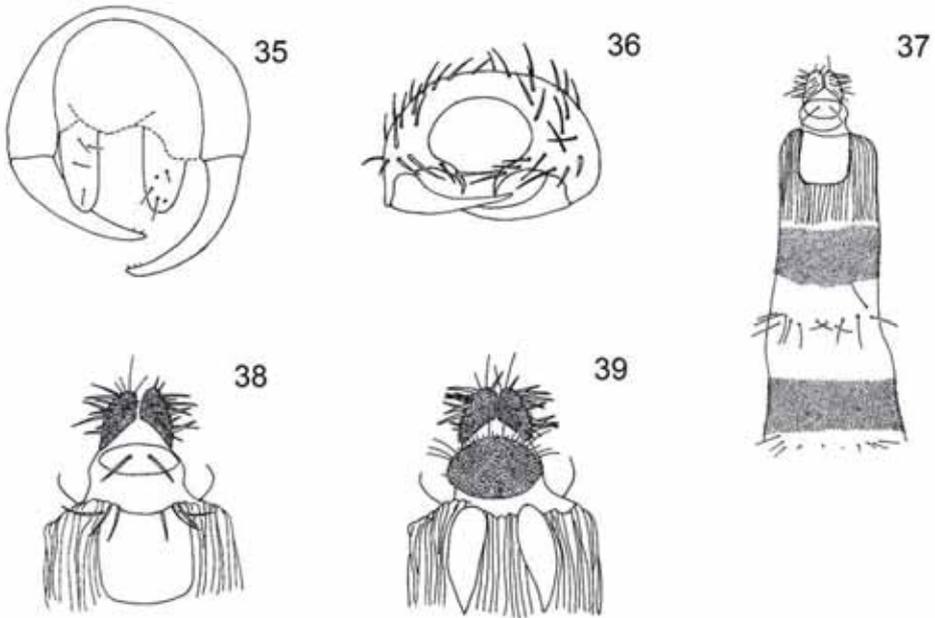


Fig. 35-39. – 35: *Trachysiphonella dawahi* sp. n., male, terminalia from beneath. – Fig. 36-39. *Trachysiphonella recurva* sp. n. – 36: male, terminalia from beneath; 37: female, ovipositor from above; 38: apex of ovipositor from above; 39: apex of ovipositor from beneath.

as interfrontal hairs; ocellar bristles hardly longer; the internal vertical much shorter than the long and equal external vertical and postocellar bristles; vibrissa short and weak; face short. Thorax with 1 humeral, 1+2 notopleural, 1 dorsocentral, 1 postalar; scutellum short with a pair of long apical bristles that are more widely separated from one another than from the lateral bristle, which is only half as long. Wing hyaline with brown veins; posterior crossvein oblique; vein M1+2 sinuous, apically diverging from R4+5. Legs with male mid femoral organ indicated by a very short darker hump at mid length; hind tibial organ long, extending over apical two thirds of length. Abdomen not unusual in any way; terminalia (Fig. 35). Length about 1.7 mm, of wing 1.5 mm.

Female resembling male, the cerci narrow and finely pale-haired, black on apical two fifths of length. The Manakhah female is considerably darker than the other specimens, with the mesonotal vittae darker and the lateral vittae present also presuturally, the occiput with an indistinct darker mark centrally and the tergites darker.

Differential diagnosis: This species resembles *T. carinifacies* Nartshuk, described from Mongolia and since recorded from Kazakhstan, Tajikistan, UAE and Yemen, sharing with it a similar head and mouthpart profile, but having the frons wider with sides more convergent anteriorly; no black marking in occiput, the three mesonotal vittae weak and narrow, rather than six in number and black, the postnotum yellow, rather than black and the pleural dark marking restricted to the mesopleuron, rather than also pteropleuron, sternopleuron and

hypopleuron. The third antennal segment is very much wider than long (unlike *T. carinifacies*), with the more compactly, but equally short haired arista more apically situated. The male cerci (Fig. 35) although similar, are in ventral view a little more rounded apically than in *T. carinifacies*.

Etymology. This species is dedicated to Prof. H. A. Dawah for his very considerable contribution to the knowledge of the entomology of Saudi Arabia.

Trachysiphonella recurva sp. n. ♂♀ (Figs 36-39)

Material: Holotype ♂ UAE: Al Rafah, 1-2.ii.2009, water trap, A. VAN HARTEN; – Paratypes 3♂, 3♀ same data as holotype; 3♂ Al Rafah, 17.iii.2009, water trap, C. SCHMIDT-EGGERS; 2♀ Al Rafah, 9.iii.2010, T. ZATWARNICKI; 2♂, 4♀ S. of Ras al-Khaimah, 25-26.iii.2008, water trap, J. BOSÁK; 1♂ same data, A. VAN HARTEN; 1♀ Sharjah Desert Park, 6-28.xii.2006, pitfall trap, A. VAN HARTEN; 15♂, 19♀ Umm al Quwain, 28.ii.2010, T. ZARWARNICKI; 7♂, 10♀ same locality, 12.iv-7.vi.2009, water trap, A. VAN HARTEN; 1♀ Oman: Wahiba Sands, at light in woodland on sand, 6.vii.1995, B. SKULE & M. D. GALLAGHER; 2♀ Muscat, Bowsher dunes, 8.ii.1990, M. J. EBEJER; 14♂, 16♀ Ra's al Ghubbah, at light, 19.iv.1997, M. D. GALLAGHER (all NMWC).

Description. ♂ A yellow species with hairs and bristles black, apart from pale clothing hairs on frons, gena, palpus and legs, shiny black on clypeus, on metanotum, on a leaf-shaped marking on lower margin of mesopleuron and on a large triangular marking on sternopleuron, dull black on ocellar prominence, on three broad, narrowly-separated complete longitudinal vittae on mesonotum and a narrower postsutural vitta in a supraalar position, on a small humeral spot, on spots on pteropleuron and hypopleuron, on a triangular median spot on tergite 2, which is narrowly separated from the dark lateral spots on shoulders of tergite, on similar median triangles on tergites 3-5, each of these triangles merging into broad basal bands of the same colour. The median vitta of mesonotum sometimes extending along scutellum. Legs and proboscis discoloured brownish and epandrium brown. Third antennal segment sometimes infuscate on much of exterior surface, with brown arista. Wing hyaline with light brown veins. Dusting weak greyish, more heavily so and paler on gena. Head longer than deep with face very short and . vibrissal angle 90°; frontal triangle extending to mid length of frons; proboscis robust, geniculate, the haustellum as long as lateral mouth margin, the labellum two thirds as long. Scutellum with apical marginal bristles widely separated, twice as long as the laterals. Mid femoral organ situated on a short hump at mid length; hind tibial organ evident, situated on second quarter of length. – Genitalia (Fig. 36) lacking visible cerci, but epandrium with a pair of distinctive sharp-pointed, downwardly-curved projections that bear strong bristles on their posterior surfaces. Length varying from 1.0-1.5 mm.

Female resembling male except in sexual and secondary sexual characters. Third antennal segment more rounded in shape and more extensively infuscate, as is the proboscis and the basal halves of all femora. Ovipositor short, fleshy, with distinct bands of spicules (Fig. 37); segment 8 apically with folded darker integument; tergite 8 (Fig. 38) almost quadrate, shining black; sternite 8 (Fig. 39) black, divided into two leaf-shaped sclerites; supraanal plate (Fig. 38) with a pair of long recurved bristles; subanal plate ovoid, densely covered in short spiculate bristles, as are the cerci, which bear numerous laterally-directed and recurved bristles.

Differential diagnosis. The robust build of the apical part of the ovipositor and its chaetotaxy is unlike any species of this genus that we have seen and must indicate a difference in ovipo-

sition sites. Possibly the recurved bristles act as acanthophorites, to be used in excavating dust particles as a prerequisite to oviposition.

Etymology. The specific name describes the recurved bristles on the most distinctive female cerci.

Genus *Oscinella* Becker, 1909: 120

Type species: *Musca frit* Linnaeus, 1758, by designation of I.C.Z.N. (1978:203 [Opinion 1100]).

Key to *Arabian* species of *Oscinella*:

1. Third antennal segment apically pointed *acuticornis* Becker
– Third antennal segment rounded or with a slight dorsoapical angle 2
2. Frontal triangle extending roundedly in shape to anterior margin of frons, occupying the greater part of the frons. Third antennal segment rounded, with arista black. Gena linear and dusted. Wing rather narrow *dimidiofrit* Becker
– Frontal triangle pointed or truncate anteriorly 3
3. Frontal triangle anteriorly truncate. Third antennal segment with a distinct though rounded dorsoapical angle and with arista pale. Gena broad and shining, quite two fifths of height of eye *nitidigenis* Becker
– Frontal triangle with an anterior point 4
4. Mesonotum undusted, contrasting with the dark dusted scutellum *nitidissima* (Meigen)
– Mesonotum dusted 5
5. Humerus shining, contrasting with the dusted mesonotum. Sclerites of abdomen black throughout. Male cerci rounded in outline *nartshukiana* Beschovski
Humerus at least weakly dusted. Tergite 1+2 yellow with shoulders of tergite 2 weakly infuscate. Male cerci triangular in outline sp.

Oscinella (O.) acuticornis Becker, 1912

Described (1912: 249) from Ethiopia. *O. acuticornis* Lamb 1912: 340, described into the genus *Oscinis*, is both a junior synonym and a junior homonym. Recorded reared from wheat, barley and *Eragrostis tef* in Ethiopia and from Gambia, Namibia, Nigeria, Kenya, Yemen and Mauritius by DEEMING (2003: 86) and from UAE (DEEMING 2011: 793).

Material: 4♂, 4♀ Saudi Arabia: Jazan, Faisel el Refae, 10.ii.2012, from lawn, J. C. DEEMING; long series Aseer, Maraba, 1.ii.2012, cultivation under palms, J. C. DEEMING & H. A. DAWAH (NMWC, KSU & JU).

Oscinella (O.) dimidiofrit Becker, 1913

Described (1913:162) from Ethiopia and widespread in eastern and southern Africa.

Material: 1♂ Yemen: Ar Rujum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER; 1♀ Al Lahima, 1.i-9.iv.2001, Malaise trap, A. VAN HARTEN; 3♂, 2♀ Saudi Arabia: Aseer, Maraba, 1.ii.2012, cultivation under palms, J. C. DEEMING & H. A. DAWAH (JU, KSU & NMWC).

Oscinella (O.) nitidissima (Meigen, 1838)

Described (1838: 388) from Germany, this species is widespread in the Holarctic, in the Old World extending southwards to the Canary Islands, North Africa, Israel, and Mongolia. The material listed below has much more extensively pale legs than European and North African material seen, the knees and tibiae being entirely yellow apart from a black band on hind tibia.

Material: 2♀ Yemen: Sana'a, Malaise trap, iv.1992, A. VAN HARTEN; 2♀, Saudi Arabia: Aseer, Abha Farm Centre, Malaise trap, iii-vi.2001, H. A. DAWAH (NMWC).

Oscinella sp.

A species resembling *O. hortensis* Collin, but differing from it in having the combined tergite 1+2 membranous and yellow. We are unwilling to erect a new taxon on such a difference and can only leave decisions as to identity to the molecular biologist.

Material: 3♂, 2♀ Oman: Dhofar, Salalah, lawn, 10.x.1990, J. C. DEEMING; 15♂, 4♀ UAE: Dubai, Mushrif Park, 23.ii.2006, J. C. DEEMING; 1♂ Sharjah Desert Park, water trap, 30.vi-21.vii.2005, A. VAN HARTEN; 2♂, 1♀ same data but 21-29.iii.2005, light trap; 2♂ Sharjah, Khor Kalba near tunnel, 3-18.v.2006, A. VAN HARTEN; 1♂ Wadi Bih dam, 24.iv-1.v.2007, light trap, A. VAN HARTEN; 1♀ Wadi Al-Bahia, 29.iii.2007, F. MENZEL; 1♀ Al-Ajban, 6-12.v.2006, Malaise trap, A. VAN HARTEN; 1♀ Saudi Arabia: Aseer, Maraba, 1-30.v.2004, Malaise trap, H. A. DAWAH; 2♂1♀ Aseer, Keratha, Al-Ethrebany farm, 15.v-11.vi.2006, Malaise trap, H. A. DAWAH.

Genus *Pselaphia* Becker, 1911: 117

Type species *Pselaphia macrocera* Becker, 1911, by monotypy. Nothing is known of the biology of this little-known genus. A key for the separation of known taxa is presented here with the warning that it must be used with caution, so many undescribed species being present in the Old World tropics. As previously noted (DEEMING 2011: 793) sexual dimorphism in antennal shape occurs, profiles of antennae of both sexes of all species but the genotype are presented here. These drawings are made from single antennae removed and put into Euparal mounts under individual specimens.

Key to World *Pselaphia* species:

1. Third and fourth veins apically each with a dark spot. The geniculate proboscis long. Hind tibia somewhat bowed basally *macrocera* Becker (Bismarck Archipelago)
 - Wing lacking darker spots. The geniculate proboscis short and stumpy. Hind tibia not bowed 2
2. All bristles and hairs fine and black 3
 - All bristles and hairs stout and white, occasionally odd bristles black 6
3. Mesonotum, scutellum and tergites black. Legs predominantly black. Black shiny spot on mesopleuron extending from lower posterior corner almost to anterior spiracle, three times as long as wide *cornifera* Becker
 - Mesonotum and dorsum of abdomen both with a pair of broad paramedian yellow vittae. Scutellum yellow with a dark median vitta 4

4. Third antennal segment dagger-shaped, tapering into a sharp point in the female, slightly less pointed in the male, more than twice as long as deep at point of arisal insertion *acuticornis* **sp. n.**
 – Third antennal segment never more than 1.2 times as long as wide 5
5. Legs yellow. Black shiny spot on lower posterior corner of mesopleuron large, oval, quite two thirds as wide as long *yemenensis* **sp. n.**
 – Legs with traces of infuscation, especially on a broad ring at level of hind tibial organ. Black spot on lower margin of mesopleuron long, leaf-shaped, more than twice as long as deep. Dark spots also on sternopleuron, pteropleuron and hypopleuron *sabroskyi* **sp. n.**
6. Thorax of a yellow ground colour with darker markings. Femora yellow throughout *flava* Sabrosky
 Thorax black on all but propleuron. Femora largely black *albiseti* **sp. n.**

Pselaphia albiseti **sp. n.** ♂♀ (Figs 40-41)

Material: Holotype ♂ Saudi Arabia: Abu Aresh, Almahdag Village, 5-20.vi.2011, Malaise trap, H. A. DAWAH (NMWC). Paratypes 59♂, 24♀ same data; 2♀ same data but 1.ii-3.iv.2011; 8♀ same data but 1.vii-30.viii.2011 (NMWC, JU, KSU, BMNH); 1♀ Mina-Makka, garbage, 1.xii.1976, no further data (KSU); 2♀ Aseer, Keratha, Al Ethrebany farm, 15.v-11.vi.2006, Malaise trap, H. A. DAWAH; 2♂, 3♀ Aseer, Maraba, 1-30.v.2004, H. A. DAWAH; 2♀ same data but 15.x-30.xi.2004; 1♀ same data but 1-31.xii.2004; 1♀ Yemen: 12 km NW of Manakhah, 15.v-24.vi.2003, Malaise trap, A. VAN HARTEN; 1♂ Ta'izz, v-vi.2002, light trap, A. VAN HARTEN & A. R. AL YARIMI; 1♂ same data but 23.vii.1998; 1♂1♀ same data but vii.2002; 6♂ same locality, viii.1999, light trap, A. VAN HARTEN & A. AWAD; 2♂, 2♀ same data but 26-28.v.1998; 4♂, 1♀ Al Kowd, ix.2003, light trap, A. VAN HARTEN (NMWC). Not included in the type series due to its being in poor condition is a series labelled Saudi Arabia: Khyber Al-Janoub, Hey Alsalam, 1-15.i.2011, M. ALSHEHRANY (JU).

Diagnosis: A species having the combination of frontal triangle being half length of frons, thorax black and hairs and bristles white

Description. ♂♀ Head yellow on all but frontal triangle, occiput and antennae, on a medially narrowly-divided undusted line on clypeus and on parts of proboscis, though base of arista and lower part of third antennal segment paler, heavily yellow dusted on areas of yellow ground colour and dark grey dusted on darker parts; frons much longer than wide, parallel-sided, with frontal triangle occupying half its length; gena narrow, not wider than length of second antennal segment; external vertical bristle equal in length to the postocellar, the internal vertical and ocellar much shorter; eye densely covered in short hairs; proboscis short, geniculate; third antennal segment a little longer than wide, apically truncate with distinct dorsoapical angle. Thorax black, only visibly paler on propleuron, heavily dark grey dusted, but propleuron, lower mesopleuron, posteroventral half of pteropleuron, most of sternopleuron and entire metanotum undusted and shiny; mesonotum slightly furrowed on dorsocentral lines and less noticeably medially, these furrows appearing slightly darker than the surrounding dusting; chaetotaxy: 2 humeral, 1+2 notopleural, 1 dorsocentral, 1 pair long scutellar apical bristles with a much shorter lateral bristle on either side, the apicals as widely separated as the ocellars, the scutellar rim between them straight and with the scutellar surface flat and evenly clothed in hairs; haltere white. Legs black on all coxae, on all but apices and extreme bases of femora and with weak infuscation on a ring on hind tibia and on apical

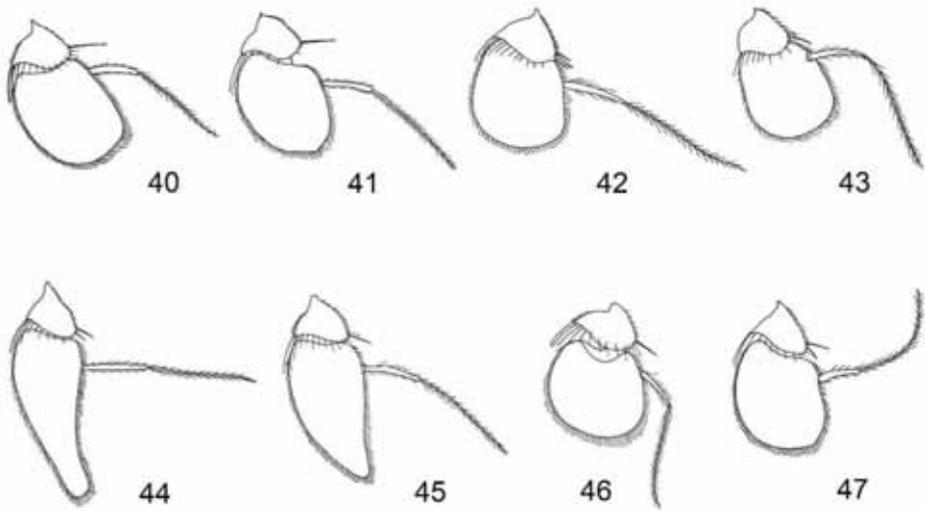


Fig. 40-41. *Pselaphia albiseta* sp. n. – 40. male, second and third antennal segments in profile; 41. female, the same. – Fig. 42-43. *Pselaphia yemenensis* sp. n. – 42. male, second and third antennal segments in profile; 43. female, the same. – Fig. 44-45. *Pselaphia acuticornis* sp. n. – 44. male, second and third antennal segments in profile; 45. female, the same. – Fig. 46-47. *Pselaphia sabroskyi* sp. n. – 46. male, second and third antennal segments in profile; 47. female, the same.

tarsal segments. Wing hyaline with brown veins. Abdomen, including lateral membrane and sternites, yellow, but a dark spot on tergites 1+2 medially and another under haltere knob, black on all but apices of tergites 3-5 and on terminalia. Length about 1.2mm.

Differential diagnosis: A robust black and yellow species with all bristles and clothing hairs white, though single head or thoracic bristles may be black, the apical spur of mid tibia and tiny apical ventral bristles of segments 1-4 of mid tarsus black, and with no significant sexual dimorphism in antennal structure (Figs 40-41) and differing from other species as indicated in the key.

Pselaphia yemenensis sp. n. ♂♀ (Figs 42-43)

Material: Holotype ♂ Yemen: 12 km NW of Manakhah, 15.v-24.vi.2003, Malaise trap, A. VAN HARTEN (NMWC). – Paratypes 2♂, 4♀ same data and deposition; 1♀ Saudi Arabia: Aseer, Maraba, 1-30.v.2004, Malaise trap, H. A. DAWAH (JU).

Diagnosis: A predominantly yellow species with a large shiny black spot on lower mesopleuron and frontal triangle very short, projecting forwards of anterior ocellus by a distance not more than the diameter of an ocellus.

Description. ♂ All bristles and hairs black, apart from those on gena, palpus and trochanters, which bristles are white. Head yellow, black on ocellar prominence, a large solid M-shaped mark on occiput, on third antennal segment outer surface on dorsal half and on inner surface on dorsoapical corner just beyond insertion of arista; internal vertical bristle minute, gena

only half as deep as the depth of the apically rounded third antennal segment. Thorax yellow, dusted dorsally but with pleura largely shining, the large mesopleural spot and postnotum both black and shiny; sometimes a small hypopleural black spot present; mesonotum with 5 longitudinal vittae, of which the most medial is broad and reddish brown with a narrow medial black line, this expanding posteriorly and extending to apex of scutellum as a broad brown line; the paramedian vitta greatly expanded presuturally, the most lateral (on supraalar line) present only postsuturally; humerus with a large spot of the small colour; chaetotaxy: 1 weak humeral 1+2 notopleural, 1 postalar. 1 dorsocentral; 2 strong widely separated scutellar apicals and 2 short laterals, the anterior of which is the weaker. Legs yellow, the apical tarsal segments hardly darker. Wing rather long, hyaline with brown veins; R4+5 and M1+2 straight and parallel, slightly diverging apically; posterior crossvein oblique; haltere yellow. Abdomen yellow, the tergites with a medial and lateral longitudinal vitta of a brown to black colour. Length about 1.7mm, the wing equally long. – Female: Resembling male, the cerci long and black.

Differential diagnosis: A distinctive species characterized by the large shiny oval black spot, which is scarcely longer than wide, on the yellow mesopleuron. Such a spot occurs in other genera of Oscinellinae (*Arcuator*, *Conioscinella*, *Oscinimorpha*) but not in any described species of *Pselaphia*. There is no profound difference in antennal structure between the sexes (Figs 42-43).

Pselaphia acuticornis sp. n. ♂♀ (Figs 44-45)

Material: Holotype ♂ Yemen: Ta'izz, 26-28.v.1998, light trap, A. VAN HARTEN & A. AWAD. Paratypes 1♀ same data as holotype; 3♀ same data but 23.vii.1998; 1♀ same data but 3-24.i.1999, A. VAN HARTEN & M. MAHYOUB; 1♀ same data but vii.2002, A. VAN HARTEN & A. R. YARIMI (NMWC).

Diagnosis: A species having frontal triangle extending to mid point of frons and with third antennal segment very much tapering throughout its length.

Description. ♂♀ All hairs and bristles black. Head higher than long, black on ocellar prominence, on a solid M-shaped marking on upper occiput, on antenna with exception of both the base and lower part of third segment, the antenna exceeding height of face, the third segment narrower in the male, with mesonotal and scutellar markings similar to those described for *P. yemenensis* sp. n., with postnotum black and tergites infuscate with exception of a vague yellowish triangle on either side of abdominal base, on a black line on dorsum of hind tibia and tarsus, obscurely so on other tarsi and in female with the cerci black. Wing hyaline with brown veins and posterior crossvein hardly oblique. Length about 1.0mm, the wing equally long.

Differential diagnosis: A small dirty-yellow species characterized by the long pointed third antennal segment, which is even longer and more pointed in the male (Fig. 44) than in the female (Fig. 45), the pleura bearing only the vaguest indications of any darker markings, the minute postocellar bristles and the infuscate dorsal surface of hind tibia and tarsus, this last character more strongly defined in the female, differing from other species as indicated in the key.

Pselaphia sabroskyi sp. n. ♂♀ (Figs 46-47)

Material: Holotype ♂ Yemen: Ta'izz, 3-24.i.1999, light trap, A. VAN HARTEN & M. MAHYOUB (NMWC). Paratypes: 4♂, 5♀ same data as holotype; 11♂, 6♀ same data but 26-

28.v.1998, A. VAN HARTEN & A. AWAD; 1♂, 3♀ same data but viii.1999; 1♂ same data but v-vi.2002, A. VAN HARTEN & A. R. AL YARIMI (NMWC).

Diagnosis: A species with the dark median mesonotal vitta extending to tip of scutellum and with frontal triangle very short, extending forward from anterior ocellus by a distance not greater than the diameter of an ocellus.

Description. ♂ All bristles and hairs black, apart from those of gena, palpus and hairs of legs excepting ventral hairs of mid tarsus and apical ventral spur of mid tibia. Head yellow, black between ocelli, on upper occiput with the exception of the most dorsal third, on a narrow black line on either side of clypeus and on third antennal segment except for extreme base; arista brown. Thorax yellow, black on a broad median vitta extending to apex of scutellum, on a vitta half as wide on either side of it extending from inside humerus almost to base of scutellum and on a yet narrower vitta postsuturally on supraalar line, these dark vittae separated by narrow yellow lines; pleura with a narrow shiny black leaf-shaped marking on lower margin, a shiny black triangle covering all but dorsal one third of sternopleuron and faintly dusted black markings on lower half of pteropleuron and a broad line extending from lower anterior corner of hypopleuron to upper posterior corner, and sometimes upper margin of mesopleuron faintly infuscate; postnotum black, shiny. Wing hyaline with brown veins; haltere yellow. Legs yellow with femora obscurely infuscate dorsally, the hind tibia more strongly infuscate on a ring covering tibial organ and distal two tarsal segments of all legs somewhat darker. Abdomen black on tergites 2-5. Chaetotaxy: external vertical bristle as long as postocellar, the ocellar and internal vertical minute; 1+2 notopleural, 1 dorsocentral, 1 postalar, 1 pair of long scutellar apicals, which are as broadly separated as the ocelli, and 1 weak lateral. Wing: first and second costal sectors equal, each as long as the combined lengths of third and fourth sectors; crossveins separated by a distance equal to twice the length of the posterior crossvein. Third antennal segment (Fig. 46). Length c.1.4 mm, the wing equally long. – Female resembling male, but the third antennal segment (Fig. 47) slightly less broad and rounded.

Differential diagnosis: A species mainly defined by chromatic characters but exhibiting slight sexual dimorphism in the shape of the third antennal segment, differing from other species as indicated in the key.

Etymology. Named in honour of the late Dr. Curtis W. SABROSKY for a life of productivity to a very high standard in taxonomy, zoological nomenclature and in his willingness to give advice to others less knowledgeable, and who added so greatly to our knowledge of Chloropidae and other Diptera.

Pselaphia sp. n. (Figs 48-49)

This species is not included in the key for the following reason. From the 16 specimens available of this species a considerable variation in colour characters is evident. However, since the material was all passed through alcohol, then ethyl acetate following fluid-entrapment it is difficult to determine to what extent this variation is due to differing levels of maturity. Pleural dark markings seem to be reduced or absent, the legs are pale, the tergites appear uniformly dark and only in some specimens are yellowish mesonotal and scutellar vittae present. The third antennal segment is figured here for both sexes (Figs 48♂, 49♀) to avoid confusion with other species. The frontal triangle reaches the mid point of frons. Further material must be examined before it can be determined as to whether more than a single species is to be found within this material.

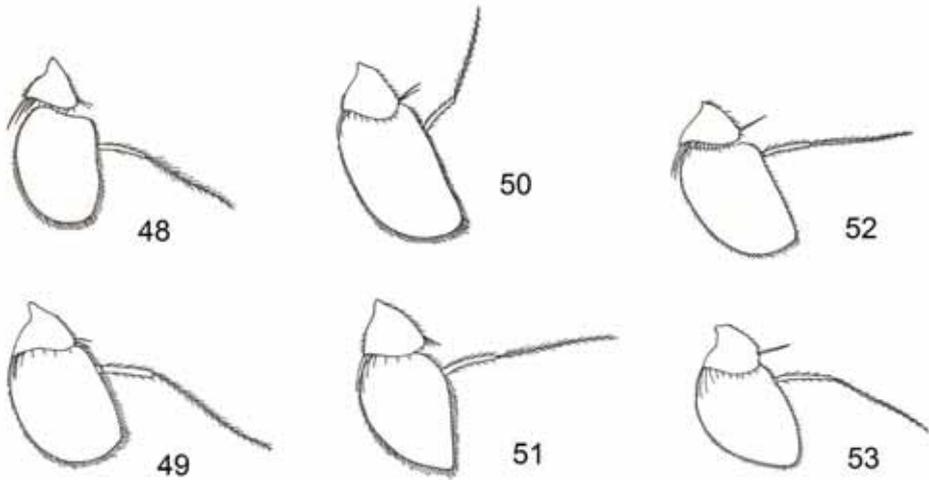


Fig. 48-49. *Pselaphia* sp. – 48. male, second and third antennal segments in profile; 49. female, the same. – Fig. 50-51. *Pselaphia cornifera* Becker. – 50. male, second and third antennal segments in profile; 51. female, the same. – Fig. 52-53. *Pselaphia flava* Sabrosky. – 52. male, second and third antennal segments in profile; 53. female, the same.

Material: 4♂, 6♀ Yemen: 12 km NW of Manakhah, 15.v-24.vi.2003, Malaise trap, A. VAN HARTEN 3♂ same data but 5.v-17.vi.2002; 1♂, 1♀ same data but 24.vi-4.viii.2003; 1♀ same data but 4.viii-15.ix.2003; 1♂ Al Lahima, i-iv.2001, A. VAN HARTEN (all in NMWC).

Pselaphia cornifera Becker, 1912 (Figs 50-51)

Described (1912: 250) from Ethiopia, this species is also known from Rwanda, South Africa and Uganda and was recorded by DAWAH & ABDULLAH (2006: 27) from Saudi Arabia and DEEMING (2011: 793) from UAE and Yemen. ANDERSSON (1977: 117, Fig. 66) figures the head and antenna.

Pselaphia flava Sabrosky, 1957 (Figs 52-53)

Described (1957: 7) from a single male from the Cape Verde Islands, this species was further recorded by DEEMING (2011: 794) from UAE. The frontal triangle extends to the mid length of frons.

Genus *Hapleginella* Duda, 1933: 77

Type species: *Oscinis laevifrons* Loew 1858, by original designation.

Hapleginella arabica Deeming, 2011

Described (2011: 790) from UAE, Oman and Yemen. Of the four described species of this genus two (the Nearctic *H. conicola* (Greene, 1918) and the Palaearctic *H. laevifrons* (Loew, 1858)) have been reared from pine cones. Pines were also present at the type locality of *H. arabica*, which is Al-Ajban in the UAE.

Genus *Gaurax* Loew, 1863: 35

Type species: *Gaurax festivus* Loew, 1863, by monotypy.

Gaurax amabilis (Becker, 1913) **comb. n.**

Described (1913: 162) into the genus *Oscinella* from Ethiopia and also known from South Africa. It was transferred into the genus *Conioscinella*. It is one of a group of species extending from West Africa to Melanesia which has a striking silver pilosity on the cheeks and often on the lower face between. The shape of the third antennal segment indicates that it should be treated as a species of *Gaurax*.

Material: 1♀ compared with holotype in Humboldt University, Berlin from Yemen: Sana'a, light trap, vii.1991, A. VAN HARTEN; 3♂, 2♀ Ta'izz, 5.i-2.ii.1998, light trap, A. VAN HARTEN & M. MAHYOUB; 5♂, 5♀ same data but 3-24.i.1999; 2♂, 1♀ Ta'izz, xii.1999, light trap, A. VAN HARTEN & A. AWAD; 1♂, 1♀ same data but 23.vii.1998; 1♂ Ar Rujum, 9.iv-5.vi.2001, Malaise trap, A. VAN HARTEN; 1♂ same data but 16.x.2000-15.i.2001, A. VAN HARTEN & A. M. HAGER; 1♀ Al Lahima, 1.i-9.iv.2001, Malaise trap, A. VAN HARTEN; 1♀ Kenya: Rift Valley, Ol Arabe Gorge, 11.xi.1988, R. K. BUTLIN (all in NMWC).

Genus *Pseudogaurax* Malloch, 1915: 159

Type species *Gaurax anchora* Loew, 1866, by original designation.

Key to the Arabian species of *Pseudogaurax*:

- 1 Third antennal segment more than twice as long as arista. Scutellum yellow with a small dark patch at base laterally *longicornis* Sabrosky
- Third antennal segment and arista of roughly the same length. Scutellum with a distinct black line laterally throughout its length *coyleae* Cogan

Pseudogaurax longicornis Sabrosky, 1947

Described (1946: 47) from Uganda this species is recorded from Malawi and Nigeria. Reared material from Cape Verde Islands (Santiago, São Jorge dos Orgãos, emerged ex egg-cocoon *Nephila senegalensis* coll. xii.1999-i.2000, A. VAN HARTEN) is in NMWC.

Material: 1♀ Yemen: Ar Rujum, i-iv.2001, Malaise trap, A. VAN HARTEN; 1♀ same data but 16.x.2000-15.i.2001, A. VAN HARTEN & A. M. HAGER; 2♀ Ghail Ba Wazir, I-iv.2003, Malaise trap, A. VAN HARTEN & M. HUBAISHAN (NMWC).

Pseudogaurax coyleae Cogan, 1977

Described (1977: 119) from Madagascar and since collected in the Seychelles.

Material: 2♀ Yemen: Ar Rujum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER; 1♂ Seychelles: Silhouette, La Passe, Malaise trap, 1-4.vii.2000, J. GERLACH (NMWC).

The specimens from Ruyum differ from the original description (p. 119) and from the Seychelles male in having a black mark on the lower part of the mesopleuron.

Chloropinae

Genus *Meromyza* Meigen, 1830: 163

Type species: *Musca saltatrix* Linnaeus, 1761, by designation of MACQUART (1835: 589).

Meromyza nigriventris Macquart, 1835

Described (1835: 590) from France, this species is widespread in the Palaearctic Region from Spain to Japan and from Finland to Mongolia and has been found attacking various cereal crops.

Material: 1♂ Saudi Arabia: Abha, Madenate Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (NMWC).

Genus *Elachiptereicus* Becker, 1909: 119

Type species: *Elachiptereicus bistriatus* Becker, 1909, by monotypy.

Key to Arabian *Elachiptereicus* species:

1. Mesonotal longitudinal vittae indistinct, of a slightly darker yellow colouring than the remainder of the mesonotum *abessynicus* Becker
- Mesonotal longitudinal vittae black *bistriatus* Becker

Elachiptereicus bistriatus Becker, 1909

Described (1909: 120) from Ethiopia and further recorded from Cameroun, Lesotho and South Africa.

Material: 1♂, 1♀ Yemen: Kaulat-el-Asakeir, NE of Haz, ca. 25 km NW of Sana'a, ca. 2860 m a.s.l., 4.ii.1938, H. SCOTT & E. B. BRITTON (BMNH); 1♂, 1♀ Ar Rujum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER; 1♀ same data but i-iv.2001; 1♀ same data but 9.iv-5.vi.2001, A. VAN HARTEN; 3♀ same data but 15.i-9.iv.2001; 1♂ Qa Al Boun, vii-viii.1992, light trap, M. MAHYOUB; 1♀ Saudi Arabia: Abha, Madenate Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (NMWC); 4♂, 4♀ Abha, Souda, 24.iv.2011, M. SHARAF, H. SETYANINGRUM & A. AL ANSI (KSU).

Elachiptereicus abessynicus Becker, 1913

Described (1913: 152) from Ethiopia and further recorded from Cameroun, Mozambique, Nigeria, Rwanda, Senegal, South Africa and Uganda. Immature stages are described by DEEMING (1977).

Material: 3♀ Yemen: Ar Rujum, i-iv.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER; 2♀ same data but 9.iv-5.vi.2001, A. VAN HARTEN; 1♀ Suq Bani Mansour, 28.viii-26.ix.2001, Malaise trap, A. VAN HARTEN; 1♂ Saudi Arabia: Aseer, Abha, Madenate Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH; 1♂ Abu Aresh, Almahdag, 27.xi-10.xii.2011, H. A. DAWAH (all in NMWC); 1♂, 7♀ Abha, Souda, 24.iv.2011, H. AL-DHAFFER, B. KONDRATIEFF, H. FADL & A. EL GHARBAWY (KSU).

Genus *Assuania* Becker, 1903: 149

Type species: *Assuania glabra* Becker, 1903 *l.c.*:150 = *thalhammeri* (Strobl, 1893).

Assuania sp. nr. *thalhammeri* (Strobl, 1893)

A. thalhammeri was described (1893: 226) from Hungary and is widespread in countries bordering the Mediterranean and Black Sea, extending eastwards to Israel, Iran and Afghanistan. The Arabian material differs from it in having the palpus infuscate and in having a fourth, but rather weak, bristle on the notopleuron, this at junction with suture. The genus, species descriptions of which are based almost entirely upon chromatic characters, is in need of revision. It was recorded by DAWAH & ABDULLA (2006: 30) from material collected around Abha, Saudi Arabia.

Material: 1♀ Saudi Arabia: Wadi Bin Hasbal, 26.iv.2011, H. AL-DHAFFER, B. KONDRATIEFF, H. FADL & A. EL GHARBAWY; 2♀ Abha, Habalah, 26.iv.2011, same collectors; 1♀ 180 km S Riyadh, W Hutet Beni Tumem, Ibex Reserve National Park, 19.v.2007, Y. H. AL DORYHEM, H. AL-DHAFFER, M. ALMOTAIRY & ALGHARBAWY (KSU); 5♀ Yemen: Sana'a, vii.1991, light trap, A. VAN HARTEN; 1♀ Sana'a, ii.1991, A. VAN HARTEN (NMWC); 1♂ ca. 15 km SE of Sana'a, Ghaiman, slopes of Jebel Girwan, ca. 2750 m a.s.l., 17.ii.1938, H. SCOTT & E. B. BRITTON; 1♀ ca. 25 km NW of Sana'a, NE of Haz, Kaulat-el-Asakeir, ca. 2860 m a.s.l., 4.ii.1938, same collectors (BMNH).

Genus *Semaranga* Becker, 1911: 48

Type species : *Semaranga dorsocentralis* Becker, by monotypy.

Semaranga dorsocentralis Becker, 1911

Described (1911: 48) from India and Java, this species is widespread within the warmer parts of the Old World from the Cape Verde Islands east to Russian Maritime Territory.

Material: 1♂, 3♀ Yemen: Ar Rujum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER (NMWC).

Genus *Mepachymerus* Speiser, 1910a: 197

Type species: *Mepachymerus baculus* Speiser, 1910, by original designation.

Key to Arabian species of *Mepachymerus*:

1. Legs predominantly bright yellow, typically only the tibia and tarsus of the fore leg and the distal segments of the other tarsi black or dark brown *baculus* Speiser
- Legs predominantly black, only the mid tibia, at least distally, and the basal segments of the mid and hind tarsi reddish yellow to yellow *lentus* (Curran)

Mepachymerus baculus Speiser, 1910

Described (1910: 197) from what is now Tanzania and widely distributed in Africa from Nigeria to South Africa and Ethiopia.

Material: 1♂ with Laboulbeniales infestation on fore tarsus Saudi Arabia: Thee Aine, 20 km S of Baha, 13.x.2010, H. AL-DHAFFER, B. KONDRATIEFF, H. FADL & A. EL GHARBAWY

(NMWC); 1♀ same locality, 18.v.2010, M. R. SHARAF (KSU). The male was unfortunately heavily damaged in air mail.

Mepachymerus lentus (Curran, 1928)

Described (1928: 347) from Zaire and further recorded from Chad, Nigeria, Rwanda, Burundi, Kenya, Uganda and South Africa.

Material: 1♂, 1♀ Yemen: Hada, ca. 6 km SW of Sana'a, ca. 2590 m a.s.l., 14.i.1938, H. SCOTT & E. B. BRITTON; 1♂ Wadi Dhahr, ca. 10 km NW of Sana'a, ca. 2400 m a.s.l., 21.i.1938, H. SCOTT & E. B. BRITTON; 1♂ Kaa el-Hagle, SW of Yarim, ca. 2750 m a.s.l., 3.i.1938, H. SCOTT & E. B. BRITTON; 1♀ Jebel Sumara, ca. 2800 m a.s.l., 2.i.1938, H. SCOTT & E. B. BRITTON; 1♀ same data but 2830 m a.s.l.; 1♀ El Asr, ca. 5 km W of Sana'a, ca. 2450 m a.s.l., 14.ii.1938, H. SCOTT & E. B. BRITTON; 1♀ Sana'a, ca. 2220 m a.s.l., from lucerne field N of city, 26.ii.1938, H. SCOTT & E. B. BRITTON; 1♂ Jebel Jihaf, ca. 2160 m a.s.l., ix.1937, H. SCOTT & E. B. BRITTON; 1♀ same data but 21.ix.1937 (all in BMNH); 1♂ Saudi Arabia: Abha, Madenate Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (NMWC).

Genus *Steleocerellus* Frey, 1961: 35

Described as subgenus of *Mepachymerus*. Type species: *Steleocerus tenellus* Becker, 1910b, by original designation.

Steleocerellus tenellus (Becker, 1910)

Described (1910b: 401) into the genus *Steleocerus* Becker from Tanzania and further recorded from South Africa and Uganda. In NMWC is material from Ethiopia, and Kenya and that from northern Nigeria has been reared from *Pennisetum pedicellatum*, ? *Paspalum* sp., *Echinochloa* sp., cultivated millet and sorghum. The puparium is described by KIRK-SPRIGGS (1986: 774).

Material: 1♀ Yemen: near Ta'izz, field on road to Mocha, ca. 1250 m a.s.l., 16.xii.1937, H. SCOTT & E. B. BRITTON (BMNH); 1♀ Ta'izz, light trap, 1-3.iv.1998, A. VAN HARTEN; 3♂, 2♀ Ta'izz, viii-ix.1999, light trap, A. VAN HARTEN & A. AWAD; 1♂ Ta'izz, light trap, ix.2000, A. VAN HARTEN & A. R. AL YARIMI (NMWC & Ministry of Agriculture, Sana'a coll.).

Genus *Pachylophus* Loew, 1858b: 121

Type species: *Pachylophus frontalis* Loew, 1858b, by monotypy.

Key to Arabian species of *Pachylophus*:

1. Yellowish species. Mesopleuron bearing fine hairs on its posterior part *pellucidus* Becker
– Thorax black. No such mesopleural hairs present 2
2. Scutellum truncate, the apical margin slightly emarginate on either side, so that there is a median point, the marginal bristles very weak. Femora and tibiae predominantly black. Gena with a broad black shiny line connecting eye to mouthedge *proximus* (Adams)
– Scutellum with evenly curved margins and a pair of strong marginal bristles.
Legs dull orange. Gena dusted throughout *gallagheri* Deeming

Pachylophus proximus Adams, 1905

Described (1905: 194) from "Rhodesia" (= Zambia or Zimbabwe) and widespread in Sub-Saharan Africa, this species is also recorded from Saudi Arabia.

Material: 1♀ Saudi Arabia: Lodar, 800m., 16.v.1967, K. GUICHARD; 1♂ S. Hedjaz, Taif, 11.viii.1931, H. St. J. B. PHILBY; 1♂, 1♀ Hieth, 13.v.1977, 40 km S of Riyadh, W. BÜTTIKER (all in BMNH); 1♀ Tanoma, Al-Kerya, 27.iii.2003, H. A. DAWAH (NMWC); 3♂, 15♀ Yemen: Usaifira, 1.5 km N of Ta'izz, ca. 1370 m a.s.l., in cultivated fields, 13.xii.1937, H. SCOTT & E. B. BRITTON; 1♀ same data but 21.xii.1937; 6♂, 8♀, Jebel Jihaf, ca. 2,130 m a.s.l., 7-12.x.1937, H. SCOTT & E. B. BRITTON; 1♂ Wadi Dhahr, ca. 10 km NW of Sana'a, ca. 2400 m a.s.l., 21.i.1938, H. SCOTT & E. B. BRITTON; 1♂ Sana'a, within walls of Bir-el-Azab, ca. 2400 m a.s.l., i.1938, H. SCOTT & E. B. BRITTON; 2♂, 1♀ San'a, ca. 2400 m a.s.l., from lucerne, 10-15.x.1937, C. RATHJENS; 1♂ same data but 10-15.x.1937 (all in BMNH); 2♀ Ta'izz, ix.1999, light trap, A. VAN HARTEN & A. AWAD; 2♀ with Laboulbeniales on tips of abdomens Suq Bani Mansour, 28.viii-26.ix.2001, Malaise trap, A. VAN HARTEN (NMWC); 44 ex. Saudi Arabia: Khamis Mushayt, Wadhi Bisha, 1990 m alt., 27.iv.2011, M. SHARAF, A. AL ANSI & H. SETYANINGRUM (KSU).

Pachylophus pellucidus Becker, 1910

Described (1910d:393) from Kenya and Tanzania.

Material: 4♀ Yemen: Al Kowd, Malaise trap, iv.1993, A. VAN HARTEN; 1♀ environs of Zinjibar, 21.iii.1993, A. VAN HARTEN; 1♂ Lahj, iv-v.1999, Malaise trap, A. VAN HARTEN & A. SALLAM; 1♂, 1♀ same data but xii.2000; 2♀ same data but iii.2001 (all in NMWC); 2♀ Al Kowd, iv.2000, light trap, A. VAN HARTEN & S. AL HARURI; 1♀ same data but i-iii.2003 (NMWC & Sana'a); 2♂, 3♀ Saudi Arabia: Baha, Wadi Ghanuna, 12.v.2011, H. AL FADLY, A. EL TORKEWY, M. SHARAF & H. SETYANINGRUM; 1♀ same data but 2.vi.2022, H. AL-DHAFAER & A. AL GHARABAWI (KSU & NMWC). 1♀ with puparium Kenya: just S. of Archer's Post, coll. as larva ex terminal shoot of *Sporobolus* sp. (grass sample in BMNH coll. Mrs M.E. NYE ref L39), 11.vi. 1956, adult emerged 30.vi., I. W. B. NYE; 1♀ with puparium same data; 1♂ same data but 29.viii.1956; 1♂1♀ same data but 9.viii.1956 (BMNH); 1♀ Ethiopia: Shewa Distr., River Awash Wenz S. of Nazret, 15.iii.1995, M. VON TSCHIRNHAUS (X1015) (MvTC).

Pachylophus gallagheri Deeming, 2011

Described (2011: 803) from Oman, UAE, Saudi Arabia and Pakistan.

Material: 1♀ Saudi Arabia: Hotat Bani Tamim- Riyadh , 15.iv.2010, Abdulah Al-Othman; 1♀ Riyadh, Al-Mossa farm, 7.iv.2010, A. AL-OTAIBI; 1♂ Al-Karj Al-Shadedh Sedery farm, 14.xi.2007; 1♀Riyadh, El Hanna Park, 8.viii.2007, H. AL-DHAFAER & A. ALGHARBAWY; 1♂, 3♀ Riyadh, Al Diriyah, 22.x.2009, H. SETYANINGRUM & A. I. SOFFRAN; 1♂ Baha, Wadi Ghanuna, 12.v./2011, H. AL FADLY, A. EL TORKEY, M. SHARAF & H. SETYANINGRUM; 1♂ Riyadh, Deraiah, Al-Musa Farm, 29.x.2008, on clover; 6♂ 15 km SE of Riyadh, Derab, 24.xi.1986, grasses (KSU).

Genus *Neoloxotaenia* Sabrosky, 1964: 180

Type species: *Lagaroceras gracile* de Meijere, automatic. Replacement new name for *Loxotaenia* Becker, 1911: 83, preoccupied by Herrich-Schaeffer, 1854.

Neoloxotaenia gracilis (de Meijere, 1908)

Described (1908: 170) from Java, and further recorded from Sri Lanka, Taiwan, India, Malaya Philippines, Sumatra, Thailand, Japan and Hawaii. In India it has been reared from the spice cardamom (Zingiberaceae). Recorded by DEEMING (2011: 802) from Yemen.

Genus *Chloropsina* Becker, 1911: 51

Type species: *Chloropsina oculata* Becker, 1911, by designation of MALLOCH (1931a: 76).

Key to Arabian species of *Chloropsina*:

1. Frontal triangle black 2
- Frontal triangle pale, black only on ocellar prominence 3
2. Mesonotum entirely black, though notopleuron yellow *enigma* sp. n.
- Mesonotum pale with three black longitudinal vittae sp. 1
3. Gena wide, about one eighth of height of eye and equal to depth of fore femur *angustigenis* (Becker)
- Gena narrow, about one sixteenth of eye height sp. 2

Chloropsina angustigenis (Becker, 1912)

Described (1912: 242) in the genus *Chloropisca* from Ethiopia, this species and *C. completa* (Becker, 1913: 149) described as a species of *Chlorops* also from Ethiopia, were placed in the present combination by SABROSKY (1980:708) and were synonymised by DEEMING (1981: 804), who further recorded the species from Kenya and Nigeria. The specimens listed below have the arista greyish white, but not densely haired. *C. angustigenis* has the third antennal segment large, rounded and black throughout. There is a very similar new species from Egypt (1♂, 1♀ Alexandria, Abu Qir, beach, 20.x.2003, P. GATT) in NMWC, which shares with *C. angustigenis* the broader gena and fused male tergites 3-5 and could well be confused with it. It, however, has the third antennal segment smaller and yellow on basal half.

Material: 1♂ Yemen: 12 km NW of Manakhah, 21.viii-28.x.2002, Malaise trap, A. VAN HARTEN; 1♂ Ta'izz, viii.1999, light trap, A. VAN HARTEN & A. AWAD (NMWC).

Chloropsina sp. 1

Material: 2♀ Yemen: Ta'izz, ix.1999, light trap, A. VAN HARTEN & A. AWAD; 1♂ Ta'izz, 5.i-2.ii.1998, A. VAN HARTEN & M. MAHYOUB; 1♀ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN.

Chloropsina sp. 2

This species differs from the description of *C. vesicata* Deeming, 1981: 805 from Nigeria in having the fore tarsus completely infuscate and the hind tarsus infuscate on the apical two segment. The mesonotal vittae, the upper occiput with the exception of the surrounds to the

vertical bristles and the arista are black, the frontal triangle is black with indistinct steel blue reflections and the apical half of the combined tergite 3-5 is paler. As this single specimen is immature its taxonomic treatment cannot be taken further.

Material: 1♂ Yemen: Ta'izz, 5.i-2.ii.1998, light trap, A. VAN HARTEN & M. MAHYOUB (NMWC).

Chloropsina enigma sp. n. ♂♀ (Figs 54-55)

Material: Holotype ♂ with complete puparium Nigeria: Zaria, Samaru, emerged 23.vii. ex shoot *Cyperus* sp. coll. 7., pup.14.vi.1970, J. C. DEEMING. Paratypes 2♀ same data but emerged v.1969; 2♀ same data but emerged vi.1969; 2♂2♀ with puparia same data but emerged vii.1970; 1♂, 2♀ with puparia same data but emerged xi.1969; 3♀ with puparia same data but emerged vi. 1970; 1♂, 1♀ same data but emerged 25.xi.1969 ex shoot coll. 8.xi; 1♀ with puparium same data but 4.v.1970, B. YASHIM; 1♂ same locality emerged 9.iv.1969 ex shoot *Hyparrhenia cyanescens*, J. C. DEEMING; 4♂, 5♀ Samaru, vii.1985, M. C. DIKE; 1♂ Samaru, 8.x.1965, D. J. DE B. LYON; 1♀ Samaru, 25.vii.1971, J. C. DEEMING; 1♀ same data but 7.viii.1971; 1♀ same data but 12.iii.1973, irrigated wheat plot; 1♂ Kaduna, 23.i.1971, J. C. DEEMING; 1♂, 2♀ Between Kaduna and Keffi, Kufana, 24.i.1971, J. C. DEEMING; 9♂, 11♀ Nr. Bida, bank of R. Kaduna at Wuya, 20.xi.1970, J. C. DEEMING; 1♂, 1♀ Bauchi, on pond grasses, 1-7.iii.1997, J. C. DEEMING; 1♂, 4♀ 16 km N of Bauchi, on ripening wheat, 10.iii.1997, J. C. DEEMING; 1♀ Bauchi State, nr. Tilden Fulani, Kogin Salla, on irrigated mixed vegetable farm, 9.iii.1997, J. C. DEEMING; 1♀ between Shendam and R. Benue, swamp rice field, 18.xi.1977, J. C. DEEMING; 1♀ Sokoto Prov., Lake Natu, 23.vii.1972, J. C. DEEMING & J. L. MUSA; 1♂ Nr. Gusau, Maska Fish Farm, 15.xi.1970, J. C. DEEMING; 1♂, 1♀ Borno, Nguru, 14.viii.1971, J. C. DEEMING; 1♀ Near Yandev, Gburuku, 21.iii.1972, L. A. MORGAN; 1♀ Imo State, Ikot Ekpene, 10.viii.1985, M. C. DIKE; 1♂ Ibadan, 22.vii.1968, J. C. DEEMING; 3♂, 3♀ The Gambia: W. Division, Kombo Distr., Lamin Bridge, marginal vegetation of rice field, 2.ix.1997, D. J. MANN; 2♀ Mali: Yanfolila, 19.ix-7.x.1986, J. DURHAM; 3♂, 17♀ Saudi Arabia: Aseer, Maraba, 1-30.v.2004, Malaise trap, H. A. DAWAH; 1♂, 1♀ same data but ix-x.2004; 1♀ Abu Aresh, Almahdag, sweeping grasses in mango orchard, 4.ii.2012, J. C. DEEMING & H. A. DAWAH; 1♂ Yemen: Al Kadan, v.2002, light trap, A. VAN HARTEN & T. ABDUL HAQ; 2♂, 1♀ same data but 3.xii.1997-17.ii.1998, Malaise trap, A. VAN HARTEN & H. M. NASER; 1♀ Al Lahima, 1.i-9.iv.2001, Malaise trap, A. VAN HARTEN; 16♂, 9♀ Ta'izz, viii.1999, light trap, A. VAN HARTEN & A. AWAD; 5♂ same data but vii.2002, A. VAN HARTEN & A. R. AL YARIMI; 1♂ same data but viii.2000; 1♂ same data but ix.2000; 2♀ Ar Ruyum, 16.x.2000-15.i.2001, Malaise trap, A. VAN HARTEN & A. M. HAGER; 1♀ Al Kowd, 18-28.ii.1993, A. VAN HARTEN (all NMWC).

Description. ♂ A yellow species with all bristles and hairs black, black on all but lateral margins of frontal triangle apart from a yellow area surrounding internal vertical bristle, on entire upper half of occiput, on entire third antennal segment and arista, on the three narrowly separated longitudinal vittae of mesonotum, which extend back to the prescutellar dorso-central bristle, the median of these extending forward to the neck and the lateral to the humerus, on a narrow leaf-shaped marking on lower margin of mesopleuran, on a large triangular marking on lower two thirds of sternopleuran, on entire metanotum and dorsally facing parts of tergites, though syntergite 1+2 is dirty yellow and weakly sclerotised, having a small round black spot on either shoulder; less distinctive infuscation appears on a pair of post-sutural mesonotal vittae in a supraalar position, on vague markings on clypeus, pteropleuran,

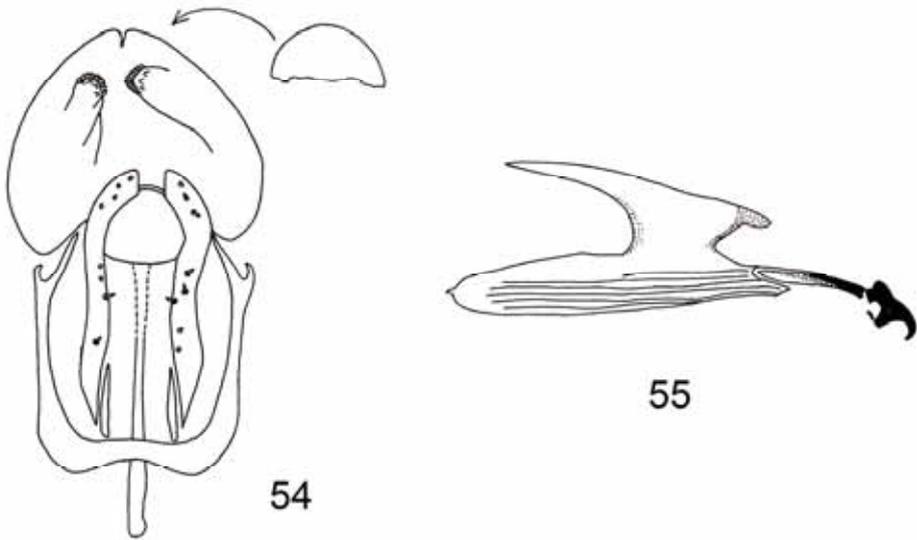


Fig. 54-55. *Chloropsina enigma* sp. n. – 54. male, epandrium, surstyli and phallic complex from beneath; 55. cephalopharyngeal skeleton from puparium.

hypopleuran, scutellar base and tarsi, which last become progressively darker towards their apices; wing hyaline with brown veins.

Head with gena as wide as width of fore tibia and with external and internal vertical bristles large and equal; frontal triangle undusted throughout, the occiput subshining through very weak dust. Thorax subshining through weak dust, the black markings on mesonotum, mesopleuron and sternopleuron undusted; scutellum with small scattered hairs dorsally, with the apical bristles long, longer than the dorsocentrals, and the lateral bristles only half as long; humeral bristle absent, the anterior notopleural weak, the two posterior notopleural strong. Wing with even distribution of microtrichia on entire membrane; discal cell narrow, at level of anterior crossvein no wider than anterior crossvein is long. Legs not unusual in any way and with no evident mid femoral or hind tibial organ. Abdomen shining, dorsally dulled by fine pubescence; epandrium not longer than wide; no sclerites on either side of anal slit; mesolobus (Fig. 54) almost semicircular, its dorsal edge raggedly irregular; tips of surstyli rounded and covered with minute dark teeth; postgonites incurved posteriorly with incurved truncate apices. Length about 1.8mm, of wing 1.5mm.

Female resembling male in all but sexual characters, the sclerites comprising the short ovipositor black.

Puparium yellowish brown, 2.2 mm in length, 0.9 mm in greatest breadth; anterior spiracle consisting of 4 digitations radiating out from a short base; cephalopharyngeal skeleton (Fig. 55) distinctive in that hardly any trace of the usual triangular elevation on the ventral cornu of the pharyngeal sclerite is indicated; anal plate perfectly circular.

Differential diagnosis: In the key of DEEMING (1981: 800) to the African species this species would trace to *C. stubbsi* Deeming, 1981, described from Kenya, but differs from it in hav-

ing the frontal triangle black with yellow lateral borders and with no dark line discernible in any light between the frontal triangle and eye margin. In NARTSHUK's key to Holarctic species (2000: 259) it would trace to *C. distinguenda* (Frey, 1909), of which the male genitalia is figured by NARTSHUK (2000: 255, figs. 1-2), but differs from it in that the apices of the postgonites are bent inwards to present parallel surfaces to one another (fig.). In KANMIYA's (1983: 239) key to Japanese species it traces to the widespread Oriental *C. minima* (Becker, 1911), but differs from it in lacking the pair of sclerites on either side of the anal slit of the male and in having the black mesonotal vittae fused together. It does not fit the diagnosis of *Chloropsina* due to its lacking the bandlike sclerite on either side of the anus in the male, but in all other ways agrees perfectly with it. Dr. J. W. ISMAY has the description of other new species lacking such sclerites in preparation and, after having examined this species, agrees that it should be placed in such combination. On this same problem see notes in this paper under *Merochlorops*.

Genus *Merochlorops* Howlett in Maxwell-Lefroy, 1909: pl. 66, fig. 4

Type species *Formosina ceylanica* Duda 1930, by designation of SABROSKY 1984. Until recently this genus has only been recorded from the Oriental and Australasian tropics, apart from the incursion of *M. lucens* (de Meijere) into Rodriguez and Mauritius, but *M. ceylanica* was recorded from UAE by DEEMING (2011:799). It is better known in the literature by its junior synonyms *Formosina* Becker 1911 and *Coomanimyia* Séguy 1938.

ANDERSSON (1977: 117-120) in his keys to chloropine genera treats *Formosina* as lacking sclerotized bands on either side of the anus in the male and in consequence places it in his *Thaumatomyia* genus group. These bands are present in the species described here and in other undescribed species that I have seen. If these sclerites are present in the generotype species then it (as *Merochlorops*) should be transposed in his key to couplet 13 and separated from *Globiops* Andersson (a junior synonym of *Chloropsina*) by having the head much higher than long, the habitus much less slender, the discal cell broader and the abdomen much broader. Both genera are remarkably similar in the structure of male genitalia and in having very narrow gena. KANMIYA (1983: 231) in his discussion of the *Formosina* genus group states "band-shaped sclerites along sides of anus distinctly present or a vestige present with some pairs of sockets or setae".

Merochlorops vanharteni sp. n. ♂♀ (Figs 56-57)

Material: Holotype ♂ Yemen: Ta'izz, 1-3.iv.1998, A. VAN HARTEN & A. AWAD; – Paratypes, 1♀ same data; 1♂ 12 km NW of Manakhah, 5.v-17.vi.2002, Malaise trap, A. VAN HARTEN (all NMWC); 1♀ Saudi Arabia: Three Aine, 20 km S of Baha, 13.x.2010, H. AL-DHAIFER, B. KONDRATIEFF, H. FADL & A. EL GHARBAWY (KSU).

The Yemen material was originally collected into alcohol and, although hardened in ethyl acetate prior to mounting, there is some crumpling of cuticle at the base of the scutellum.

Description. ♂ (Fig. 56) All hairs and bristles black. Head with eye large, in profile occupying all but the narrow gena, this narrower than breadth of palpus; frons a little wider than an eye, yellow, with frontal triangle unpunctured, extending to lunula, infuscate all but anteriorly and having violet reflections, separated from the black occiput by a narrow dirty yellow line on angle of vertex; third antennal segment long, apically rounded, twice as long as deep. Thorax with the totally black shining mesonotum compactly covered throughout in



Fig. 56-57. *Merochlorops vanharteni* sp. n. – 56 (top): male, whole insect in profile [photo i15968]; 57 (below): female, whole insect in profile [photo i15967].

extremely short black hairs, the entire notopleuron vividly white, the yellow scutellum transverse with dorsal surface slightly convex, a broad yellow band extending from the notopleuron to upper half of sternopleuron, the mesopleuron also white apart from a broad anterior stripe which becomes a narrow band on lower margin extending almost to its junction with pteropleuron, upper one third of sternopleuron and a long spot in front of wing base yellow and hypopleuron dirty white on upper half and ridge in front of haltere similarly coloured, the pleural pruinosity white both on areas of dark and light ground colour. Wing with the anterior crossvein situated at 0.4 of length of discal cell, the discal cell narrow throughout, the posterior crossvein being no longer than the humeral crossvein, squamal fringe dirty white; haltere white with its stem infusate. Legs with basal half of fore coxa and broad bands on femora and tibiae dull infusate. Abdomen with the combined tergites 1+2 yellow with a dark spot on either shoulder and the lateral margins of 2 narrowly black (paratype) or with a dark band connecting the two (holotype) and with a faint medial darker triangle, tergite 3 large and black, with preapically a pair of large rounded yellow spots that are united medially, the following tergites preceding epandrium desclerotised. Length about 2 mm, of wing 2 mm.

Female (Fig. 57) resembling male except in abdominal characters; tergites 3, 4 and 5 black with successively larger paired yellow semicircular spots, those on 5 filling almost the entire segment.

Differential diagnosis: This species is most similar to *M. gracilis* (Becker, 1913) from Java, but that species has the legs only infusate on some tarsal segments and the scutellum more conical and with black lateral margins. It is further characterized by its colour pattern, which on the abdomen differs between the sexes.

Genus *Homops* Speiser, 1923: 99

Replacement name for *Ops* Becker, 1910c:402, a junior homonym preoccupied by *Ops* Gistel, 1848. Type species: *Chlorops callichroma* Loew, 1860, by monotypy.

Homops madagascariensis (Enderlein, 1911)

Described (1911: 125) as a species of *Ops* Becker, which is a junior synonym of *Homops*, this species is recorded from Madagascar, Mozambique and South Africa. Further material in NMWC is from Nigeria, Ghana and Kenya. Recorded by DAWAH & ABDULLAH (2006: 28) from Saudi Arabia.

Material: 1♂ Yemen: Ta'izz, 1-3.iv.1998, light trap, A. VAN HARTEN & A AWAD; 1♀ same data but 23.vii.1998; 6♂, 4♀ same data but ix.2000, A. VAN HARTEN & A. R. AL YARIMI ; 1♂ same data but iii-iv.2002, A. VAN HARTEN; 1♀ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♂ Al Kowd, vii-ix.2001, A. VAN HARTEN & S. AL HARURI ; 1♀ same data, but i-iii.2003, light trap (all in NMWC).

At Merrivale, Natal the late Dr. B.R. STUCKENBERG found on 6.i.1994 a swarm of males of this species hovering about 2m from the ground in sunlight.

Genus *Thaumatomyia* Zencker, 1833: 344

Type species: *Thaumatomyia prodigiosa* Zencker, 1833, by monotypy, = *notata* (Meigen, 1820).

Key to *Arabian* species of *Thaumatomyia*:

1. External vertical bristle greatly reduced, minute. Frontal triangle with a medial furrow *sulcifrons* (Becker)
- External vertical bristle well developed, strong. Frontal triangle lacking a medial furrow *notata* (Meigen)

Thaumatomyia notata (Meigen, 1830)

Described (1830: 144) into the genus *Chlorops*, this species is distributed throughout the Palaearctic and is also recorded from Burma, Pakistan, Ethiopia, Somalia and Uganda. Ten specific synonyms are listed by NARTSHUK (1984: 287-288). Its larvae prey upon root-aphids (Pemphigidae) and in Europe adults often swarm and invade dwellings in such huge numbers as to alarm the occupants.

Material: 1♂ Yemen: Sana'a, ii.1991, A. VAN HARTEN; 1♀ Sana'a, light trap, vii.1991, A. VAN HARTEN; 1♂ Dhamar, swept in alfalfa field, 13.iii.1991, A. VAN HARTEN, H. MAHDI & M. MAHYOUB; 1♀ Qa Al Boun, light trap, vii-viii.1992, M MAHYOUB; 5♂, 2♀ Al Boun, beaten from peach tree, i.1993, M. KNAPP; 1♀ 12 km NW of Manakhah, 5.v-17.vi.2002, Malaise trap, A. VAN HARTEN; 1♀ same data but 24.vi-4.viii.2003; 1♀ Saudi Arabia: Aseer, Abha Farm Centre, 1.ii.2012, J. C. DEEMING & H. A. DAWAH; 1♀ same data but Malaise trap, iii-vi.2001, H. A. DAWAH; 1♂ Abha, Madenat Ameer Sultan, 10.v.2002, H. A. DAWAH (all in NMWC).

Thaumatomyia sulcifrons (Becker, 1907)

Described (1907: 394) from the Canary Islands, South Russia, Central Asia and Algeria, this species is widely distributed in the warmer parts of the Palaearctic. Recorded by DAWAH & ABDULLAH (2006: 30) from Saudi Arabia, it is also known from Palestine and Iran.

Material: 2♂, 3♀ Yemen: Sana'a, light trap, vii.1991, A. VAN HARTEN (NMWC); 1♂ Saudi Arabia: Abha, Habala 25.iv.2011, M. SHARAF, H. SETYANINGRUM & A. AL ANSI; 2♀ Abha, Souda, 24.iv.2011, same collectors (JU).

Genus *Parectecephala* Becker, 1910c: 105

Type species: *Oscinis longicornis* Fallén, 1820, by designation of DUDA (1933: 208).

Parectecephala trimaculata (Adams, 1905)

Described (1905: 196) into the genus *Chlorops* from Zimbabwe, the material listed below agrees perfectly with the original description except that the frons is somewhat narrower. However, all this material was dried from alcohol.

Material: 1♂ Saudi Arabia: Wadi Hali, 9.i.2003, H. A. DAWAH; 1♂ Tehama-Tanoma, Al-Bekera village, 20.i.2003, H. A. DAWAH; 1♀ Aseer, Maraba, 1-30.v.2004, Malaise trap, H. A. DAWAH; 1♀ Jazan, Abu Aresh, Almahdag Village, 5-20.vi.2011, H. A. DAWAH; 1♀ same data but 11.xii.2011-13.i.2012, Malaise trap (JU & NMWC); 1♀ Yemen: Al Lahima, 9.iv-

5.vi.2001, Malaise trap, A. VAN HARTEN; 1♂ Ta'izz, vii.2002, light trap, A. VAN HARTEN & A. R. AL YARIMI; 1♂ Suq Bani Mansour, 28.viii-26.ix.2001, Malaise trap, A. VAN HARTEN (all in NMWC).

Genus *Lagaroceras* Becker, 1903: 148

Type species: *Lagaroceras megalops* Becker, 1903, by monotypy.

Key to Arabian species of *Lagaroceras*:

1. Frontal triangle predominantly dark brown to black, with a broad forwardly-curving tongue of dust on either side from between ocelli to margin of frontal triangle *distinctum* Deeming
 - Frontal triangle only black on ocellar prominence, otherwise brownish yellow to yellow and lacking such a tongue of dust 2
2. Anterior face of mesonotum with a shining black quadrate marking that is slightly wider than that of the median upper occiput. Lateral margin of scutellum infuscate. Tergites with a median white line *albolineatum* Deeming
 - No paler median line dorsally on abdomen 3
3. Third antennal segment hardly tapering apically, more quadrate, scarcely more than twice as long as deep *curtum* Sabrosky
 - Third antennal segment strongly tapering and apically pointed, quite three times as long as deep 4
4. Clay-coloured species, dull dusted in the same colour, black only on ocellar prominence and dorsally and apically on third antennal segment *argillum* sp. n.
 - Species with extensive black markings on occiput and pleura, mesonotum very weakly dusted, the pleura and abdomen shiny *sequens* Becker

Lagaroceras sequens Becker, 1910

Described (1910c: 418) from what is now mainland Tanzania and since reported from Ethiopia, Kenya, Uganda and Zambia. The material listed below differs from the original description in that the middle of the mesopleuron and hind half of pteropleuron are dirty yellow, as are the palpi. A paler coloration is, however, to be expected in desert populations.

Material: 1♂, 4♀ Saudi Arabia: Abha, Madenate Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH (NMWC & JU); 1♂ Riyadh, Al Diriyah, 22.x.2009, H. SETYANINGRUM (KSU); 2♀ Yemen: Ta'izz, vii.2002, light trap, A. VAN HARTEN & A. R. AL YARIMI; 1♀ same data but v-vi.2002 (NMWC); 1 ex. (sex uncertain) near Ta'izz, field on road to Mocha, ca. 1250 m a.s.l., 16.xii.1937, H. SCOTT & E. B. BRITTON (BMNH).

Lagaroceras distinctum Deeming, 1981

Described (1981: 816) from Nigeria and Mozambique. In Arabia it is recorded from SW Saudi Arabia by DAWAH & ABDULLAH (2006: 28). A further specimen from Ethiopia is in NMWC.

Material: 1 teneral ♀ Yemen: Ta'izz, light trap, ix.2000, A. VAN HARTEN & A. R. YARIMI (NMWC).



Fig. 58. *Lagaroceras argillum* sp. n. female, whole insect in profile [i15966].

Remarks: Whereas in African material the black dorsum of the mesonotum has at most a slightly paler narrow stripe along each dorsocentral line, in the Arabian material a distinct yellow stripe is evident.

Lagaroceras argillum sp. n. ♂♀ (Fig. 58)

Material: Holotype ♀ Saudi Arabia: Hutet Bani Tamim, 180 km S of Riyadh, 10.vi.2010, by sweeping, AL DRYHIM, AL-DHAFAER & EL GHARBAWY (NMWC); – Paratypes ♀ same data but 9.vi.2009, light trap (KSUR); ♂ Al Dawseer, Al-Joba Village, 1.iii-30.iv.2005, Malaise trap, H. A. DAWAH (NMWC); ♂ Israel: Ein Gedi, 24.xii.1974, A. FREIDBERG; ♂ Tel-Aviv, 21.ix.1975, A. FREIDBERG; ♀ Herzliyya, 22.vi.1981, Malaise trap, A. FREIDBERG (BMNH); 1♂, 2♀ same data but 10.xii.2005, no trap data (one of the females with Laboulbeniales on tip of abdomen); 1♀ same data but 11.vi.2002; 1♂1♀ same data but 17.vi.2005; 1♀ same data but 3.vi.2002, 1♀ same data but 13.iv.2002; 1♂ same data but 31.xii.2005; 1♀ Herzliyya hill, 26.iv.2007; 2♂ same data but 12-13.v.2006; 1♂ same data but 10.viii.2007;

3♂, 2♀ Tel Qeshet, 1.x.2001; 1♀ same data but 12.x.2002; 1♂ Nahal Hazav, Bitronot Ruhama, 5.iv.2005; 1♂ Nahal Zedim, Bitronot Ruhama, 5.iv.2005; 1♂, 1♀ Zeva'im Makhtesh Gadol Rt.225, 3 km E of Et. 206, 9.vii.2001, all A. FREIDBERG (TAU). The reason for selecting a female as the holotype is due to its better condition. A further six specimens from the Freidberg collection are in the collections of the Russian Academy of Sciences, St. Petersburg and are 3♂ Herzliyya, 17.v.2002, 1♂ Tel Qeshet, 1.x.2001 and 2♀ Tel Qeshet, 13.x.2001, labelled respectively under *Zizyphus* and *Casuarina*, and goat and sheep dung on soil. These have been examined by Dr. Nartshuk, who informs us that they differ from the description here given in that the spots on mesopleuron and sternopleuron are more shiny and the abdomen is yellow with a medial black line or more extensively black in females. These are not included in the type series.

Description. ♀ All bristles black. A pale clay-yellow species (Fig. 58) with white haltere, dirty yellow on frontal triangle, on three longitudinal stripes on mesonotum, on all but margin of scutellum, on anterior, upper and lower part of mesopleuron, on all but dorsal margin of sternopleuron, on wing veins, more or less infuscate on third antennal segment dorsum distad to insertion of arista and its apex, on a lateral line along margins of tergites and obscurely on fore tarsus, the arista white. Head deeper than long; eye vertically oval; gena hardly wider than apex of fore tibia; frons rectangular, as broad as long, with two minute orbital bristles on either side; frontal triangle shiny, contrasting with the heavily dusted remainder of insect, with a broad tongue of dust extending forwards and outwards from ocellar prominence; external and internal vertical bristles and ocellars equal in length and strength; antenna long, the straplike third segment as long as frons between anterior margin and anterior ocellus, rounded apically; arista thickened, as long as remainder of antenna. Thorax with 1+2 notopleural, 1 postalar, 1 dorsocentral, a pair of long scutellar apical as widely separated as the posterior ocelli and with 0–1 very short scutellar lateral bristles. Wing with apical section of M1+2 very weakly developed. Length about 2 mm.

Male: Resembling female, but with the third antennal segment having a distinct dorsoapical angle. The Israeli specimen from Ein Gedi, that from Nadal Zedim and some of those from Herzliyya have more intensive dark markings, in that the mesonotal vittae are of black ground colour, the lower margin of the mesopleuron has a shiny long black marking and the sternopleuron a shiny black triangular marking. Amongst this material there is not a great difference in altitude of localities, neither is there any significant difference in colour among specimens collected at different seasons.

Differential diagnosis: A species resembling *L. albolineatum* Deeming, but lacking the extensive black marking on occiput and the lateral white line on tergites and with the third antennal segment longer and more strap-like, quite three times as long as depth at point of arisal insertion. This is the "*Lagaroceras* n. sp." of KAPLAN 1977: 69, of which the head is figured in profile on her plate 7, fig. 30.

Genus *Stenophthalmus* Becker, 1903: 148

Type species: *Stenophthalmus ocellatus* Becker, 1903, by monotypy.

Key to Arabian species of *Stenophthalmus*:

- 1 Larger (3 mm long) species with femora largely infuscate. Third antennal segment tapering to a sharp point (c. 35°). Black median vitta of mesonotum anteriorly broader than frontal triangle, tapering to a fine point at 0.7 of length of mesonotum *typhae* Nartshuk

- Smaller (2.5mm long or less) species with yellow femora. Mesonotal vittae paler,
Third antennal segment with at most a roundedly obtuse dorsoapical angle 2
- 2. Clypeus with a roundedly trapezoid shiny black spot medially *ocellatus* Becker
- Clypeus with a pair of triangulate black markings 3
- 3. Wing whitish hyaline with a fumose band (Fig. 41) formed by
dark microtrichia running along its length, this most evident
when viewed obliquely. Humeral, notopleural and postalar
bristles pale. Mesonotal clothing hairs largely pale *occidentalis* sp. n.
- Wing whitish hyaline throughout. Mesonotal hairs, humeral,
notopleural and postalar bristles black *baderi* sp. n.

Stenophthalmus ocellatus Becker, 1903

Described (1903: 148) from Egypt and recorded from Sudan, Turkmenia and India. A single female in NMWC labelled “N. Nigeria, Zaria, Samaru, irrigated wheat plot, 12.iii.1973, J. C. Deeming” considerably extends the known distribution westward. The late Dr. S. EL-SERWY reared a large series from sugar cane (*Saccharum* sp.) at Aiat, Egypt.

Material: 1♀ Yemen: near Ta’izz, field on road to Mocha, ca. 1250 m a.s.l., 16.xii.1937, H. SCOTT & E. B. BRITTON (BMNH); 1♂ labelled “Republic of Yemen, shoot fly, CIE A13400”; 2♀ Al Kadan, 3.xii.1997-17.ii.98, Malaise trap, A. VAN HARTEN & H. M. NASER; 1♀ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 6♂, 6♀ Oman: Wadi al Uqq, on *Saccharum griffithii* in wadi bed, 25.x.1990, M. D. GALLAGHER & J. C. DEEMING; 1♂ Batinah, Rumais, weedy egg plant plot, 5.xii.1992, J. C. DEEMING; 1♂, 1♀ Ghul, on forage sorghum under date palms, 2.xi.1990, M. D. GALLAGHER & J. C. DEEMING (all in NMWC): 3♀ Saudi Arabia: Riyadh, 23.i.1980, A. S. TALHOUK; 18 ex. same data but ex maize stalk with *Sesamia* and *Anacamptoneurum obliquum*, 16.viii.1979 (all in NHMB); 1♀ Al-Akaba, 25.iii.2003, H. A. DAWAH; 1♀ Al-Dawseer, Al-Joba Village, 1.iii-30.iv.2005, Malaise trap, H. A. DAWAH (all in NMWC); 1♂ Jazan, Gizan, 30-31.i.2012, J. C. DEEMING (JU).

Stenophthalmus occidentalis sp. n. ♂♀ (Figs 59-60)

Material: Holotype ♂ Nigeria: Zaria, Samaru, 10.ii.1970, J. C. DEEMING. – Paratypes 1♂, 2♀ same data but 30.iv.1972; 1♂, 2♀ same data but iv.1972; 2♂, 2♀ same data but 26.iv.1972; 4♂, 3♀ same data but 26.iv.1972; 1♂, 3♀ same data but 8.iii.1972; 1♀ same data but 6.vi.1971; 2♀ same data but 2.vi.1971; 1♂ same data but 30.vi.1967; 1♂, 3♀ with individual puparia same data but larva coll. 4.vi. ex shoot *Hyparrhenia dissoluta*, adults emerged 21-23.vi.1968; 3♂, 1♀ with individual puparia same data but emerged iv-vi.1969 ex *Hyparrhenia cyanescens* shoots; 1♂, 2♀ with individual puparia same data but emerged v.1971 ex shoots *Pennisetum pedicellatum*; 1♀ with puparium same data but emerged 26.v.1970 ex shoot ? *Setaria* sp., B. YASHIM; 1♂, 2♀ with individual puparia same data but emerged 28-29.v.1970 ex shoots *Cyperus* sp.; 3♀ with puparia same data but emerged 25.v.1970; 1♀ same data but emerged 23.vi.1970 ex shoot *Sporobolus pyramidalis*, J. C. DEEMING; 1♀ emerged 25.iv.1968 ex guinea corn [sorghum] seedling; 1♂ same data but emerged 1.iv.1968; 1♂, 3♀ (in alcohol) Samaru, emerged xi.1979 ex sorghum shoots, A. A. ADESIYUN; 1♂ NE Borno, Ngala & Gamboru Irrigation Scheme, 27.vi.1972, M. J. BULLEN; 1♀ Zaria, Shika, 22.ii.1974, J. C. DEEMING; 1♀ Katsina, 23.vii.1985, M. C. DIKE; 5♂, 2♀

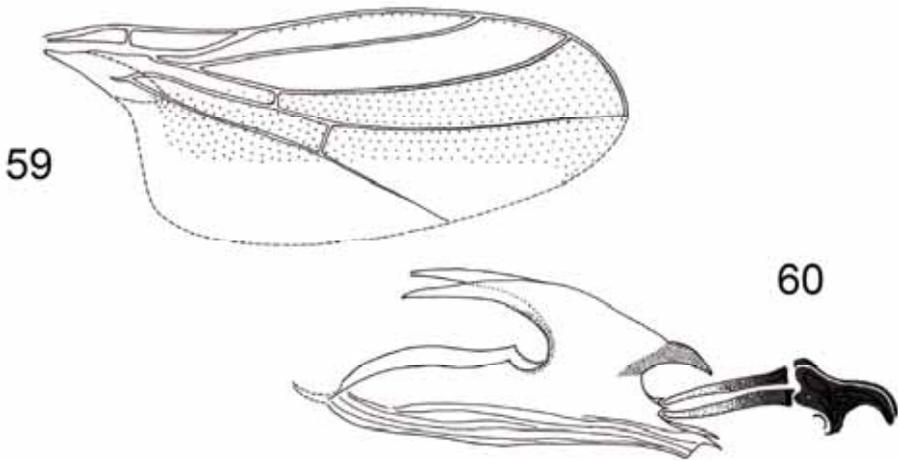


Fig. 59-60. *Stenophthalmus occidentalis* sp. n. – 59- Wing; 60- cephalopharyngeal skeleton from puparium.

16 km N of Bauchi, ripening wheat field, 19.iii.1997, J. C. DEEMING; 1♂ The Gambia: N. Bank Div., Upper Baddibu, Chamen Centre, on mature maize, 21.vii. 1997, D. J. MANN & B. A. WOODCOCK; 4♂, 3♀ Yemen: Al Kadan, 3.xii.1997-17.ii.1998, Malaise trap, A. VAN HARTEN & H. M. NASER; 1♀ same data but i.2003, A. VAN HARTEN & T. ABDUL-HAQ; 1♂ Ta'izz, ix.1999, light trap, A. VAN HARTEN & A. AWAD; 1♂ same data but v-vi.2000, A. VAN HARTEN & A. R. AL YARIMI; 1♂ same data but vii.2002; 1♀ same data but ix.2000, A. VAN HARTEN & A. R. AL YARIMI; 1♀ 12 km NW of Manakhah, 3.vii-21.viii.2001, Malaise trap, A. VAN HARTEN; 1♀ same data but 21.viii-28.x.2002; 1♀ Oman: Hazm, date palm grove beside fort, on maize, sorghum and grasses, 19.x.1990, M. D. GALLAGHER & J. C. DEEMING (all NMWC); 1♂, 1♀ Saudi Arabia: Aseer, Maraba, 12.ii.2004, H. A. DAWAH (KSU); 4♂, 2♀ same data but 15.x-30.xi.2004, Malaise trap; 1♀ Aseer, Keratha, Al-Ethrebany farm, 15.v-11.vi.2006, Malaise trap, H. A. DAWAH; 1♀ Al-Dawseer, Al-Joba village, 1.iii-30.iv.2005, Malaise trap, H. A. DAWAH; 1♀ Al-Akaba, 25.iii.2003, H. A. DAWAH; 1♂, 2♀ Jazan, Abu Aresh, Almahdag Village, 5-20.vi.2011, H. A. DAWAH; 2♀ Jazan, Gizan, 30-31.i.2012, J. C. DEEMING; 2♀ same data but 6.11.2012 (NMWC & JU); 1♂, 1♀ Sudan: Wad Medani, ix.1942, Bred on dura [sorghum] stalks infested with *Trionymus masrensis*, J. W. COWLAND (BMNH). Most of the reared Nigerian specimens are accompanied by individual puparia. Not included in the type series due to the wings lacking visible fumose markings are: 1♂ Kenya: Kahawa, 23.x.1977, Malaise trap, collector unknown; 1♂ (in glycerine) same data but 9-23.x.1977 (OUM); 1♀ Tsavo National Park (East), 4-7.iv.1968, B. COGAN & A. HUTSON (BMNH); 1♂, 5♀ in very poor condition in a microphial of glycerine labelled “Senegal: Rég. Dieuabel, viii.1983 ex. *Lema* sp. on millet, CIE.A15923” (NMWC). Regarding these last specimens, the “Lema” is most likely to be *Hapsidolema melanophthalma* Lacord, the larvae of which feed on bulrush millet when plants are weakened by water stress. As is so often the case with shoot flies whose larvae are to be found alongside the dead immature stages of other insects, they are assumed by collectors to have a parasitic biology.

Description. ♂♀ A species closely resembling *S. ocellatus* in size and external structure, but instead of the clypeus having a roundly trapezoid black shiny spot medially, having a pair of narrowly-separated triangular black markings, and in having the wing with a faintly fumose marking along its length (Fig. 59), the remainder of the wing white, the fumose appearance of the wing marking on account of the microtrichia clothing the membrane being black, whereas those on white areas are white (when viewed at an angle and with oblique lighting the fumose marking is much more evident than when viewed flat); ground colour yellow, but deep black on ocellar prominence, on a pair of clypeal triangles, on a leaf-shaped marking on lower mesopleuron and on epandrium, somewhat infusate on apex of third antennal segment, on lower margin of notopleuron, on basal corners of scutellum, on shoulders of tergite 2 and on a broad medial and lateral line on terites 1-5, and on apical half of fore tibia, its entire tarsus and more apical segments on other tarsi, the arista and haltere white. Mesonotum with three broad reddish brown longitudinal vittae, which are narrowly separated, the median one extending onto base of scutellum, mesonotal hairs largely white, as are also the humeral, notopleural and postalar bristles; scutellar disc hairs black; bristles of head, pleura and abdomen white. Wing veins brown. Dorsal angle of third antennal segment obtuse, difficult to detect; frons widened posteriorly; depth of gena at least one third of height of eye. Length c. 1.4 mm.

Puparium: Yellowish-brown, cylindrical, 3 mm in length, 0.7 mm in greatest breadth; anterior spiracle a fan of four digitations; cephalopharyngeal skeleton (Fig. 60) lacking visible teeth, the dentary sclerite a narrow curved, new-moon-shaped sliver.

Differential diagnosis: Immediately recognizable on account of the combination of bicoloured wing and pair of triangular dark clypeal spots.

Stenophthalmus baderi sp. n. ♂♀

Material: Holotype: ♂ Saudi Arabia: Aseer, Maraba, cultivation under palms, 1.ii.2012, J. C. DEEMING & H. A. DAWAH (NMWC). – Paratypes 3♂, 8♀ same data as holotype (NMWC, JU, KSU).

Description and diagnosis. A species resembling *S. occidentalis* sp. n., differing from it in having the mesonotal hairs and bristles black and lacking a fumose band along the length of the wing. There is some variation in the colour of the ocellar bristles, in the holotype and one female paratype one bristle is black and the other white, whereas in one female paratype both are black. Not included in the type species is a single male labelled Kenya, 80 km N Nakuru, 26.viii.1983, A. FREIDBERG, which we tentatively ascribe to this species. It has the anterior face of the thorax bearing a shiny black semicircular spot above the neck.

Etymology. The species is named in honour of Mr. Bader AKESHY of Jazan University, who most competently operates the Malaise traps from which Prof. DAWAH has obtained so much interesting material.

Stenophthalmus typhae Nartshuk, 1971

Described (1971a: 710) from Turkmenistan, Tajikistan and Afghanistan and further recorded by NARTSHUK (1984: 297) from Uzbekistan.

Material: 1♀ Muscat, Al Ansab, 23.ii.1989, M. J. EBEJER; 1♂ Wadi Al Khoud, 23.x.1988, M. J. EBEJER (both in NMWC).

Genus *Lasiosina* Becker, 1910a: 73

Type species *Chlorops cinctipes* Meigen, 1830, by original designation, misidentification = *Chlorops herpini* Guérin-Ménéville, 1843.

Key to Arabian species of *Lasiosina*:

1. Mesonotal vittae black throughout. Scutellum with several strong lateral bristles. The black median vitta on upper occiput sometimes connected to a transverse black vitta that extends outwards to connect with eye margin *apicata* (Becker)
- Mesonotal vittae orange brown, not strongly contrasting with the yellow mesonotal ground colour, the median vitta black on forward-facing slope and the laterals with a black line in them on posterior half. Scutellum with a pair of apical marginal bristles and a weak lateral pair. Upper occiput only black on a median line *lucidifrons* (Becker) **comb. nov.**

Lasiosina apicata (Becker, 1913)

Through the kindness of Dr. Ágnes DELY-DRASKOVITS one of us (JCD) has been able to examine the type material in the Hungarian Natural History Museum, Budapest. This consists of 1♂ labelled as type and 2♀ as syntypes and are labelled “Abyssinia, Maraka, iii.1912, Kovács”. Some variation appears in this material, the male and one female having 5 lateral bristles on either side of the scutellum and the remaining female three.

This species was recorded by DAWAH & ABDULLAH (2006: 29) from the specimen cited below. It was, understandably, described (1913: 148) from Ethiopia into the genus *Chlorops*, the orbital bristles, though few in number, not being noticeably enlarged. It was placed in the present combination by SABROSKY (1980: 709). In NMWC is material from the highlands and Rift Valley of Kenya and from coastal areas of Nigeria and the Gambia, and Dr. J. W. ISMAY informs us that he has collected 1♂, 3♀ in Zimbabwe, Mazowe, river margin, 16.ii.1997 (J. W. ISMAY coll.). All this material is very variable in colour, but shares the same peculiar chaetotaxy of the scutellum that appears in the male type and 2 female syntypes. There is in addition to the single pair of long apical bristles a comb on either side of 3-5 close-set lateral marginal bristles that are of equal length but much shorter than the apical bristles.

Material: 1♀ Saudi Arabia: Abha, Madenat Ameer Sultan, 25.ii-25.v.2002, H. A. DAWAH; 5♂, 7♀ Kenya: Rift Valley, Ol Arabe Gorge, 11-18.xi.1988, R. K. BUTLIN (NMWC); 1♂ Kericho, 1980 m a.s.l., 17.xii.1970, A. E. STUBBS; 1♀ N of Nakuru, Molo, 17.xii.1970, A. E. STUBBS (BMNH); 1♂ West Pokot, Chepareri, 4-5.xi.1983, A. FREIDBERG; 1♀ Hunter’s Lodge, 150 km SE of Nairobi, 18.viii.1983, A. FREIDBERG; 1♀ Nigeria: Lagos, Ikoyi, 15.iv.1974, M. A. CORNES; 1♀ Lagos State, Ogun Swamp, 6.i.1974, M.A. CORNES; 1♂, 1♀ The Gambia: Western Division, grasses bordering Kotu stream, 26.xi.1993, J. C. DEEMING (NMWC).

Lasiosina lucidifrons (Becker, 1903) **comb. nov.**

Described (1903: 146) in the genus *Chloropisca* from Egypt and transferred (1910: 98) to *Chlorops*. The orbital bristles, which are usually enlarged in *Lasiosina*, are very small and weak in this species. The male genitalia having the surstylus fused to the epandrium in our view places it in *Lasiosina*, even though the postgonites are fused to the hypandrium. *La-*

siosina aurea Dely-Draskovits, described (1981b: 270) from Israel, upon examination of paratypes proves to be synonymous. **syn. nov.**

Material: 2♂ Egypt: Minya, Zaw el Sultan, 28.xi.2000, P. SKIDMORE; 1♂ same data but 30.xi.2000; 1♂, 1♀ El-Tawila, Alfalfa crop, 14.iv.2000, P. SKIDMORE; 1♂ Shirbin, ix.2000, S. El-Serwy; 1♂, 1♀ Kom-el-Dik, 29.xi.2000, P. SKIDMORE (NMWC); 1♀ Kenya: Tsavo National Park (East), 4-7.iv.1968, B. COGAN & A. HUTSON (BMNH); 1♂, 1♀ Oman: Hayl al Ghaf, weedy cultivation under palms, 6.xi.1992, M. D. GALLAGHER & J. C. DEEMING; 1♂ Muscat, Bowsher, on preheading irrigated forage *Pennisetum* under date palms, 28.x.1990, M. D. GALLAGHER & J. C. DEEMING; 2♂ Muscat, Al Ansab, 26.i.1990, M. J. EBEJER; 1♂ Muscat, 5.iii.1988, M. J. EBEJER; 1♂ near Barka, 15.viii.1994, M. D. GALLAGHER; 1♂ Batinah, Rumais, weedy egg plant plot, 5.xii.1992, J. C. DEEMING; 1♀ Batinah, Sohar, on egg plant, 6.xii.1992, J. C. DEEMING; 1♀ N Nigeria: Zaria, Samaru, 12.iii.1973, irrigated wheat plot, J. C. DEEMING; 1♀ 16 km m N of Bauchi, on ripening wheat, 10.iii.1997, J. C. DEEMING; 1♂ Bauchi, on pond grasses, 1-7.iii.1997, J. C. DEEMING; 1♂, 5♀ NE Borno, Ngala & Gaboru Irrigation Scheme, wheat plot, 28-29.ii.1972, J. C. DEEMING; 1♀ The Gambia: Pirang, on young rice, 20.xi.1993, J. C. DEEMING; 2♂, 4♀ W. Division, grasses bordering Kotu stream, 26.xi.1993, J. C. DEEMING; 2♂, 5♀ India: A. P., Hyderabad, 28.x.-4.xi.1971, A. C. PONT & J. C. DEEMING; 1♂ Pakistan: Karachi, on *Cymbopogon*, C.I.E. A8515 (NMWC).

Genus *Metopostigma* Becker, 1903: 146

Type species *Chlorops tenuiseta* Loew, 1860, by original designation.

Key to Arabian species of *Metopostigma*:

1. Third antennal segment about 1.3 times as long as deep at insertion of arista *tenuiseta* (Loew)
- Third antennal segment about 1.5 times as long as deep at insertion of arista..... *sabulona* Becker

Metopostigma tenuiseta (Loew, 1860) (Fig. 61)

Described (1860: 96) into the genus *Chlorops* from Namibia and further recorded from Mozambique, Nigeria, South Africa, Sudan, Tanzania, Egypt and Palestine.

Material: 1 ex. Saudi Arabia: Jeddah, around wheat seedlings, 1967, F. RAMADHAN, det. A. C. PONT; 1♀ Yemen: Sana'a, RATHJENS (both in BMNH).

Metopostigma sabulona Becker, 1910 (Fig. 62)

Described (1910a: 64) from Egypt (Port Said) and further recorded from Israel and Pakistan, there is further material in NMWC from India (Balotra). Recorded by DAWAH & ABDULLAH (2006: 29) from SW Saudi Arabia and by DEEMING (2011: 799) from UAE, Oman, Yemen and Tunisia. This is in Arabia a very common fly.

Material: 1♂, 1♀ Saudi Arabia: Jeddah, 28.ii.1979 W. BÜTTIKER; 1♀ Riyadh, 23.iv.1978, A. S. TALHOUK; 1♀ Riyadh, 4.x.1977, W. BÜTTIKER; 13♂6♀ Jizan, 1.iii.1984, A. TALHOUK; 16 ex. in poor condition, Hofuf, 15.v.1980, A. S. TALHOUK (all in NHMB); 4♂, 10♀ Ibb Reserve National Park, Hutet Bani Tamim, 180 km S of Riyadh, sweeping grass, 28.v.2010, H.

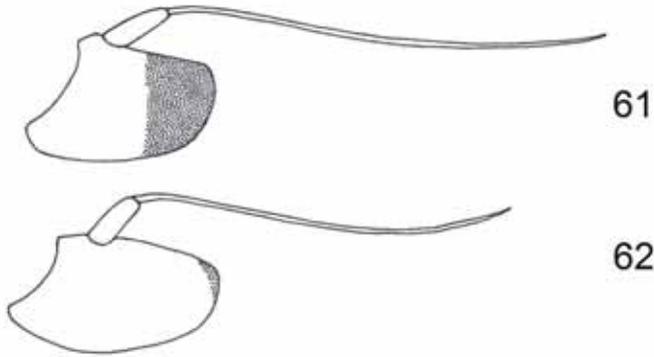


Fig. 61. *Metopostigma tenuiseta* (Loew), female, third antennal segment and arista. – Fig. 62. *Metopostigma sabulona* Becker, female, third antennal segment and arista.

AL-DHAFER, A. ELGHARBAWY & EL TORKEY; 6♀ same data but 10.vi.2010, AL DRYHIM, AL-DHAFER & EL GHARBAWY; 4♀ Tumayr, 1.ii.2010, Malaise trap, AL DHAFER & AL HUSEIN; 17♂, 29♀ Jizan Road – Ahad Al Masarcha, 11-12.iii.2010, light trap, AL-DHAFER & EL GHARBAWY; 1♂, 3♀, Deirab, sweeping alfalfa, 31.x.2010, H. A. DHAFER & H. SETYANINGRUM; 1♂, 1♀ Abu Aresh, Faisel Al Refae, sweeping weedy preheading forage sorghum, 10.ii.2012, J. C. DEEMING & H. A. DAWAH (KSU, JU & NMWC).

Remarks: In describing *Metopostigma* [*sic*] *sabulona* from three examples from the Simony collection, BECKER stated that were it not for the longer antenna he would have regarded them as being a dark variety of *M. tenuiseta* Loew. Neither of us has seen the types of either *M. tenuiseta* or *M. sabulona*, but the late unrivalled chloropid authority Dr. Curtis W. SABROSKY did. To illustrate this difference we have selected specimens of both species in the BMNH collection bearing his identification labels and from localities well outside their range of overlap of distribution. Both specimens are female, that of *tenuiseta* (Fig. 61) being labelled “Nyasaland, Limbe, ix.1916, R.C. Wood” and that of *sabulona* (Fig. 62) “Punjab, Lyalpur, lac on fig. 6.6.29” to illustrate this difference. Examination of many specimens of both species reveals no sexual dimorphism in antennal structure to be present.

Genus *Eutropha* Loew, 1866 (1861): 26

Type species : *Chlorops fulvifrons* Haliday, by designation of BECKER (1910a: 590).

Key to Arabian species of *Eutropha*:

1. Longitudinal vittae on mesonotum dulled by whitish dusting sp. ? *farinosa* (Becker)
 - Longitudinal vittae on mesonotum shiny 2
2. Mesonotal vittae deep black throughout and shiny, contrasting strongly with the yellow mesonotum, and extending laterally on to basal half of sides of scutellum *dancei* sp. n.
 - Mesonotal vittae reddish brown, in some cases black in part, never extending on to sides of scutellum 3

- 3. Scutellum with a narrow but distinct transverse black band extending across base siphloidea (Duda)
 - Scutellum dorsally yellow or orange to base 4
- 4. Third antennal segment much longer deep and longer than maximum height of gena, in both sexes being yellow with a distinct black line dorsally and a more or less developed dorsoapical angle *longicornis* **sp. n.**
 - Third antennal segment not longer than deep, having a truncate appearance sp.

Eutropha dancei **sp. n.** ♂♀

Material: Holotype ♂ Oman: N. Masira Island, B.E.R.S. Camp 5-7.iii.1995, S. P. DANCE (NMWC). – Paratypes 1 ♂ same data as holotype; 1♂ Oman: Ras Ghubbah, 5m, at light, 19.iv.1997, M. D. GALLAGHER; 2♂, 2♀ Yemen: Mukalla, vi.2003, at light, A. VAN HARTEN & M. HUBAISHAN (all NMWC). Note: The “B.E.R.S” refers to a radio relay station on the island.

This species resembles *Eutropha albipilosa* (Becker), described (1908: 147) into the genus *Chlorops* from the Canary Islands and further recorded from Spain, Morocco and Israel, differing from it in markings, thus:

<i>Eutropha albipilosa</i>	<i>Eutropha dancei</i>
All black mesonotal vittae ending short of the scutellum by quite one half of scutellar length	Major lateral black vitta extending unbroken onto side of scutellum to fully half scutellar length
Outside the lateral mesonotal vitta a short postsutural deep black vitta in a supraalar position, this narrowly separate from the lateral vitta	This postsutural vitta indistinct and merging into lateral vitta, in some cases appearing pale brown
Humerus with a distinct black spot and a smaller one on notopleuron at its junction with humerus	These not evident
Upper occiput black, with a broad postocular yellow margin and a narrower yellow band immediately beneath vertex	Upper occiput yellow throughout
A black vertical stripe on pteropleuron from its base tapering to base of wing	No distinct black pteropleural marking
Basal half to two thirds of all femora black	Legs yellow, only the hind tibia infuscate on a broad band at middle

Description ♂♀: A yellow species with entire hairs and bristles pale yellow, shiny, with sparse pale dusting restricted to gena, face, sides of frons and legs, black on and narrowly surrounding ocelli; on three broad mesonotal longitudinal vittae, the lateral of which encroaches upon dorsum of humerus and side and underside of scutellum, on a long leaf-shaped marking on lower margin of mesopleuron, on a large triangular marking covering all

but margins of sternopleuron, on a vertical marking on lower two thirds of hypopleuron, narrowly around base of the whitish-yellow haltere, on postnotum, on median triangles, which merge into one another, on basal five tergites and on shoulders of tergite 2 and laterally on tergites 3-5, and on male epandrium; sparse pale dusting, often scarcely visible, only on head with exception of frontal triangle, on dorsum of scutellum and on upper pleura. Head with frons longer than wide, broader at anterior margin than at vertex; frontal triangle straight-sided extending two thirds of length of frons, posteriorly separated from eye margin by a distance equal to diameter of an ocellus; eye oblique, its length equal to twice depth of gena; vibrissal angle slightly greater than a right angle; proboscis geniculate but short. Thorax with mesonotum viewed in profile very convex, the scutellum less so; scutellar apical marginal bristles long, cruciate, three quarters of scutellar length, approximated, their interval being slightly less than that separating posterior ocelli, the lateral pair much shorter and more widely spaced. Wing hyaline with brown veins, M1+2 being very weakly developed distad to discal cell and first costal sector a little convex, being widest just distad of humeral crossvein. Length about 2-2.2 mm, of wing 1.8-2.0 mm.

Variation within the species: *E. dancei* shares with *E. albipilosa* and *E. siphloidea* a sexual difference in antennal colour, males having entirely yellow antennae and females having the third antennal segment black and the second segment somewhat infusate. In the type series of *E. dancei* variation that cannot be attributed to sex occurs, being in the length of the median mesonotal vitta. In the Masira males, the Ghubra female and one Mukalia male this extends to the groove separating mesonotum from scutellum, whereas in the remaining Mukalia females this extends backwards for only 0.6 and 0.7 of mesonotal length respectively. Also the length of the lateral tergal black spots varies, in the Omani material these are long and form an unbroken line, whereas in the Yemeni material that on tergite 4 is longest and those on tergites 3 and 5 short, even being absent on 3 in one specimen.

Etymology: This species is dedicated to its collector, the concologist Dr. Peter DANCE, who at the request of one of us took a Malaise trap to Masira Island and brought back a valuable collection of Diptera, which he kindly presented to NMWC.

Note: Material of *E. albipilosa* used in comparison is all from Morocco, being 3♂, 1♀ El-Jadida, Azemmour, beach, dunes, 11.vi.2005, P. GATT; 1♀ Safi, Oued Tensift, estuary, 12.vi.2005, P. GATT (NMWC); 1♂, 1♀ Tétouan, 17 km N of Larache, beach dunes, 11.v.2012, M. J. EBEJER (EBEJER coll.).

Eutropha longicornis sp. n. ♂♀ (Fig. 63)

Material: Holotype ♂ Oman: Sahil Al Jazir, Wadi Salit, 18°57'N, 57°31'E, on *Aeluropus* grass, 26.xi.1999, M. D. GALLAGHER (NMWC). – Paratypes, 2♂ same data as holotype; 1♂, 2♀ Jebel Sahir, Khor Dirif, 18°04'N, 57°20'E, 26.xi.1999, M. D. GALLAGHER; 4♀ Dhofar, 17°01'N, 54°12'E, mangrove creek with grass, 10.xii.1996, M. D. GALLAGHER; 2♀ Dhofar, Khor Taqah, 12.xi.1992, mixed *Juncus rigidus*, *Juncellus laevigatus* and *Sporobolus virgatus*, J. C. DEEMING; 2♀ Dhofar, Salalah, Razat, Royal Farm, on fodder maize (all plants with symptoms of Storey's Disease), 10.xi.1992, J. C. DEEMING; 3♂, 3♀ Salalah, Qurm al Kabir, on *Sporobolus virgatus*, 11.xi.1992, J. C. DEEMING; 1♀ Saudi Arabia: S. Riyadh region, Ibex Reserve National Park, W. Hutet Beni Tamem, 4.iv.2008, Y. AL DORYHEM, H. AL-DHAFFER, M. ALMOTAIRY & ALGHARBAWY; 1♂ Yemen: Lahj, x.2000, Malaise trap, A. VAN HARTEN & A. SALLAM; 2♂ environs of Zinjibar, 21.iii.1993, A. VAN HARTEN; 1♂ Al Kowd, viii.1999, light trap, A. VAN HARTEN & A. AWAD; 1♂, 4♀ same data but A. VAN HARTEN & S. A. AL HARURI; 3♂, 1♀ same data but iii.2000; 6♂, 1♀ same data but iv.2000;

2♂, 1♀ same data but vii.2000; 4♂, 1♀ same data but viii.2000; 2♀ same data but xi.2000; 3♀ same data but i-iii.2003; 1♀ same data but ix. 2003, A. VAN HARTEN.

Note: All of the above localities are (as is to be expected) coastal habitats, with the exception of the Royal Farm, Razat, which is some kilometres from the coast.

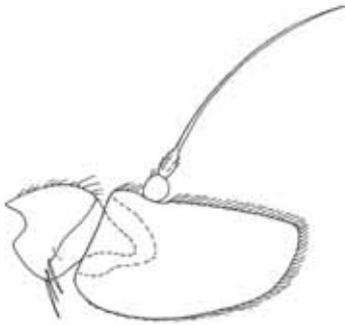


Fig. 63. *Eutropha longicornis* sp. n., female, second and third antennal segments and arista, macerated.

Description: ♂♀ A small species with chaetotaxy pale, without evident dusting anywhere, though frons excluding frontal triangle silken in texture, dirty yellow in colour, black on dorsal half of second and third antennal segments, on ocellar prominence, on extreme lateral corners of scutellum, on entire postnotum, in male on epandrium and in female on anal cerci; mesonotum with three distinct reddish brown longitudinal vittae that presuturally are almost in contact with one another, the median one continuing indistinctly onto dorsum of scutellum; a long narrow brown band on lower margin of mesopleuron, on full height of pteropleuron, on a large triangular marking on sternopleuron and on most of hypopleuron; legs somewhat infuscate on fore tibia and tarsus, on mid leg on middle two fifths of length of tibia and on apical 2-3 segments of tarsus, and on hind leg on entire trochanter and tibia; haltere yellow; wing hyaline with pale brown veins; abdomen with tergites 1 + 2 more or less yellow, sometimes with infuscate shoulders, the remaining tergites dark brown. Head with gena broad, two fifths of height of eye, the vibrissal angle well forward of middle of face; third antennal segment (Fig. 63) with basal segment almost globular and situated in a shallow round depression. Mesonotum somewhat humped; scutellum rounded dorsally and there clothed with numerous hairs, the apical marginal bristles separated by a distance approximately equal to that separating posterior ocelli, almost as long as scutellum, and with a pair of lateral marginals that are half their length and separated from them by a distance equal to their interval.

Note: In ANDERSSON's (1977: 117) key to the genera of Chloropinae this species would not trace to *Eutropha* satisfactorily, the third antennal segment being much longer than deep (Fig. 63) and resembling that of *Bathyparia praeclara* Lamb, 1917. However, unlike *Bathyparia*, its mesopleuron is bare.

Eutropha siphloidea (Duda, 1930)

Described (1930: 302) in the genus *Chlorops* from Sri Lanka and India. Recorded (DEEMING 2011: 795) from coastal localities in Oman and the UAE.

Eutropha sp.

Material: 1♂ Yemen: environs of Zinjibar, 21.iii.1993, A. VAN HARTEN (NMWC).

This is a small pale species, black only on ocellar prominence and postnotum, with pale brown mesonotal vittae and brown markings on the shoulders of tergite 1+2 and on a medial triangle on tergites 3 and 4, these markings occupying not more than one half of length of respective tergites.

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Authors' addresses: Dr J. C. Deeming, Honorary Research Fellow, Dept. Biodiversity & Systematic Biology, National Museum of Wales, Cathays Park, Cardiff CF10 3NP, U.K. – Dr H. Al-Dhafer, Department of Plant Protection, College of Food & Agricultural Sciences, King Saud University, P.O. Box 2460, Riyadh 11451, Kingdom of Saudi Arabia. – Email contact: hdhafer@ksu.edu.sa.

Annex:

Checklist of recorded Arabian Chloropidae and their distribution

Siphonellopsinae

Apotropina Hendel, 1907

- gregalis* (Lamb, 1937) Namibia; Nigeria; this paper Mali, Niger, Cape Verde Islands, Saudi Arabia, Yemen.
- vittata* (Sabrosky, 1959) Lesotho; south Africa, Ethiopia, "Rhodesia", Madagascar; this paper Saudi Arabia, Namibia, Zimbabwe.

Oscinellinae

Rhodesiella Adams, 1905

- divergens* (Malloch, 1931b) "Rhodesia"; widespread Subsaharan Africa; this paper: Yemen.
- fedtshenkoi* Nartshuk, 1978 Kyrgyzstan, Japan, this paper Yemen, Saudi Arabia, Tunisia, Greece, Morocco.
- flavitarsis* Sabrosky, 1957 Cape Verde Islands; this paper: The Gambia, Nigeria, Yemen.
- rugosa* (Lamb, 1912) Seychelles; ?South Africa; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Oman, Yemen, Saudi Arabia, Egypt, Sri Lanka.
- subditica* (Lamb, 1937) Sierra Leone; Ivory Coast, Kenya, Malawi, Nigeria, Rwanda, Tanzania, Uganda, Zambia; this paper: Yemen, The Gambia.

Scoliophthalmus Becker, 1903

- cryptonevriformis* sp. n. Yemen.
- micans* Lamb, 1918 India; Sri Lanka, Malaysia, Philippines; DEEMING (2011): UAE, Oman.
- micantipennis* Duda, 1935 Tanzania; widespread subsaharan Africa; this paper Saudi Arabia.
- trapezoides* Becker, 1903 Egypt; Kenya, Uganda, Tanzania, Zanzibar, Mozambique, Senegal, Burkina Faso, Nigeria, Cameroun, South Africa; DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): UAE, Oman; this paper Yemen.

Anatrichus Loew, 1860

- erinaceus* Loew, 1860 Namibia; widespread Afrotropical Region; GADALLAH & BOSLY (2006): Saudi Arabia; this paper Yemen.
- pygmaeus* Lamb, 1918 Sri Lanka; Oriental Region, Japan; this paper: Nigeria, Liberia, The Gambia, Ethiopia Egypt, Yemen, Saudi Arabia.

Elachiptera Macquart, 1835

- acanthellata* sp. n. Yemen, Kenya, Malawi.
- bimaculata* (Loew, 1845) Greece; widespread southern Europe, Mediterranean, North Africa, Canary Islands; this paper: Saudi Arabia.
- occipitalis* Becker, 1910b Kenya, widespread Subsaharan Africa; this paper: Yemen.
- rufescens* (Walker, 1871) Egypt; this paper: Saudi Arabia, Morocco.
- sibirica* Loew, 1858a Siberia, widespread southern Europe east to Mongolia, China, Japan and North Korea; this paper; Saudi Arabia.
- simplicipes* Becker, 1910d Kenya, widespread tropical Africa; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Oman, Yemen.

Melanochaeta Bezzi, 1906

atricornis (Adams, 1905) "Rhodesia" (Zimbabwe or Zambia), widespread East Africa; this paper: Yemen.

flavofrontata (Becker, 1903) Egypt; KAPLAN (1977): Israel; DEEMING (2011): Bahrain, Oman, Yemen, Lebanon; this paper: Saudi Arabia, Libya, Niger, Nigeria, Mali, Tchad.

scapularis (Adams, 1905) "Rhodesia" (Zimbabwe or Zambia); this paper: Sierra Leone, The Gambia, Ghana, Nigeria, Kenya, Uganda, Tanzania, Zimbabwe, Saudi Arabia, Yemen.

vulgaris (Adams, 1905) "Rhodesia" (Zimbabwe or Zambia), widespread Subsaharan Africa; this paper: Yemen, Saudi Arabia.

Lasiochaeta Corti, 1909

umbrosa (Becker, 1924) comb. nov. Taiwan, Viet Nam, Cambodia, Japan, India, Philippines, Thailand; this paper: Oman, Syria, Sri Lanka, Sulawesi Utara, Kenya.

Cadrema Walker, 1860

pallida (Loew, 1865) Cuba, tropically cosmopolitan; DEEMING (2011): UAE, Oman, Yemen.

Gaurax Loew, 1863

amabilis (Becker, 1913) comb. nov. Ethiopia, South Africa; this paper: Yemen, Kenya.

Hapleginella Duda, 1933

arabica Deeming, 2011 UAE, Oman, Yemen.

Pselaphia Becker, 1911

acuticornis sp. n. Yemen.

albiseta sp. n. Saudi Arabia, Yemen.

cornifera Becker, 1912 Ethiopia; Uganda, Rwanda, South Africa; DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): UAE, Yemen.

flava Sabrosky, 1957 Cape Verde Islands; DEEMING (2011): UAE.

sabroskyi sp. n. Yemen.

yemenensis sp. n. Yemen.

Pseudogaurax Malloch, 1915

coyleae Cogan, 1977 Madagascar; Seychelles; this paper: Yemen.

longicornis Sabrosky, 1947 Uganda, Malawi, Nigeria; this paper: Cape Verde Islands, Yemen.

Dicraeus Loew, 1873

bothriochloae Nartshuk, 1978 Turkmenistan, Tajikistan; DEEMING (2011): UAE, Oman, Saudi Arabia; this paper: Yemen.

Anacamptoneurum Becker, 1903

obliquum Becker, 1903 DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): UAE, Oman Yemen.

Epimadiza Becker, 1910

auripes Sabrosky, 1947 South Africa; this paper: Yemen, Seychelles (Aldabra Is.).

fascipennis Sabrosky, 1945 Malawi, Nigeria; this paper: Botswana, Transvaal, Yemen.

flavibasis Sabrosky, 1947 Uganda, Kenya; this paper: Yemen.

gallicola Séguy, 1933 Mozambique; widespread Subsaharan Africa; this paper: Yemen, Saudi Arabia.

nigrescens Duda, 1933 Israel, widespread Africa; DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): UAE, Yemen, Oman.

nigricoxa Sabrosky, 1947 Kenya; this paper: Yemen.

- pectinata* Sabrosky, 1947 South Africa; this paper: Yemen.
rugosa (de Meijere, 1906) Cameroun; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.
- Lasiambia* Sabrosky 1941
albidipennis (Strobl, 1893) Slovenia, Herzgovina, Turkey; DEEMING (2011): UAE, Saudi Arabia, Israel, Spain.
brevibucca (Duda, 1933) Poland, widespread Europe; DEEMING (2011): Turkey, UAE.
- Polyodaspis* Duda 1933
abhaensis sp. n. Saudi Arabia.
picardi Séguy, 1946 France; EBEJER (2010): Balearic Islands, Malta, Cyprus; this paper: Yemen, Kenya, Greece, Tunisia, Portugal.
robusta (Lamb, 1918) Zimbabwe; DAWAH & ABDULLAH (2006): Saudi Arabia.
- Calamoncosis* Enderlein, 1911
aenescens (Becker, 1916) Uganda; this paper: Yemen, Ethiopia, Kenya, Mozambique, Namibia.
abbreviata Deeming 2011 UAE, Botswana.
sorghivora sp. n. Yemen, Saudi Arabia.
- Siphunculina* Rondani, 1856
ornatifrons (Loew, 1858) Sicily, widespread Old World, Cape Verde Islands to Hawaii; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.
striolata (Wiedeman, 1830) China, widespread warmer parts of Old World; this paper: Saudi Arabia, Yemen.
- Strobliola* Czerny in Czerny & Strobl, 1909
flavofacies (Becker, 1910) Tanzania, widespread tropical Africa; DAWAH & ABDULLAH (2006) Saudi Arabia; this paper: Yemen.
minima (Lamb, 1918) India; this paper: Oman.
- Tricimba* Lioy, 1864
africana sp. n. Cape Verde Is., Mali, „Rep. Pop. Benin“, Nigeria, Yemen, Seychelles Is., Kenya, Botswana, South Africa, Namibia.
bimarginata Sabrosky, 1979 Comores Island; DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): UAE, Yemen.
humeralis (Loew, 1858) Sicily, Europe and North Africa and from Azores Islands to China; DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): UAE, Oman, Yemen.
setosa Lamb, 1918 Natal, Zimbabwe; Rwanda; this paper Nigeria, Mali, The Gambia, Kenya, Yemen.
setulosa (Becker, 1903) Egypt; Israel; this paper: Saudi Arabia, Jordan, The Gambia, Nigeria, Ethiopia.
stigma Kanmiya, 1983 Japan; this paper Hong Kong, Oman, Yemen, Kenya, Nigeria, Benin, Mali.
- Aphanotrigonum* Duda, 1933
femorellum Collin, 1946 England, widespread Europe east to Russia; DEEMING (2011): UAE, Oman, Turkey, Tunisia, Malta; this paper: Saudi Arabia.
subfasciellum Collin, 1949 Egypt; DEEMING (2011): UAE, Oman, Yemen, Lebanon, Nigeria; this paper: Saudi Arabia.
vanemdeni sp. n. Saudi Arabia, UAE.
- Conioscinella* Duda, 1929.
spp.

Incertella Sabrosky, 1980

albipalpis (Meigen, 1830) provenance not stated; widespread Europe east to Mongolia and China; this paper: Oman.

dimorphica sp. n. Oman, Bahrain, Yemen.

Meijerella Sabrosky, 1976

flavisetosa Sabrosky, 1976 Hawaii, Malaysia, Mariana Island, Guam, Japan (Bonin Island); DEEMING (2011): Yemen, Sri Lanka.

Oscinella Becker, 1909

acuticornis Becker, 1912 Ethiopia, Seychelles; DEEMING (2003): The Gambia, Namibia, Nigeria, Yemen, Mauritius; DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): UAE.

dimidiofrit Becker, 1913 Ethiopia, Sudan, East and South Africa; this paper: Saudi Arabia, Yemen.

nartshukiana Beschovski, 1978 Bulgaria; DEEMING (2003): widespread Mediterranean, Africa and warmer parts of Old World including Oman; DAWAH & ABDULLAH (2006): Saudi Arabia.

nitidissima (Meigen, 1838) Germany, widespread in Holarctic, Tunisia; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.

nitidigenis (Becker, 1908) Teneriffe, widespread Africa and its islands, India; DAWAH & ABDULLAH (2006): Saudi Arabia.

Sabroskyina Beschovski, 1987

aharonii (Duda, 1933) Israel; widespread Africa south to Nigeria, and from Cape Verde Islands to Pakistan; DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): Bahrain, Yemen, Oman, Seychelles.

sinuata sp. n. Saudi Arabia, Yemen, Oman, Kenya, Mali, Zimbabwe.

Hippelates Loew, 1863

proboscideus Williston, 1896 St. Vincent, from USA (Texas and Georgia) south to Brazil; DEEMING (2011): UAE (established from inadvertent introduction).

Arcuator Sabrosky, 1985

deemingi Sabrosky, 1985 Namibia, Nigeria; this paper: Yemen.

latimaculosus Sabrosky, 1985 Democratic Republic of Congo („Zaire”); this paper: Oman.

nigerensis Sabrosky, 1985 Niger, Nigeria, Senegal; DEEMING (2011): UAE, Yemen, Saudi Arabia, Oman.

opacus (Becker, 1912) Ethiopia; South Africa, DAWAH & ABDULLAH (2006): Saudi Arabia, this paper Yemen.

stigmaticus (Lamb, 1912) Seychelles, widespread Afrotropical Region; this paper: Yemen.

Caviceps Malloch, 1924

sp. DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.

Trachysiphonella Enderlein, 1936

carinifacies Nartshuk, 1964 Mongolia, Kazakhstan, Tajikistan, Greece; DEEMING (2011): UAE, Yemen; this paper: Oman.

dawahi sp. n. Saudi Arabia, Yemen, Oman.

recurva sp. n. UAE, Oman.

Chloropinae*Elachiptereicus* Becker, 1909

abessynicus Becker, 1913 Ethiopia, widespread Afrotropical Region; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.

bistriatus Becker, 1909 Ethiopia, widespread Afrotropical Region; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.

Mepachymerus Speiser, 1910a

baculus Speiser, 1910a Tanzania, widespread Afrotropical Region; this paper: Saudi Arabia.

lentus (Curran, 1928) Democratic Republic of Congo („Zaire”), widespread Afrotropical Region; DAWAH & ABDULLAH (2006): Saudi Arabia.

Steleocerellus Frey, 1961

tenellus (Becker, 1910b) Tanzania; this paper: Nigeria, Ethiopia, Kenya, Yemen.

Semarangia Becker, 1911

dorsocentralis Becker, 1911 India, Java, widespread Old World tropics; this paper: Yemen.

Meromyza Meigen, 1830

nigriventris Macquart, 1835 France, throughout Palaearctic Region from Spain to Japan; this paper: Saudi Arabia.

Pachylophus Loew, 1858

gallagheri Deeming, 2011, Oman, UAE, Saudi Arabia, Pakistan.

pellucidus Becker, 1910d, Kenya, Tanzania; this paper: Yemen, Saudi Arabia, Ethiopia.

proximus Adams, 1905 “Rhodesia” (Zimbabwe or Zambia), widespread tropical Africa; DAWAH & ABDULLAH (2006): Saudi Arabia.

Chloropsina Becker, 1912

angustigenis (Becker, 1912) Ethiopia; this paper: Yemen.

enigma sp. n. Saudi Arabia, Yemen, Nigeria, Mali.

Neoloxotaenia Sabrosky, 1964

gracilis (de Meijere, 1908) Java, widespread Oriental Region, Japan, Hawaii; DEEMING (2011): Yemen.

Eutropha Loew, 1866

dancei sp. n. Oman, Yemen.

? *farinosa* (Becker, 1911) Formosa; DEEMING (2011): UAE.

longicornis sp. n. Oman, Yemen, Saudi Arabia.

siphloidea (Duda, 1930) Sri Lanka, India; DEEMING (2011): UAE, Oman.

Homops Speiser, 1923

madagascariensis (Enderlein, 1911) Madagascar, Mozambique, South Africa; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Nigeria, Ghana, Kenya, Yemen.

Merochlorops Howlett in Maxwell-Lefroy, 1909

vanharteni sp. n. Yemen, Saudi Arabia.

Parectecephala Becker, 1910

trimaculata (Adams, 1905) “Rhodesia” (Zimbabwe or Zambia), Uganda; DAWAH & ABDULLAH (2006): Saudi Arabia.

Thaumatomyia Zencker, 1833

notata (Meigen, 1830) Europe, widespread Palaearctic Region, Ethiopia, Somalia, Uganda; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.

sulcifrons (Becker, 1907) Canary Islands, southern Russia, Central Asia, Algeria, Israel, Iran, Afghanistan, Mongolia, China; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.

Lasiosina Becker, 1910

apicata (Becker, 1913) Ethiopia; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Kenya, Nigeria, The Gambia, Zimbabwe.

lucidifrons (Becker, 1903) comb. n. Egypt, Israel; this paper: Oman, Kenya, Nigeria, The Gambia, India, Pakistan.

Lagaroceras Becker, 1903

albolineatum Deeming, 2011 Yemen, Saudi Arabia, Oman, Kenya.

argillum sp. n. Saudi Arabia.

curtum Sabrosky, 1961 India, Pakistan, Afghanistan; DEEMING (2011): UAE, Oman; this paper: Saudi Arabia.

distinctum Deeming 1981 DAWAH & ABDULLAH (2006): Saudi Arabia, Yemen, Kenya.

sequens Becker, 1910c Tanzania, Ethiopia, Kenya, Zambia; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.

Metopostigma Becker, 1903

sabulona Becker, 1910 Egypt, Israel, Egypt, Pakistan; DAWAH & ABDULLAH (2006): Saudi Arabia; DEEMING (2011): Oman, Yemen, Tunisia.

tenuiseta (Loew, 1860) Namibia, widespread Sub-Saharan Africa, Israel, Egypt; ABU-THURAYA (1982): Saudi Arabia.

Stenophthalmus Becker, 1903

baderi sp. n. Saudi Arabia.

ocellatus Becker, 1903 Egypt, Sudan, India; DAWAH & ABDULLAH (2006): Saudi Arabia; this paper: Yemen.

occidentalis sp. n. Nigeria, The Gambia, Yemen, Oman, Saudi Arabia.

typhae Nartshuk, 1971 Turkmenistan, Uzbekistan, Tajikistan; this paper: Oman.

Assuania Becker, 1903

sp. nr. *thalhammeri* (Strobl, 1893) DAWAH & ABDULLAH (2006): Saudi Arabia, this paper Yemen.