

# A brief review of the Afrotropical fauna of the subfamily Hydrophorinae (Diptera: Dolichopodidae) with description of *Cemocarus stuckenbergi* sp. n.

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*Cemocarus stuckenbergi* sp. n. from South Africa is described. New records, keys to the African hydrophorine genera and recognizable Afrotropical species of *Hydrophorus* are given.

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## Introduction

The world fauna of the subfamily Hydrophorinae numbers more than 30 genera, of which 6 genera occur in the Afrotropical Region. The Palearctic fauna of the subfamily was recently revised by Negrobov (1977–1979), Nearctic fauna by Hurley (1985), and Oriental fauna (partly) by Meuffels & Grootaert (1984) and Grootaert & Meuffels (1988, 1993). The last authors described *Cemocarus*, a new monotypic genus of Hydrophorinae from South Africa. Rampini & Munari (1986) gave a key to known Afrotropical species of the genus *Aphrosylus* Haliday. Dyte (1967) and Negrobov et al. (1987) reviewed known Afrotropical species of the genus *Liancalus* Loew. Grichanov (in litt.) gave a list and a key to known Afrotropical and Palearctic species of the genus *Thinophilus* Wahlberg. The first record of the genus *Orthoceratium* from Afrotropics is given in this paper. Several other North African genera can be found in Africa south of Sahara. Catalogue of the Afrotropical genera and key to all African genera are represented below.

Treating unidentified material from the collections of the Natural History Museum, London (NHML), the Hungarian Natural History Museum (HNHM), and Lund University (Lund), I found many interesting hydrophorine species. In this paper description of *Cemocarus stuckenbergi* sp. n. from South Africa and

new records for known African species are given. Catalogue and key to species of *Hydrophorus* Fallen are also represented.

The most interesting distribution of species are as follows: *Hydrophorus praecox* Lehmann — all zoogeographical regions; *Orthoceratium lacustre* (Scopoli) — Europe (except North), Algeria, Tunisia, Madeira, Tanzania (!); *Thinophilus indigenus* Becker — Cape Verde Is., Ethiopia, South Yemen, Nigeria, Benin, Ghana, Zaire, Tanzania, Madagascar, Angola, Namibia, South Africa, Swaziland; Palearctic and Oriental Regions; *Thinophilus mirandus* Becker — Algeria, Morocco, Tanzania.

Holotype and paratypes of the new species are conserved in the Natural History Museum (London).

## List of Afrotropical genera of Hydrophorinae

### Aphrosylini

*Aphrosylus* Haliday in Walker, 1851: 220

### Thinophilini

*Thinophilus* Wahlberg, 1844: 73

### Hydrophorini

*Hydrophorus* Fallen, 1823: 2

*Liancalus* Loew, 1857: 22

*Orthoceratium* Schrank, 1803: 55

### Cymatopini, new tribe

*Cemocarus* Meuffels & Grootaert, 1984: 152

## Key to African genera of Hydrophorinae

1. Labellae hook-shaped in lateral view, with long recurved, generally protruding hypopharynx . . . 2
- Labellae normal in lateral view, without long protruding hypopharynx . . . . . 3
2. Arista apical; fore tibia at apex with distinct erect spinose seta; male hind basitarsomere simple, without strong seta . . . . . *Aphrosylus* Haliday
- Arista dorsal; fore tibia without spinose seta at apex; male hind basitarsomere curved, with strong seta . . . . . *Teneriffa* Becker
3. Acrostichals absent; scutellum with 2 or 4 strong setae . . . . . 4
- Acrostichals present, or if absent, then scutellum with 6 setae . . . . . 6
4. Arista apical (males) or subapical (females); 4 dorsocentrals; wing somewhat darkened . . . . . *Schoenophilus* Mik
- Arista dorsal, other features various . . . . . 5
5. Tibiae usually with strong setae;  $M_{1+2}$  usually curved; at least 5 dorsocentrals, or if 4  $dc$ , then male cercus long, at least half as long as abdomen . . . . . *Thinophilus* Wahlberg
- All tibiae without apical setae;  $R_{2+3}$ ,  $R_{4+5}$ , and  $M_{1+2}$  straight and parallel; 4 dorsocentrals; wing hyaline; male cercus short . . . . . *Paralleloneurum* Becker
6. First flagellomere trapezoidal, with subapical arista located in dorso-apical excavation; 6th and 7th male terga well developed . . . . . *Cemocarum* Meuffels & Grootaert
- First flagellomere rounded, oval or subtriangular, without dorso-apical excavation; at least 7th male tergum greatly reduced . . . . . 7
7. Mesonotum with small setae; no more than one pair of dorsocentrals; acrostichals in two rows; arista subapical . . . . . *Anahydrophorus* Becker
- Mesonotum with several strong dorsocentrals; acrostichals in one row, rarely absent; arista usually dorsal . . . . . 8
8. Fore femora thickened, ventrally with strong bristles and spines; first flagellomere with apico-ventral incision . . . . . *Hydrophorus* Fallen
- Fore femora not thickened, without strong ventral bristles or spines; first flagellomere without incision . . . . . 9
9. Scutellum with 4 setae; hind femora flat; wing veins unmodified except  $M_{1+2}$  with two right angle bends in males and fair situation in females . . . . . *Orthoceratium* Schrank
- Scutellum usually with 6 setae; hind femora cylindrical; males and often females with wing veins variously modified, but  $M_{1+2}$  without double right angle bend . . . . . *Liancalus* Loew

*Hydrophorus* Fallen

The genus occurs widely across the whole world including high-latitude islands and mountains with species confined mostly to the water surface of various reservoirs. The Afrotropical species of *Hydrophorus* are worst described and need redescription of type material. Based on variable characters, original descriptions do not comprise detailed drawings of hypopygium. Some species known only from females should be probably synonymized with other species described by males, and vice versa. For example, male *H. incisicornis* is possible synonym of female *H. spinicornis*. The most part of known species can not be reliably identified without studying male hypopygium structures, especially surstylus. Records of the Palearctic species such as *H. balticus* from South Africa should be probably belonged to *H. vaalensis*. Several other species are awaiting to be synonymized or declared Nomina Dubiae in future revisions of type material. The last key to the African species of the genus (Vanschuytbroeck, 1952) was based on individually and sexually variable characters. I suspect that only the following four species are really known from the Afrotropical Region.

List of Continental Afrotropical species of *Hydrophorus*

(for references see Dyte & Smith, 1980)

- aureifacies* Becker, 1914: 124 (male) — Kenya, [?Uganda, ?Tanzania, ?Zaire], ?South Africa
- praecox* Lehmann, 1822: 42 — South Africa, Namibia, Angola, Botswana, South Arabia, Ethiopia, Mauritania, Gambia, Nigeria, Kenya, Tanzania, Mauritius, Rodriguez, Aldabra, St. Helena, Cape Verde Islands, Canary Islands; Palearctic, Nearctic, Neotropical, Oriental Regions, Australia, New Zealand
- = *inaequalipes* Macquart, 1834: 453 (*Medeterus*)
- = *schonherri* Zetterstedt, 1843: 444
- = *cinerea* Perris, 1847: 492 (*Aphrozeta*)
- = *aestum* Loew, 1869: 36
- = *vagus* Hutton, 1901: 34 (*Liancalus*)
- = *breviventris*, Becker, 1903: 60
- = *monodi* Couturier, 1985: 13, **syn. n.**
- spinicornis* Loew, 1858: 373 (female) — South Africa, Zaire, [?Tanzania]
- vaalensis* Parent, 1954: 226 (female) — South Africa, [?Namibia, ?Zimbabwe]

## Doubtful species and records

- arambourgi* Parent, 1938: 410 (female) — Kenya  
*balticus* Meigen, 1824: 66 (*Medeterus*) — Palearctic Region, St. Helena, North and ?South Africa  
 = *chloropus* von Roser, 1840: 56  
*chappuisi* Parent, 1938: 411 — Kenya  
*congoensis* Vanshuylbroeck, 1951: 74 — Zaire, Tanzania  
*hydrophylax* Parent, 1939: 275 — Uganda, ?Namibia  
*incisicornis* Speiser, 1910: 111 (male) — Tanzania  
*jeanneli* Parent, 1938: 411 — Kenya, Zaire, Tanzania, ?Namibia  
*ochraceus* Becker, 1914: 124 (female) — Kenya, Uganda  
*variinasutus* Vanshuylbroeck, 1951: 76 — Zaire

Key to recognizable species of *Hydrophorus* from Continental Afrotropics

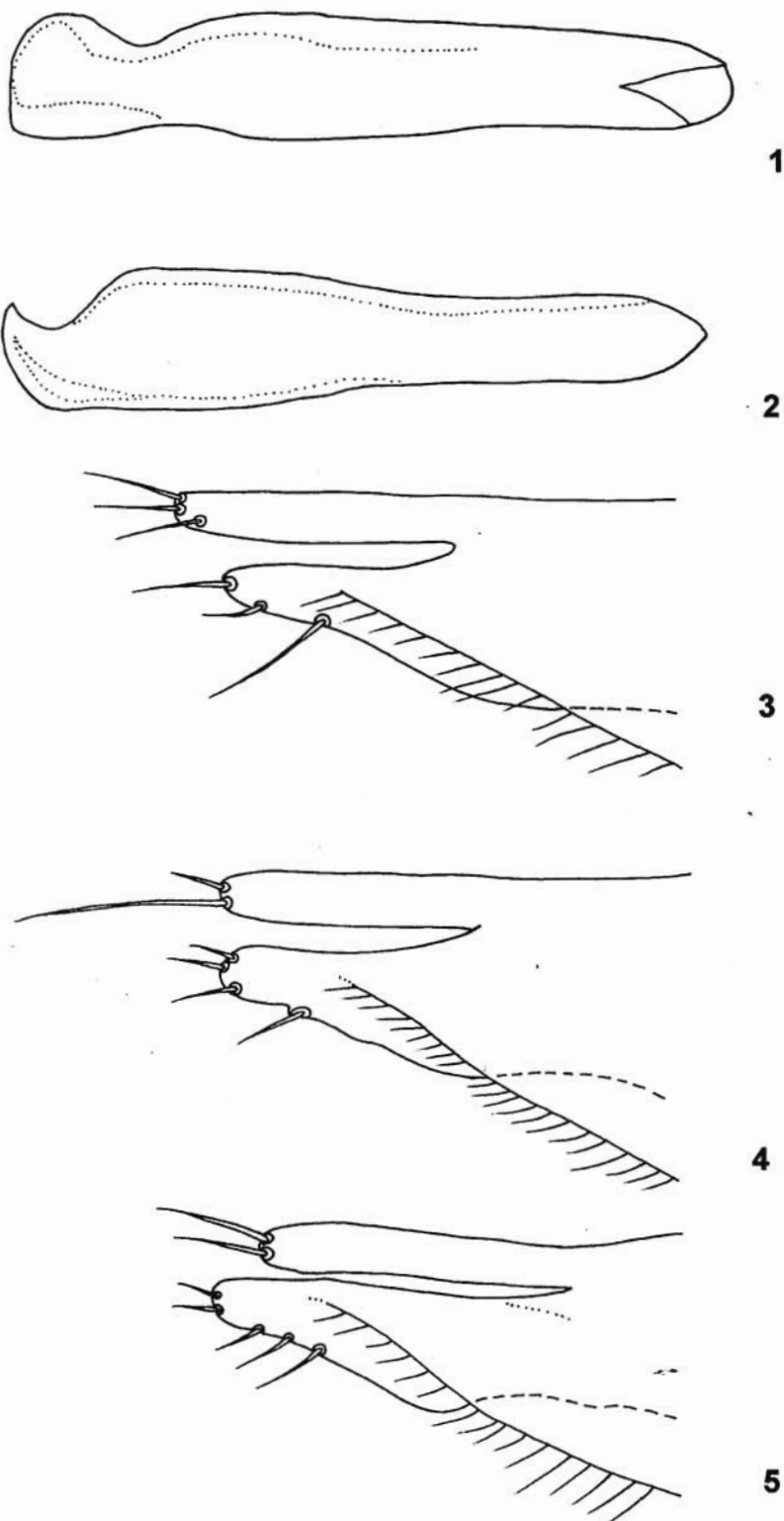
1. Apex of first flagellomere reddish or yellow; wing distinctly maculated . . . . .  
 . . . . . *spincornis* Loew; *incisicornis* Speiser  
 — First flagellomere entirely black; wing monochrome, hyaline or infumated along veins . . . . . 2
2. Face entirely greyish-white, without metallic reflection; anterior tibia apically with sharp dens; wing with yellow veins at base; dorsal lobe of surstylus with long ventral process . . . . .  
 . . . . . *praecox* Lehmann  
 — Epistome at least partly shining metallic; clypeus white in males and yellowish in females; anterior tibia apically without dens; wing with brown veins; dorsal lobe of surstylus without long ventral process . . . . . 3
3. Hypandrium as long as surstylus, with rounded apex; epandrium with narrow setiferous process at base of surstylus; female clypeus rusty-yellow . . . . . ?*aureifacies* Becker  
 — Hypandrium half as long as surstylus, with conoid apex; epandrium without such process, with short dens at base of surstylus; female clypeus yellowish-grey . . . . . ?*vaalensis* Parent

*Hydrophorus praecox* Lehmann

(Figs 1–5)

**Material examined.** Male and female, **Saudi Arabien**, W. Buttiker / Araida, 20.10.75, Selouly's Farm [NHML]; female, **Nigeria**: Samaru, 15–22.VI.1970, P.H. Ward, B.M. 1970—604 / Mercury vapour light trap; female, **Tanzania**: Matombo, Morogoro reg. / 11.IX.1977, leg. Mahunka [HNHM]; male & female,

**Gambia**: 3 km NW Central Banjul garden at Wadner Beach Hotel, 21.II.1977, Loc. No. 1A, At light 19.00–21.00, UTM 28PCK257891 / Lund Univ., Syst. Dept., Sweden Gambia/Senegal. Febr.—March 1977, Cederholm — Danielsson — Larsson — Mirestrom — Norling — Samuelsson; male, **Gambia**: oil palm and mangrove vegetation close to the beach, about 5 km SSW Gunjur. At light 19.00 — 22.00, 22.II.1977, Loc. No. 8, UTM 28PCK05—54 / Lund Univ., Syst. Dept., Sweden Gambia/Senegal. Febr.—March 1977, Cederholm — Danielsson — Larsson — Mirestrom — Norling — Samuelsson; 2 males & 1 female, **South West Africa** (W22), Kuiseb river canyon, 22–23.I.1972, Riverside vegetation / Southern African Exp. B.M. 1972—1; 2 males & 1 female, South West Africa (W32), Windhoek, Race-Course, 5.II.1972, Low vegetation / At light / Southern African Exp. B.M. 1972—1; 1 male, South West Africa (W24), Walvis bay, 25–26.I.1972, Pool edge in dunes / Southern African Exp. B.M. 1972—1; 1 male, South West Africa (W32), Windhoek, environs, 6.II.1972, At light / Southern African Exp. B.M. 1972—1; 7 males & 1 female, S.W. Africa (18), Sossusvlei, Diamond Area No.2, 20–21.I.1972 / Southern African Exp. B.M. 1972—1; 7 males & 1 female, S.W. Africa (W43), Onguma Fm., 55 mls NW Tsumeb, 17–19.II.1972 / Southern African Exp. B.M. 1972—1; 20 males & 21 females, S.W. Africa (25), Swakopmund, 26–30.I.1972 / general sweeping / swept vegetation around sewage farm settling tanks / Southern African Exp. B.M. 1972—1; 1 male & 1 female, S.W. Africa (11), Aar Farm, 25 mls ESE Aus, 15–17.I.1972 / Southern African Exp. B.M. 1972—1; 1 male, S.W. Africa (W36), Otjikoko Sud Fm., 33 mls ENE Omaruru, 10–13.II.1972 / Southern African Exp. B.M. 1972—1; 1 male, S.W. Africa (19), Sesriem Canyon, 3 mls W Sesriem, 21–22.I.1972 / Southern African Exp. B.M. 1972—1; 1 male, S.W. Africa (W37), Otjitambi Fm., 27 mls ESE Kamanjab, 13–15.II.1972 / Southern African Exp. B.M. 1972—1; 1 male, S.W. Africa (17), Sesriem Sud Fm., Maltanhoe distr., 19–20.I.1972 / general sweeping / Southern African Exp. B.M. 1972—1; 2 females, S.W. Africa (23), Homeb, 10 mls ESE Gobabeb, 23–25.I.1972 / Southern African Exp. B.M. 1972—1; 1 female, S.W. Africa (32), Windhoek, 4–10.II.1972 / Southern African Exp. B.M. 1972—1; 1 male & 12 females, **Angola** (A34), Lobito, 19–20.III.1972 / Southern African Exp. B.M. 1972—1; 4 females, **Botswana** (B7), Kuke Pan, 20°59'S, 22°25'E, 14–15.IV.1972 / Southern African Exp. B.M. 1972—1; 2 females, **S. Afr. Transvaal**, Zontpan N om Pretoria, 19.6.1955, G. Rudebeck [Lund]; male, [**Russia**, Russian Far East:] Yevreiskaya AO, vil. Amurzet, 18.08.1991, Grichanov [Author's Coll.]; female, [**Kazakhstan**:] Tselinograd Region, Novosibirsk, 13.08.1989, Grichanov [Author's Coll.]; 6 males and 1 female, [**South Russia**:] Rostov Region, Azov distr., Port-Katon, 17.05.1994, 25.04.1995, 6.06.1996, Grichanov [Author's Coll.].



Figs 1—5. Variation of hypopygium structures in *Hydrophorus praecox* Lehmann.  
 1—2, hypandrium, lateral view; 3—5, dorsal lobe of surstylus, ventro-lateral view.

**Diagnosis and variability.** *H. praecox* is well distinguished by black antenna, entirely greyish-white face, yellow veins at base of wing, and sharp dens at apex of anterior tibia (see descriptions of *H. praecox* by Takagi, 1967, and Negrobov, 1977). Males have dorsal lobe of surstylus with long ventral process. Many morphological characters of this species are widely variable. Dorsocentral setae on mesonotum can be somewhat weaker or stronger, the face narrower or wider, gena lower or higher, antenna and arista longer or shorter with various ratio of articles in individuals. The number and strength of ventral spines on anterior femora are also variable to some extent. Moreover, hypopygium structures can vary in some specimens (Figs 1—5). Examined males from Gambia, South Arabia, and Rostov Region (Russia) have ventral lobe of surstylus distinctly shorter than dorsal lobe (see also figures in Takagi, 1967, and Negrobov, 1977), whereas males from the Russian Far East, Namibia and Angola have ventral lobe reaching apex of dorsal lobe. The length of ventral process of dorsal lobe, the number and length of apical and subapical setae on the process and lobes of surstylus also vary, especially in individuals of South African population. Most part of 9 examined males (including 3 specimens from Namibia) have hypandrium with conoid apex (as figured by Negrobov, 1977), whereas males from Gambia and Angola, and a male from Swakopmund (Namibia) have hypandrium with rounded apex. Couturier (1985) described *H. monodi* from Mauritania having no significant differences in external morphology from *H. praecox* except wide membranous area ("cicatrix") on 5th tergum laterally. Examined males from Gambia have this cicatrix embracing approximately 1/2 to 2/3 lateral surface of 5th tergum and looking like an excavation in dried specimens. Despite the remark of Couturier, examined males of *H. praecox* from Palearctic and Afrotropical Regions also have the membranous area on both sides of this tergum, although the size of cicatrix is greatly variable and usually much smaller (from 1/10 to 1/2 lateral surface). The structure of surstylus in Gambian males is closest to this in European males. This and all other variable characters do not correlate with each other. So, I regard *H. monodi* as synonym of *H. praecox*.

**Distribution.** South Africa, Namibia, Angola, Botswana, South Arabia, Ethiopia, Mauritania, Gambia, Nigeria, Kenya, Tanzania, Mauritius, Rodriguez, Aldabra, St. Helena, Cape Verde Islands, Canary Islands; Palearctic, Nearctic, Neotropical, Oriental Regions, Australia, New Zealand.

### *Hydrophorus ?aureifacies* Becker (Fig. 6)

**Material examined.** Male, Kenya: Aberdare Range, 26.X.1934, B.M.E. Afr. Exp. B.M.1935—203 / Mt. Kinangop, 10000 ft, F.W. Edwards; 3 females, Kenya: Mt. Elgon, II.1935, B.M.E. Afr. Exp. B.M.1935—203 / Heath Zone, 10500—11500 ft., F.W. Edwards / Alpine Zone, 12000—13000 ft., F.W. Edwards; 4 males & 9 females, Kenya: Mt. Kenya, N. side, 11000—13500 ft / Heather, stream / swept, 20—22.XII.1980, P.S. Cranston, B.M. 1981—79.

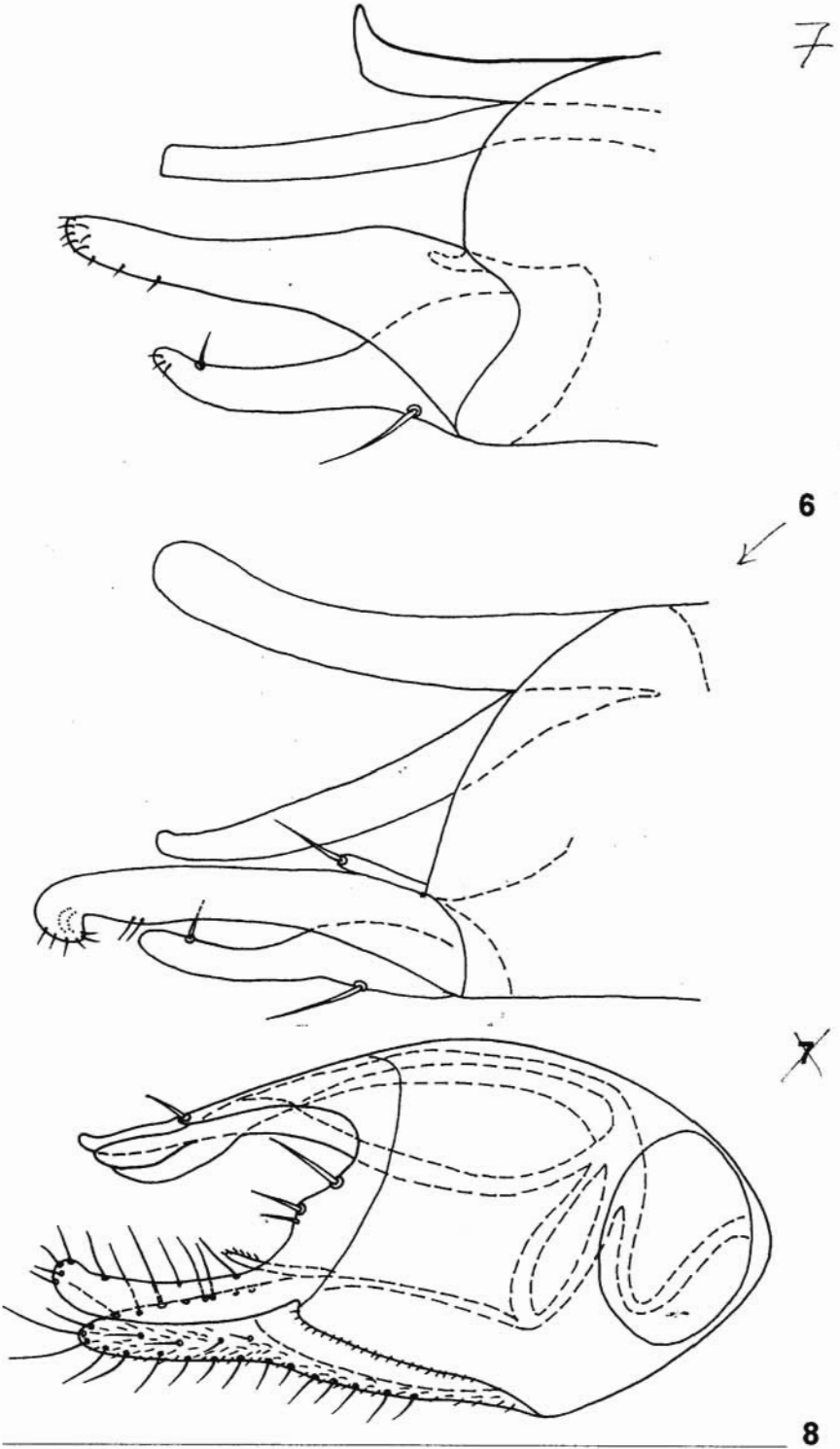
**Diagnosis.** Examined specimens reveal nearly the same extent of variation as this in *H. praecox*. Characters used in original descriptions and keys to African species (thickness and colour of head and body pollination, wing infumation, colour of halter and postocular cilia, length and strength of spines on anterior legs etc.) are greatly variable and insufficient for reliable identification of species. It is quite possible, that the following species described from Equatorial Africa should be synonymized with *H. aureifacies* (see also description of this species in Becker, 1923): *H. arambourgi* Parent, *H. chappuisi* Parent, *H. congoensis* Vanshuylbroeck, *H. hydrophylax* Parent, *jeanneli* Parent, *ochraceus* Becker, and *vaarinasutus* Vanshuylbroeck. First flagellomere entirely black; epistome at least partly shining metallic; clypeus white in males and rusty-yellow in females; anterior tibia apically without dens; wing with brown veins, usually infumated; colour of halter varies from dirty-yellow to mostly blackish; hypandrium as long as surstylus, with rounded apex; epandrium with narrow setiferous process at base of surstylus; dorsal lobe of surstylus without long ventral process, slightly sinuate, with strong dorsal seta at base and short ventral preapical seta; ventral lobe longer than dorsal one, strongly curved at apex.

**Distribution.** Kenya, [?Uganda, ?Tanzania, ?Zaire], ?South Africa.

### *Hydrophorus ?vaalensis* Parent (Fig. 7)

**Material examined.** Male & female, RSA: Cape Prov. 15 km E. Darling, 150 m, 33°26'S, 18°32'E, 04.X.1994, Loc. 3, leg. R. Danielsson [Lund]; 2 males & 7 females, S. Africa (S6), C.P. Silvermine, N.R. Cape penin, 2—3.I.1972. / Southern African Exp. B.M. 1972—1; male & female, S. Rhodesia, Luyanga, 16.XI.1948, J. Omer—Cooper [NHML].

**Diagnosis.** Parent (1954) described *H. vaalensis* by a female from South Africa, using variable or insignificant



Figs 6—8. Hypopygium, lateral view.

6, *Hydrophorus ?aureifacies* Becker, apex of hypopygium; 7, *Hydrophorus ?vaalensis* Parent, apex of hypopygium; 8. *Cemocarus stuckenbergi* sp. n.



nificant characters (see diagnosis of *H. ?aureifacies* in this paper). It is impossible to distinguish this species from other Afrotropical species except *H. spinicornis*, *H. incisicornis*, and *H. praecox* by published descriptions. I have examined material to *H. vaalensis*, because this is the only doubtful species, that was described from South Africa. Records of *H. aureifacies*, *H. balticus*, *H. jeanneli*, and *H. hydrophylax* from South Africa and Namibia should be probably referred to *H. vaalensis*. The two recognizable species, *H. ?aureifacies* and *H. ?vaalensis*, have no significant differences in external morphology except structures of hypopygium. Wing of the last species is somewhat paler; halter usually yellow or brownish; hypandrium half as long as surstylus, with conoid apex; epandrium without process, with short dens at base of surstylus; dorsal lobe of surstylus without long ventral process, slightly sinuate, with strong dorsal seta at base and short ventral preapical seta; ventral lobe longer than dorsal one, slightly curved at apex; female face yellowish-grey.

*Distribution.* South Africa, [?Namibia, ?Zimbabwe].

### *Liancalus* Loew

See Dyte, 1967, Negrobov, 1978, 1979b, and Negrobov et al., 1987 for generic diagnosis, key and descriptions of known species. Six species are found in Africa from South to Sub-Saharan Region.

### *Liancalus adenensis* Dyte, 1967

*Material examined.* Female, **Ethiopia**: Simien, W. of Derasghie, over 9000 ft., 23.XII.1952 / From chapel in cave in basaltic cliff [printed label] / from damp rock in hoof of chapel (in basaltic rock) [hand-written label] / N. Ethiopia: 1952—1953, Hugh Scott, B.M. 1953—335.

*Diagnosis.* *L. adenensis* differs from other species by 3 pairs of scutellar setae, short claws on legs (half as long as apical tarsal segment), uniseriate acrostichals, strongly curved vein *M* just before apex. Examined female differs from this described in Dyte (1967) by smoky spot above *M*<sub>1+2</sub> before its crossing with *m-cu*.

*Distribution.* Yemen, Ethiopia (!)

### *Orthoceratium* Schrank

See Negrobov (1978, 1979) for generic diagnosis and descriptions of two known species. Here is the first record of the genus from the Afrotropical Region.

### *Orthoceratium lacustre* (Scopoli)

*Musca lacustris* Scopoli, 1763: 343

*Musca formosus* Haliday, 1832: 356

*Medeterus viridipes* Macquart, 1834: 452

*Orthoceratium lacustre* (Scopoli); Negrobov, 1979: 419

*Material examined.* 2 males & 1 female, **Tanzania**: Kimboza, Forest Reserve / 11.IX.1977, leg. Mahunka [HNHM];

*Diagnosis.* *O. lacustre* differs from the second known species, *O. sabulosum* (Becker), by smaller size, wider face, hyaline wing, and presence of ventral process on 4th and 5th abdominal segments. Hypopygium structures are identical to these figured by Negrobov (1979).

*Distribution.* Europe (except North), Algeria, Tunisia, Madeira, Tanzania (!).

### *Cemocarus* Meuffels & Grootaert

See Meuffels & Grootaert (1984) for generic diagnosis and redescription of type species. The genus has no analogies in Afrotropical Hydrophorinae. It is related to widely distributed tropical genus *Cymatopus* Kertész, 1901, and Oriental genus *Thino-lestris* Grootaert & Meuffels, 1988. Only two species are known at present.

### *Cemocarus griseatus* (Curran)

*Aphrosylus griseatus* Curran, 1926: 403

*Cymatopus capensis* Parent, 1939: 256

*Cemocarus griseatus* (Curran) Meuffels & Grootaert, 1984: 153

*Material examined.* 6 males & 5 females. **S.W. Africa** (25), Swakopmund, 26—30.I.1972 / general sweeping / Southern African Exp. B.M. 1972—1; female, Van Staadens, Pass. E. Cape Prov., S. Africa, Stuckenberg, V. 1959 [NHML].

*Distribution.* South Africa, Namibia (!).

### *Cemocarus stuckenbergi* sp. n.

(Fig. 8)

*Holotype.* Male, Van Staadens, Pass. E. Cape Prov., S. Africa / Coll. B. & P. Stuckenberg, V. 1959 [NHML].

*Paratypes.* Male & female, the same labels.

*Description.* Frons, face, occiput, palpus, and proboscis with bronze-black ground color, grey pollinose. A row of strong black postocular setae, one pair of strong occipital, vertical, and postvertical setae

present. Ocellar tubercle with one pair of strong setae and several pairs of short hairs. Ventral postcranium with sparse black irregular cilia supplementing postocular row. Eyes haired, emarginated near base of antennae. Face wide, the narrowest near suture. Ratio of height of epistome to its minimal width to height of clypeus to its maximal width to height of palpus, 20 : 16 : 19 : 26 : 25. Antenna black, scape vase-like, pedicel with short setae, first flagellomere as long as high, trapezoid, with dorso-apical excavation bearing short arista, with short hairs. Arista bisegmented, thick and haired at base, otherwise fine and bare. Length ratio of scape to pedicel to first flagellomere to arista, 12 : 5 : 15 : 32. Palpus and proboscis with short black hairs.

Thorax bronze-black. Six strong dorsocentral bristles, the last one is the longest; microscopic acrostichals in one irregular row extending to the 4th dorsocentral seta. Prothorax with several black cilia. Scutellum with 2 pairs of strong black setae.

Legs mostly black, without strong setae or long hairs, trochanters and apices of femora light brown, tarsi dark-brown. Fore and middle coxae with black hairs anteriorly, hind coxa with one fine external seta. Fore femora and tibia with a row of short black erect ventral setulae. Fore tibia with short apico-ventral scale. Fifth tarsomere of all tarsi enlarged and flattened. Length ratio of fore coxa to femora to tibia to tarsus (segments from first to fifth), 30 : 54 : 42 : 20 : 8 : 6 : 5 : 7. Same ratio for middle leg, 23 : 56 : 57 : 32 : 11 : 6 : 5 : 8. Same ratio for hind leg, 20 : 72 : 69 : 19 : 19 : 9 : 7 : 9.

Wings darkened, veins brown. Ratio of  $R_1$  to wing length, 13 : 29. Ratio of part of costa between  $R_{2+3}$  and  $R_{4+5}$  to this between  $R_{4+5}$  and  $M_1$ , 24 : 24.  $R_{4+5}$  and  $M_{1+2}$  straight, parallel in apical part. Ratio of cross-vein  $m-cu$  to apical part of  $CuA_1$ , 29 : 16. Lower calypter small, yellow, with dark cilia. Halteres yellow, greatly reduced.

Abdomen bronze-green with short black setae; six full terga developed; 6th tergum nearly as long as 5th one; 7th tergum symmetric, nearly 2/3 as long as 6th one; 8th segment approximately half as large as epandrium. Hypopygium black, grey pollinose. Cercus brown, gradually narrowed apicad, with short hairs along entire length, reaching the end of surstylus. Surstylus brown, narrow, with rounded apex, with several scattered short ventral hairs. Hypandrium narrow, thick at base.

Female. Similar to male except lacking male secondary sexual characters; fore femora and tibia without erect setulae.

Length: male body without antennae 4.3 mm, wing-length 4.3 mm, wing-width 1.4 mm; female body 4.8 mm, wing-length 5.0 mm, wing-width 1.6 mm.

Distribution. South Africa.

**Etymology.** The species is named in honour of the South African dipterologist Dr. B. R. Stuckenberg.

**Diagnosis.** The new species can be separated from *C. griseatus* using the following key:

1. Acrostichals biseriate;  $m-cu$  approximately as long as apical part of  $CuA_1$ ; size about 3 mm . . . . . *C. griseatus* Curran
- Acrostichals uniseriate;  $m-cu$  nearly twice as long as apical part of  $CuA_1$ ; larger species, 4.3–4.8 mm . . . . . *C. stuckenbergi* sp. n.

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