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## REVISION OF THE SUBTRIBE PSEUDOHELCONINA NOV. (HYMENOPTERA: BRACONIDAE)

by

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The strictly Afrotropical subtribe Pseudohelconina nov. is revised and illustrated. Two new genera are described: *Afrohelcon* gen. nov. (type-species: *Afrohelcon magnificus* spec. nov. from Zimbabwe) and *Flavihelcon* (type-species: *Pseudohelcon distanti* Turner, 1922 from S. Africa and Zimbabwe). Six new species are described and *Pseudohelcon nigripennis* Fahringer, 1941, is excluded.

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## INTRODUCTION

Little is known about the Helconinae from the Afrotropical region. Fahringer published some minor papers on this subject (e.g. Fahringer, 1941) and Granger (1949) summarized the fauna of Braconidae for Malagasy. He excluded the group treated in this paper because at that time no specimens were present from Malagasy in the Paris Museum. One reason for neglecting this group may be the scarcity of specimens in collections, another the confused generic division of the Helconinae. To correct this in preparation for a forthcoming review of genera of Braconidae and because the group treated in this paper is the sistergroup of the subtribe Brulleiina Van Achterberg revised previously (Van Achterberg, 1983), the still scarce material is revised. The biology is unknown, I have not seen any reared specimen, but most likely

species of this group are internal larval parasites of Cerambycidae as are other large Helconinae.

For the terminology used in this paper, see Van Achterberg, 1988 (p. 5-11).

## DESCRIPTIVE PART

### Subtribe *Pseudohelconina* nov.

Diagnosis. — Antennal segments near apical third of antenna of ♀ transverse, much shorter than slender subapical antennal segments, and their apical margin more or less sinuate (figs. 2, 5, 16, 17, 21); antennal segments of ♂ normal; posterior orbit of eye sculptured and more or less depressed (figs. 22, 35); frons distinctly or shallowly concave, and without median lamella (figs. 13, 22, 49); maxillary and labial palpi with 6 and 3 segments, respectively; occipital carina joining hypostomal carina ventrally (fig. 18); anterior tentorial pits large (fig. 12); mandible twisted apically and dorsal tooth longer than ventral tooth; pronope (very) large (figs. 8, 25, 52); precoxal sulcus crenulate (fig. 16); length of mesosoma 1.7-2.0 times its height; lateral carina of mesoscutum distinctly above lateral margin of mesoscutum (fig. 1); vein 1-SR of fore wing absent (fig. 19) or obsolescent (fig. 4); vein m-cu of fore wing antefurcal or (sub)interstitial (figs. 4, 32, 37, 40); vein r of fore wing emitted behind middle of pterostigma (figs. 19, 37); vein r-m of fore wing present; vein SR1 of fore wing ends near level of apex of vein 3-M (fig. 4) or distad of it (fig. 32); vein 2A of hind wing absent, but present in *Flavihelcon*; fore wing banded or hyaline and membrane only near veins 1-M and r conspicuously dark brown; marginal cell of hind wing widened apically (figs. 4, 37); vein 3-SR of fore wing shorter than vein 2-M (fig. 19); vein cu-a of hind wing vertical or reclivous (figs. 4, 37, 48); fore tibia with acute anterior corner or tooth apically (figs. 3, 23, 36, 41, 47); length of fore tarsus 1.3-2.5 times fore tibia (figs. 15, 31, 36, 56); tarsal claws with thin and more or less acute lobe (figs. 9, 28, 57); hind femur smooth ventrally and without tooth; inner hind tibial spur longer than outer spur (fig. 27); hind trochanter rather slender (figs. 27, 53); propodeal spiracle in front of middle of propodeum; propodeum without subbasal transverse carina (fig. 25); laterope distinct (fig. 46); second metasomal suture obsolescent (fig. 14); apex of ovipositor more or less curved downwards (figs. 6, 24, 50).

Biology. — Unknown; supposedly parasites of Cerambycidae or other coleopterous larvae in decaying wood as are other large Helconinae, including its sister-group, the subtribe *Brulleiina* Van Achterberg.

Distribution. — Afrotropical (including Malagasy). Contains three genera,

*Flavihelcon* gen. nov., *Afrohelcon* gen. nov. and *Pseudohelcon* Szépligeti, 1914.

Note. — The subtribe Pseudohelconina nov. belongs to the tribe Brulleiini (Van Achterberg, 1983) because it shares the following apomorphies: fore tarsus long (figs. 15, 56), hind trochanter (rather) slender (figs. 27, 53), fore tibia with acute corner apically (tooth-like in Pseudohelconina, usually less or not developed in the Brulleiina), and laterope distinct. Key characters (and synapomorphies) for separation of the Pseudohelconina from other Helconinae are the sculptured and more or less depressed orbits of eye (figs. 22, 35), the distinct tooth on the apex of fore tibia (if present in Brulleiina then as acute lobe), the transverse segments near apical 0.3 of antenna of ♀, the tarsal claws with thin and acute lobe, and the vein cu-a of hind wing vertical (exceptionally reclivous). The Brulleiina differ from the Pseudohelconina by the distinctly postfurcal vein m-cu of fore wing, the vein cu-a of hind wing inclivous, the antennal segments of ♀ normal, the tarsal claws without lobe, the fore wing without dark bands and the fore tibia usually without distinct apical tooth. The Brulleiina occur in the Indo-Australian region and E. Palaearctic area; the Pseudohelconina have an exclusively Afrotropical distribution.

The subtribe Pseudohelconina does not belong to the tribe Helconini because it lacks all the apomorphies of the Helconini (Van Achterberg, 1983). The median lamella or horn on the frons, the propodeal spiracle situated near middle of propodeum, short inner hind tibial spur, and vein 2-A of hind wing present (but also present in one genus of the Pseudohelconina). The inclusion in the Diospilini would be the other possibility, because the Diospilini have also the labial palp reduced and vein 1-SR of fore wing (nearly) absent. However, the Diospilini have the fore tarsus medium-sized, the fore tibia without acute corner, the vein 3-SR of fore wing (nearly) as long as vein 2-M of fore wing, the propodeum usually without subbasal transverse carina, and the vein m-cu of fore wing further antefurcal than in the Pseudohelconina.

#### Key to genera of the subtribe Pseudohelconina

1. Basal third of vein SR of hind wing largely unsclerotized and straight (fig. 4); clypeus evenly curved ventrally, without minute tubercle (fig. 12); dorsal carinae of first metasomal tergite less developed (fig. 14), not lamelli-form protruding (fig. 1); labial palp medium-sized, distinctly protruding below mandible (fig. 1); maxillary palp exceeding length of head (fig. 1); length of fore tarsus 1.3-1.4 times length of fore tibia (fig. 15); second tergite rugulose or rugose medio-basally (fig. 14); vein 2A of hind wing present

- (fig. 4); scutellar sulcus normal, not distinctly narrowed laterally (fig. 8); apices of antennal segments of ♀ near apical third of antenna straight or slightly sinuate (figs. 5, 11) ..... *Flavihelcon* gen. nov.
- Basal third of vein SR of hind wing strongly sclerotized and more or less curved (figs. 19, 48); clypeus with minute tubercle medio-ventrally (figs. 29, 54); dorsal carinae of first tergite strong basally, at least lamelliform stub present and more or less protruding (figs. 16, 26, 33, 55); labial palp short, not or shortly protruding below mandibles (figs. 16, 46); maxillary palp shorter than height of head (figs. 16, 46); length of fore tarsus 1.6-2.5 times fore tibia (figs. 31, 56); second tergite smooth basally, at most somewhat coriaceous; vein 2A of hind wing absent (fig. 19); scutellar sulcus distinctly narrowed laterally (figs. 25, 52); apices of antennal segments of ♀ near apical third of antenna sinuate (figs. 21, 60) ..... 2
2. Length of fore tarsus 2.2-2.6 times length of fore tibia, fore basitarsus about as long as fore tibia (fig. 56); vein m-cu of fore wing (sub)interstitial (figs. 40, 48); pronope elongate elliptical (fig. 52); frons distinctly concave and largely smooth (fig. 49); second metasomal tergite distinctly longer than wide basally (figs. 42, 55); length of first tergite 1.8-2.4 times its apical width; ovipositor sheath longer than body; occipital carina complete dorsally ..... *Pseudohelcon* Szépligeti
- Length of fore tarsus 1.6-1.7 times fore tibia, fore basitarsus distinctly shorter than fore tibia (fig. 31); vein m-cu of fore wing distinctly antefurcal (figs. 19, 32), but less in *splendidus* (fig. 37); pronope strongly transverse and slit-like (fig. 25); frons shallowly concave and distinctly rugose (fig. 22); second tergite distinctly shorter than wide basally (figs. 26, 33); length of first tergite 1.2-1.5 times its apical width; ovipositor sheath shorter than body; at least short medio-dorsal part of occipital carina absent ..... *Afrohelcon* gen. nov.

***Afrohelcon* gen. nov.**

Type-species: *Afrohelcon magnificus* spec. nov.

Etymology. — From “Afrotropical” and the generic name *Helcon* Nees because it resembles the genus *Helcon* superficially and is restricted to the Afrotropical region. Gender: masculine.

Diagnosis. — Antennal segments 52-59, segments near apical 0.3 transverse and with distinct sinuate apical margin (fig. 21); pedicellus distinctly narrowed basally (fig. 16); labial palp short, about as long as basal width of mandible (fig. 16); maxillary palp medium-sized, distinctly shorter than height of head (fig.

16); clypeus with minute tubercle medio-ventrally (fig. 29); frons shallowly concave and distinctly rugose (fig. 22); mandibles angularly bent (fig. 29, unknown of *maximus*), but evenly bent in *minutus* (fig. 44); orbits distinctly impressed and crenulate, but indistinct ventrally (figs. 22, 29); at least short medio-dorsal part of occipital carina absent; pronope strongly transverse and slit-like (fig. 25); scutellar sulcus distinctly narrowed laterally (fig. 25); basal third of vein SR of hind wing strongly sclerotized and more or less curved (fig. 19, 37); vein 2A of hind wing absent; veins 2A and a of fore wing present (fig. 37); vein m-cu of fore wing distinctly antefurcal (fig. 19), but narrowly in *splendidus* (fig. 37); length of fore tarsus 1.6-1.7 times fore tibia and fore basitarsus distinctly shorter than fore tibia (fig. 31); length of first metasomal tergite 1.2-1.5 times its apical width with its dorsal carinae strong basally, at least as a lamelli-form stub, and more or less protruding (figs. 16, 26); second tergite distinctly shorter than wide basally (fig. 26), and smooth basally, exceptionally somewhat coriaceous; ovipositor sheath shorter than body, 0.8-0.9 times fore wing; length of fore wing 6.5-13.7 mm.

Distribution. — Contains five Afrotropical species, of which only the provisionally included *A. maximus* (Fahringer) has been described.

Biology. — Unknown.

#### Key to species of the genus *Afrohelcon*

1. Mandibles angularly bent (fig. 29; unknown of *maximus*); length of eye in dorsal view 1.1 times temple or less (fig. 22); length of vein M+CU of hind wing 4.5-4.8 times vein 1-M (fig. 19); precoxal sulcus moderately wide and distinct anteriorly; length of fore wing 10-14 mm; first metasomal tergite variable (figs. 26, 33, 39), but dorsal carinae very strong (fig. 16) ..... 2
- Mandibles evenly bent (fig. 44); length of eye in dorsal view about 1.7 times temple (fig. 43); vein M+CU of hind wing about 11 times vein 1-M; precoxal sulcus narrow and obsolescent anteriorly; length of fore wing about 7 mm; first tergite strongly widened apically (fig. 45), and its dorsal carinae weakly developed ..... *minutus* spec. nov.
2. Fore wing with two dark brown bands besides apical infuscation (figs. 19, 37); second metasomal tergite completely smooth and strongly transverse (figs. 26, 39); apical half of pterostigma yellowish posteriorly; first tergite distinctly widened apically, its length about 1.2 times its apical width (figs. 26, 39) (unknown of *maximus*); width of head at temples somewhat less than at eyes (figs. 22, 38) ..... 3
- Fore wing without distinct dark brown bands, membrane only near veins

- 1-M and r, and along apex of wing dark brown; second tergite finely oriaceous and less transverse (fig. 33); apical half of pterostigma dark brown posteriorly; first tergite subparallel-sided, and its length about 1.5 times its apical width (fig. 33); head somewhat wider at temples than at eyes (fig. 34)  
 ..... *prolatus* spec. nov.
3. Vein SR1 of fore wing rather curved; clypeus concave ventrally; vein cu-a of fore wing interstitial ..... *maximus* (Fahringer)  
 – Vein SR1 of fore wing straight (fig. 19); clypeus straight ventrally (except for the minute tubercle); vein cu-a of fore wing just postfurcal (fig. 19)  
 ..... 4
4. Vein 3-SR of fore wing about 1.5 times vein r and as long as vein 2-SR; vertex convex (fig. 16); fore tarsus slender (fig. 31); fore wing with narrower dark bands (fig. 19); southern Africa ..... *magnificus* spec. nov.  
 – Vein 3-SR of fore wing about as long as vein r and nearly half as long as vein 2-SR (fig. 37); vertex flattened (fig. 35); fore tarsus comparatively robust (fig. 36); dark brown bands of fore wing wider (fig. 37); western Africa ..  
 ..... *splendidus* spec. nov.

***Afrohelcon magnificus* spec. nov.**  
 (figs. 16-31)

Material. — Holotype, ♀, (RMNH): “Rhodesia [= Zimbabwe], J.A.W. Lucas”, “St. Luke’s Ho[s]pital, ca. 30 km S.E. Lupane, 26-12-1975”.

Holotype ♀, length of body 14.0 mm, of fore wing 13.7 mm.

Head. — Antennal segments 55, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 4.0, 3.2 and 1.6 times their width, respectively (fig. 16, 17); length of maxillary palp 0.7 times length of head; eye in dorsal view as long as temple (fig. 22); temples somewhat bulging behind eyes (fig. 22); frons rugose; OOL: diameter of ocellus: POL = 10:9:9; vertex convex (fig. 16) and finely punctate; occipital carina largely absent dorsally; stemmaticum rugose and with medial depression (fig. 22); face coarsely reticulate-rugose, except latero-ventrally (fig. 29); clypeus flat and largely smooth (fig. 29); length of malar space 0.7 times basal width of mandible; mandible angulate medially (fig. 29).

Mesosoma. — Length of mesosoma 2.0 times its height; side of pronotum coarsely vermiculate-rugose medially and posteriorly, remainder largely smooth (fig. 16); precoxal sulcus coarsely crenulate medially and posteriorly, comparatively wide, largely punctate anteriorly (fig. 16); mesoscutal lobes punctulate and densely setose; scutellum flat and smooth; propodeum coarsely

vermiculate-rugose, without median carina and with small medial area (fig. 25).

Wings.—Fore wing: 1-SR absent; r: 3-SR: SR1=7:11:47; 1-CU1:2-CU1=1:13; cu-a postfurcal and inclivous (fig. 19); 2-SR: 3-SR: r-m=11:11:10; Hind wing: SC+R1 distinctly bent (fig. 19); M+CU 4.8 times 1-M (fig. 19).

Legs.—Hind coxa finely punctate; length of femur, tibia and basitarsus of hind leg 4.4, 14.2 and 9.0 times their width, respectively; length of hind tibial spurs 0.15 and 0.25 times hind basitarsus; length of fore tarsus 1.6 times fore tibia (fig. 31).

Metasoma.—Length of first tergite 1.2 times its apical width, its surface coarsely vermiculate-rugose, its dorsal carinae very strong and present in basal half of tergite (fig. 26); second tergite smooth and somewhat longer than third tergite (fig. 26); length of ovipositor sheath 0.87 times fore wing.

Colour.—Brownish-yellow; antenna, stemmaticum and ovipositor sheath largely, apical 0.7 of hind tibia, three basal segments of hind tarsus black(ish); middle of pterostigma dark brown; remainder of pterostigma and parastigma yellow; wing veins yellow except in infuscated parts of membrane; wing membrane yellowish, but fore wing apically, and interrupted band below pterostigma and band distally of veins 1-M and cu-a dark brown (fig. 19).

Note.—The holotype was collected at light in savanna with mainly shrubs.

### **Afrohelcon maximus** (Fahringer) comb. nov.

*Pseudohelcon maximus* Fahringer, 1941: 219; Shenefelt, 1970: 202.

The type originates from Tanzania (Matengo, 1500-1700 m) and is lost. It could not be found in the Vienna Museum and it was not seen by Dr. Fischer (pers. comm.) when he examined the neglected Fahringer collection. According to the original description the marginal cell of hind wing should be divided, thus vein r may be more or less developed. It is a large species with length of body about 14 mm, and (peculiarly!) with clypeus concave ventrally. Its placement in *Afrohelcon* is very provisional, till specimens of this species turn up.

### **Afrohelcon minutus** spec. nov.

(figs. 43-45)

Material.—Holotype, ♂, (MNHN): “Novembre”, “Museum Paris, Moçambique, Vallée du Pungoué, Guengère, G. Vasse 1906”.

Holotype: ♂, length of body 6.8 mm, of fore wing 6.5 mm.

Head. — Remaining antennal segments 8, length of third segment 1.2 times fourth segment, length of third and fourth segments 4.6 and 4.0 times their width, respectively; length of maxillary palp 0.8 times height of head; length of eye in dorsal view 1.7 times temple (fig. 43); temples subparallel behind eyes (fig. 43); frons largely smooth (fig. 43); OOL: diameter of ocellus: POL = 11:14:12; vertex smooth; occipital carina nearly complete, only narrow medio-dorsal part absent; stemmaticum coarsely punctate only (fig. 43); face punctate laterally, with coarse oblique rugose medially (fig. 44); clypeus flat and largely smooth; length of malar space 0.5 times basal width of mandible; mandible evenly curved (fig. 44).

Mesosoma. — Length of mesosoma 2.0 times its height; side of pronotum rugose posteriorly, crenulate medially and remainder largely smooth; precoxal sulcus narrow and crenulate but only punctate anteriorly and flat; meso-scutal lobes sparsely punctulate and setose; scutellum rather flat and smooth; propodeum coarsely reticulate-rugose, and with pair of short carinae posteriorly.

Wing. — Fore wing: 1-SR absent; r: 3-SR: SR1 = 10:12:80; cu-a interstitial and vertical; 2-SR : 3-SR : r-m = 25:12:18. Hind wing: SC+R1 evenly curved; M+CU 11 times 1-M; cu-a somewhat curved basad.

Legs. — Hind coxa finely punctate; length of femur, tibia and basitarsus of hind leg 3.7, 11.5 and 7.5 times their width, respectively; length of hind tibial spurs 0.15 and 0.20 times hind basitarsus; length of fore tarsus 1.7 times of fore tibia.

Metasoma. — Length of first tergite 1.3 times its apical width its surface largely coarsely rugose (but posteriorly with pair of smooth patches, fig. 45), and dorsal carinae rather weak, but distinct in basal 0.2; second tergite smooth and as long as third tergite.

Colour. — Brownish-yellow; darkened parts as of *magnificus* but only apical fifth of hind tibia and pterostigma nearly completely dark brown, and band below pterostigma not interrupted.

***Afrohelcon prolatus* spec. nov.**  
(figs. 32-34)

Material. — Holotype, ♂, (MNHN): "Museum Paris, Rhodésia du Sud, Selukwe, A. Ellenberger, 1927".

Holotype: ♂, length of body 12.8 mm, of fore wing 10.5 mm.

Head. — Antenna broken, but total of segments 52, near apical third of an-

tenna with normal segments, longer than wide, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 4.4, 3.4 and 1.4 times their width, respectively; length of maxillary palp 0.6 times height of head; length of eye in dorsal view 0.9 times temple (fig. 32); temple distinctly bulging behind eyes, head wider at temples than at eyes (fig. 34); frons coarsely rugose (fig. 34); OOL: diameter of ocellus: POL = 9:10:6; vertex punctulate; occipital carina absent only behind stemmaticum; stemmaticum smooth (fig. 34); face coarsely punctate-rugose, latero-ventrally smooth; clypeus flat and largely smooth; length of malar space 0.7 times basal width of mandible; mandible angulate medially.

Mesosoma. — Length of mesosoma 1.8 times at height; side of pronotum crenulate medially and posteriorly, remainder punctulate; precoxal sulcus moderately wide, punctate-crenulate (also anteriorly); mesoscutal lobes smooth and densely setose; scutellum flat and smooth; propodeum coarsely cellulate rugose, anteriorly finer and densely rugose, posteriorly with parallel-sided area.

Wings. — Fore wing: SR1 absent; r: 3-SR:SR1 = 11:14:67; cu-a interstitial and inclivous; 2-SR : 3-SR : r-m = 16:14:13 (fig. 32). Hind wing: SC+R1 distinctly evenly curved: M+CU 4.5 times 1-M.

Legs. — Hind coxa punctulate; length of femur, tibia and basitarsus 4.6, 12.1 and 9.0 times their width, respectively; length of hind tibial spurs 0.15 and 0.20 times hind basitarsus; length of fore tarsus 1.6 times fore tibia.

Metasoma. — Length of first tergite 1.5 times its apical width, its surface coarsely reticulate-rugose, but antero-medially and posteriorly largely smooth, its dorsal carinae present in basal half and very strong (fig. 33); second tergite coriaceous basally, less transverse than in *magnificus* and *splendidus* (fig. 33, 39), and as long as third tergite.

Colour. — Brownish-yellow; antenna (but scapus and pedicellus rather brownish), stemmaticum only near ocelli, apical 0.7 of hind tibia, three basal segments of hind tarsus largely, and pterostigma (except yellow anterior border, basal third and apex) dark brown; wing veins and pterostigma yellowish except veins 1-M, cu-a, CU1, r, 2-SR and base of 3-SR brown; wing membrane yellowish, but surroundings of veins mentioned above brown, patch around vein CU1a and rather narrow, apical border dark brown (fig. 32).

***Afrohelcon splendidus* spec. nov.**

(figs. 35-39)

Material. — Holotype, ♀, (MNHN): "Museum Paris, Guinée Franç., Rép. de Konroussa, H. Pobéguin, 1901".

Holotype: ♀, length of body 15.0 mm, of fore wing 13.2 mm.

Head. — Antennal segments 59, aberrant segments near apical third similar as of *magnificus* (fig. 21), length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.5, 2.6, and 1.6 times their width, respectively; scapus conspicuously yellowish and long setose; length of maxillary palp 0.5 times height of head; length of eye in dorsal view as long as temple (fig. 38); temples somewhat bulging, but width at temples less than at eyes (fig. 38); frons largely smooth, with some large punctures and short rugae (fig. 38) and distinctly concave; OOL: diameter of ocellus: POL = 4:4:3; vertex flattened (fig. 35) and sparsely punctulate; occipital carina with narrow medio-dorsal part absent; stemmaticum largely smooth, with some microstriae and with weak depression (fig. 38); face below antennal sockets coarsely reticulate, medially and laterally largely smooth, with some punctures; clypeus as figured of *magnificus* (fig. 29); length of malar space 0.6 times basal width of mandible; mandible angulate medially.

Mesosoma. — Length of mesosoma 1.8 times its height; side of pronotum largely coarsely punctate-reticulate, but dorsally smooth; precoxal sulcus moderately wide, anteriorly coarsely punctate, remainder coarsely rugose; mesoscutal lobes smooth and densely setose; scutellum flat and smooth; propodeum partly smooth anteriorly, remainder coarsely punctate-reticulate, and without medial area.

Wings. — Fore wing: 1-SR obsolescent (fig. 37); r:3-SR:SR1 = 7:8:45; cu-a postfurcal and inclivous (fig. 37); 1-CU1:2-CU1 = 2:19; 2-SR:3-SR:r-m = 14:8:12. Hind wing: SC+R1 distinctly bent (fig. 37); M+CU 4.5 times 1-M (fig. 37).

Legs. — Hind coxa largely smooth; length of femur, tibia and basitarsus of hind leg 4.4, 12.3, and 7.0 times their width, respectively; length of hind tibial spurs 0.20 and 0.30 times hind basitarsus; length of fore tarsus 1.6 times fore tibia, comparatively robust (fig. 36).

Metasoma. — Length of first tergite 1.2 times its apical width, its surface moderately coarsely punctate-reticulate, its dorsal carinae very strong and present in basal half of tergite (fig. 39); second tergite smooth and as long as third tergite; length of ovipositor sheath 0.82 times fore wing.

Colour. — Brownish-yellow; antenna, stemmaticum anteriorly and ovipositor sheath black(ish); apical half of hind tibia largely (except ventrally), hind tarsal segment (especially three basal segments near their apex), band near vein 1-M, complete second band below pterostigma (with small yellowish patch near vein r-m (fig. 37), apical border of fore wing, pterostigma largely [except basal third, anterior border and apex (fig. 37)], veins in dark patches and basal third of vein SR of hind wing dark brown; remainder of wing membrane more or less yellow.

**Flavihelcon** gen. nov.

Type-species: *Pseudohelcon distanti* Turner, 1922.

Etymology: from “flavus” (Latin for “yellow”) and the generic name *Helcon* Nees, because it is superficially similar to *Helcon* but is distinguished by the yellow colour of the body. Gender: masculine.

Diagnosis. — Antennal segments near apical third of antenna of female transverse and slightly sinuate or straight apically (figs. 5, 11); labial palp medium-sized, about 1.5 times basal width of mandible; maxillary palp medium-sized, exceeding height of head (fig. 1); clypeus evenly curved ventrally, without minute tubercle (fig. 12); frons slightly concave and distinctly rugose (fig. 13); mandibles evenly curved (fig. 13); stemmaticum smooth and without distinct depression (fig. 13); inner orbits of eye depressed and crenulate dorsally, depression ventrally absent and posterior orbits slightly sculptured and depressed; occipital carina complete (fig. 13); pronope strongly transverse (fig. 8); scutellar sulcus normal, laterally not distinctly narrowed (fig. 8); basal third of vein SR of hind wing not sclerotized and straight (fig. 4); veins 2A and a of fore wing present (fig. 4); vein m-cu of fore wing just antefurcal (fig. 4); vein 2A of hind wing present (fig. 4); length of fore tarsus 1.3-1.4 times fore tibia (fig. 15); fore basitarsus shorter than fore tibia (fig. 15); length of first metasomal tergite 1.3-1.6 times its apical width, its dorsal carinae weakly developed (fig. 14), not lamelliform protruding (fig. 1); second tergite distinctly shorter than wide basally (fig. 14); rugulose or rugose medio-basally; ovipositor sheath shorter than body, about 0.9 times fore wing; length of fore wing 9-10 mm.

Distribution. — Contains only the type-species from southern Africa.

Biology. — Unknown.

Note. — The genus *Flavihelcon* is obviously at the base of the cladogram because of the comparatively short fore tarsus, simple clypeus, unsclerotized vein SR of hind wing, less developed dorsal carinae of first tergite, longer labial and maxillary palpi, sculptured second tergite, normal scutellar sulcus and presence of vein 2A of hind wing, which are all plesiomorphous character-states in the Pseudohelconina.

**Flavihelcon distanti** (Turner) comb. nov.  
(figs. 1-15)

*Pseudohelcon distanti* Turner, 1922: 279; Shenefelt, 1970: 202.

Material. — Holotype, ♀, (BMNH): “Type”, “B.M. Type Hym., 3.c.899”, “*Pseudohelcon distanti* Turn., Type”, “Distant Coll. 1911-383”, “Pretoria (W.L.D.)”; 1 ♀, (RMNH): “Rhodesia [= Zimbabwe], J.A.W. Lucas”, “St. Luke’s Ho[s]pital, ca 30 km S.E. Lupane, 26-12-1975”.

Holotype: ♀, length of body 11.1 mm, of fore wing 9.7 mm.

Head. — Remaining antennal segments 51, length of third segment 1.2 times fourth segment, length of third and fourth segments 3.7 and 3.0 times its width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 1.3 times temple (fig. 13); temples subparallel behind eyes (fig. 13); OOL: diameter of ocellus: POL = 11:11:7; stemmaticum smooth; vertex finely punctate; face coarsely reticulate-punctate but latero-ventrally largely smooth; clypeus rather flat and largely smooth; length of malar space 0.6 times basal width of mandible.

Mesosoma. — Length of mesosoma 2.1 times its height; side of pronotum coarsely rugose-crenulate (fig. 1); precoxal sulcus crenulate but anteriorly punctate and shallow (fig. 1); mesoscutal lobes punctulate and rather densely setose; scutellum rather flat and smooth; propodeum coarsely reticulate-rugose, and without carinae.

Wings. — Fore wing: 1-SR wide and obsolescent (fig. 4); r:3-SR;SR1 = 7:7:37; cu-a interstitial; 2-SR:3-SR:r-m = 12:7:10. Hind wing: SC+R1 rather curved (fig. 4).

Legs. — Hind coxa finely densely punctate; length of femur, tibia and basitarsus of hind leg 5.0, 13.2 and 7.5 times their width, respectively; length of hind tibial spurs 0.2 and 0.3 times hind basitarsus; length of fore tarsus 1.3 times fore tibia (fig. 15).

Metasoma. — Length of first tergite 1.3 times its apical width, its surface densely irregularly rugose, medio-posteriorly coarser than laterally (fig. 14) and its dorsal carinae present in basal quarter of tergite; second tergite rugose medio-basally, coriaceous antero-laterally and remaining part smooth and somewhat longer than third tergite (fig. 14); length of ovipositor sheath 0.86 times the wing.

Colour. — Brownish-yellow; antenna (but scapus and pedicellus largely dark brown, and partly yellowish), stemmaticum, ovipositor sheath, apical half of hind tibia, hind tarsus and most of middle tarsus black(ish); apex of vein C+SC+R of fore wing, veins 1-M, cu-a, and 2-1A, base of CU1, pterostigma (but basal third, posterior margin and apex yellow (fig. 15), r, 2-SR and 2-M (largely) dark brown; remaining veins and parastigma yellow; wing membrane subhyaline, except dark bands below pterostigma and near veins 1-M and cu-a (fig. 4).

Variation. — Length of fore wing 8.6-9.7 mm, of body 9.7-11.1 mm; length of ovipositor sheath 0.86-0.93 times of fore wing; second tergite coriaceous or smooth antero-laterally; length of first tergite 1.3-1.6 times its apical width; length of fore tarsus 1.3-1.4 times fore tibia; outer side of hind tibia may be largely yellowish.

**Pseudohelcon Szépligeti**

*Pseudohelcon* Szépligeti, 1914: 223; Shenefelt, 1970: 202.

Type-species: *Pseudohelcon tessmanni* Szépligeti, 1914 by monotypy.

Diagnosis. — Antennal segments about 58, segments near apical third of antenna of ♀ transverse and sinuate apically; labial palp short, about as long as basal width of mandible (fig. 46); maxillary palp shorter than height of head (fig. 46); clypeus with minute tubercle medio-ventrally (fig. 54); frons distinctly concave and largely smooth (fig. 49); mandibles evenly curved (fig. 51); stemmaticum smooth and without medial depression (fig. 49); orbits of eye completely depressed and sculptured (figs. 49, 51); occipital carina complete; pronope elongate elliptical (fig. 52); scutellar sulcus distinctly narrowed laterally (fig. 52); basal third of vein SR of hind wing strongly sclerotized and more or less curved (fig. 48); vein 2A of hind wing and vein a of fore wing absent; vein 2A of fore wing present; vein m-cu of fore wing interstitial or just postfurcal (figs. 40, 48); length of fore tarsus 2.2-2.6 times fore tibia (fig. 56); fore basitarsus about as long as fore tibia (figs. 41, 56); length of first metasomal tergite 1.8-2.4 times its apical width (figs. 42, 55), its dorsal carinae rather strong basally; second tergite smooth and distinctly longer than wide basally (figs. 42, 55); ovipositor sheath longer than body, about 1.8 times fore wing; length of fore wing 12.0-12.7 mm.

Distribution. — Contains three species; the type-species from W. Africa, *P. angustipalpis* spec. nov. from Tanzania and *P. elongatus* spec. nov. from Malagasy.

Biology. — Unknown.

Key to species of the genus *Pseudohelcon*

1. Vein r of fore wing nearly half as long as vein 3-SR (fig. 40); third submarginal cell of fore wing without distinct yellowish patch (fig. 40); length of first metasomal tergite about 2.4 times its apical width (fig. 42); fore tarsus very slender (fig. 41); length of ovipositor sheath about 1.8 times fore wing; (Malagasy) ..... *elongatus* spec. nov.
- Vein r of fore wing about as long as vein 3-SR (fig. 48); third submarginal cell of fore wing with large yellowish patch (fig. 48); length of first tergite about 1.8 times its apical width (fig. 55); fore tarsus less slender (fig. 56); length of ovipositor sheath 1.1-1.3 times fore wing; (continental Africa) ..... 2
2. Apical segment of maxillary palp minute, about 2.5 times its width; occip-

- ital flange long, about 1.5 times basal width of mandible; middle lobe of mesoscutum more convex than lateral lobes (fig. 52); dorsal carinae of first tergite only distinct in basal quarter of tergite (fig. 55); scapus and pedicellus yellowish; second metasomal tergite brownish-yellow; stemmaticum not protruding above vertex (figs. 46, 51), situated in shallow depression (fig. 49); hind wing dark brown apically (fig. 48); (W. Africa) .....  
 ..... *tessmanni* Szépligeti
- Apical segment of maxillary palp longer and slender, about 5 times its width (fig. 65); occipital flange short, about 0.3 times basal width of mandible (fig. 64); middle lobe of mesoscutum similarly convex as lateral lobes; dorsal carinae of first tergite nearly reaching apex of tergite (fig. 62); scapus and pedicellus dark brown; second tergite whitish; stemmaticum distinctly protruding above vertex (fig. 63), not situated in a depression; hind wing largely subhyaline (fig. 61); (E. Africa) ..... *angustipalpis* spec. nov.

***Pseudohelcon angustipalpis* spec. nov.**

(figs. 58-65)

Material. — Holotype, ♀, (ZMB): "Brit. O. Afr., Kibwezi, XI.[19]07, G. Scheffer J.V."; "Pseudohelcon tessmanni Szépl., C. van Achterberg, 1983. Paralectotype".

Holotype: ♀, length of body 11.6 mm, of fore wing 11.0 mm.

Head. — Antennal segments 58, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 4.2, 3.6 and 1.9 times their width, respectively, and segments near apical third transverse with sinuate apices (figs. 58-60); length of maxillary palp 0.5 times height of head, its apical segment about 5 times its width (fig. 65); eye in dorsal view as long as temple; temples punctate and rather bulging, but head at temples as wide as at level of eyes; frons with some coarse punctures, and remainder smooth; OOL: diameter of ocellus: POL = 9:7:5; stemmaticum smooth, not situated in a depression, distinctly protruding above vertex (fig. 63); vertex rather flat and smooth; occipital carina complete; face coarsely punctate-rugose below antennal sockets, remainder punctate; clypeus flattened with some punctures; length of malar space equal to basal width of mandible; mandible evenly curved and medium-sized; occipital flange short (fig. 64), about 0.3 times basal-width of mandible.

Mesosoma. — Length of mesosoma 1.8 times its height; side of pronotum largely smooth dorsally and anteriorly, coarsely rugose posteriorly and finely rugose ventrally; precoxal sulcus complete, rather narrow but anteriorly widened, and coarsely crenulate; all mesoscutal lobes strongly and similarly con-

vex, smooth and setose except middle of lateral lobes; scutellum rather flat and nearly completely smooth; propodeum coarsely reticulate-rugose (but anterolaterally only sparsely punctate), without median carina and with pair of posteriorly diverging irregular carinae.

Wings.—Fore wing: 1-SR absent;  $r:3\text{-SR:SR1} = 10:15:72$ ; cu-a slightly postfurcal;  $1\text{-CU1:2-CU1} = 1:19$ ;  $2\text{-SR:3-SR:r-m} = 21:15:16$ ; m-cu slightly postfurcal (fig. 61). Hind wing: SC+R1 evenly curved;  $M+CU:1\text{-M} = 35:10$ ; cu-a curved basad (fig. 61).

Legs.—Hind coxa punctate, but dorsally largely smooth; length of femur, tibia and basitarsus of hind leg 4.7, 12.6, and 10 times their width, respectively; length of hind tibial spurs 0.1 and 0.2 times hind basitarsus; outer middle and hind spurs rather robust compared with inner spurs; length of fore tarsus 2.2 times fore tibia and slender.

Metasoma.—Length of first tergite 1.8 times its apical width, its surface with cariniform, rather irregular rugae, medially rather reticulate, and its dorsal carinae strong, curved posteriorly and nearly reaching apex of tergite (fig. 62); second tergite smooth, medium-sized (fig. 62) and 1.3 times longer than third segment; length of ovipositor sheath 1.13 times fore wing.

Colour.—Brownish-yellow; antenna, stemmaticum, hind tibia (except base) and tarsus, ovipositor sheath, pterostigma, veins in dark part of wing membrane dark brown or blackish, parastigma largely and tegulae pale yellowish; second tergite whitish; fore wing with band near vein 1-M and cu-a, and one below pterostigma, and border near apical margin dark brown (fig. 61); hind wing largely and remainder of fore wing subhyaline.

***Pseudohelcon elongatus* spec. nov.**

(figs. 40-42)

Material.—Holotype, ♀, (MNHN): “Ampiferox, 170 m, Ankarafantsika, I. [19]57, R.E.”.

Holotype, ♀, length of body 16.2 mm, of fore wing 12.7 mm.

Head.—Remaining antennal segments 15, length of third segment 1.2 times fourth segment, length of third and fourth segment 5.2 and 4.2 times their width, respectively; length of maxillary palp 0.5 times height of head; length of eye in dorsal view 0.8 times temple; temples somewhat bulging, head at temples wider than at level of eyes; frons nearly completely concave, largely smooth but with some coarse punctures posteriorly; OOL: diameter of ocellus: POL = 6:5:4; vertex convex and smooth; occipital carina complete; stemmaticum smooth, not protruding above vertex, situated in shallow depression;

face coarsely punctate-rugose medially and laterally punctate; clypeus rather flat and smooth; length of malar space 0.8 times basal width of mandible; mandible evenly curved and rather short.

Mesosoma. — Length of mesosoma 1.9 times its height; side of pronotum largely smooth medially and anteriorly but rugose posteriorly; precoxal sulcus rather narrow, complete and cellulate; mesoscutal lobes largely smooth and setose; scutellum flat and with some punctures; propodeum coarsely punctate-reticulate, with median carina connected to hemi-elliptical medial area.

Wings. — Fore wing: 1-SR absent; r:3-SR:SR1 = 11:19:91; cu-a postfurcal and vertical; 1-CU1:2-CU1 = 1:15; 2-SR:3-SR:r-m = 28:19:22; m-cu interstitial (left wing) or just postfurcal (right wing: fig. 40). Hind wing: SC+R1 evenly curved; M+CU 3.5 times 1-M; cu-a curved basad.

Legs. — Hind coxa punctulate; length of femur, tibia and basitarsus of hind leg 4.8, 17.1, and 12 times their width respectively; length of hind tibial spurs 0.1 and 0.2 times hind basitarsus; outer middle and hind tibial spurs much more robust than inner spurs; length of fore tarsus 2.6 times fore tibia, slender (fig. 41).

Metasoma. — Length of first tergite 2.4 times its apical width, its surface coarsely longitudinally and irregularly striate (fig. 42), and its dorsal carinae strong, converging and present in its basal half; second tergite smooth, elongate (fig. 42) and 2.3 times longer than third segment; length of ovipositor sheath 1.76 times fore wing.

Colour. — Brownish-yellow; antenna, stemmaticum, hind tibia (except base) and tarsus, ovipositor sheath, pterostigma (nearly completely), parastigma, veins in dark parts of wing membrane, apical third of fore wing (but with some paler spots (fig. 40)), and band near vein 1-M dark brown; apex of hind wing and its marginal cell up to sclerotized part of vein SR infuscated; remainder of wing membrane subhyaline.

***Pseudohelcon tessmanni* Szépligeti**  
(figs. 46-57)

*Pseudohelcon tessmanni* Szépligeti, 1914: 223; Shenefelt, 1970: 202.

Material. — Lectotype, ♀ (here designated), (ZMB): "Span. Guinea, Alcu Benitogbt., 1-14 I[19]07, G. Tessmann, S.G.", "563", *Pseudohelcon Tessmanni* n.sp." (in Szépligeti's handwriting). There is one paralectotype from Tanzania which belongs to *P. angustipalpis* spec. nov.

Lectotype: ♀, length of body 13.3 mm, of fore wing 12.0 mm.

Head. — Remaining antennal segments 8, length of third segment 1.2 times

fourth segment, length of third and fourth segments 4.7 and 4.0 times their width, respectively; length of maxillary palp 0.3 times height of head and its apical segment minute, about 2.5 times its width; occipital flange long, about 1.5 times basal width of mandible; length of eye in dorsal view 0.9 times temple (fig. 49); temples rather bulging, head at temples wider than at level of eyes (fig. 49); frons distinctly concave and smooth; OOL: diameter of ocellus: POL = 6:3:5; stemmaticum smooth, not protruding above vertex (fig. 46), situated in shallow depression (fig. 49); occipital carina complete; face coarsely punctate, but laterally finer; clypeus flat and with some setiferous punctures; length of malar space 1.4 times basal width of mandible; mandible evenly curved (fig. 51).

**Mesosoma.** — Length of mesosoma 1.7 times its height; side of pronotum smooth except for postero-ventral rugosity (fig. 46); precoxal sulcus complete, rather narrow and crenulate (fig. 46); middle mesoscutal lobe more convex than lateral lobes (fig. 52), smooth and largely setose, and both lateral lobes largely glabrous; scutellum rather convex and smooth; propodeum smooth medially (except for a short median carina), reticulate-rugose laterally and with narrow triangular medial area posteriorly.

**Wings.** — Fore wing: 1-SR obsolescent (fig. 48); r:3-SR:SR1 = 5:6:40; cu-a postfurcal and vertical (fig. 48); 1-CU1:2-CU1 = 1:15; 2-SR:3-SR:r-m = 16:6:10; m-cu subinterstitial (fig. 48). Hind wing: SC+R1 straight (fig. 48); M+CU about 10 times 1-M (fig. 48).

**Legs.** — Hind coxa punctulate; length of femur, tibia and basitarsus of hind leg 3.8, 13.5 and 8.2 times their width, respectively; length of hind tibial spurs 0.15 and 0.2 times hind basitarsus; length of fore tarsus 2.4 times fore tibia (fig. 56); middle and hind trochantelli rather inflated (fig. 56).

**Metasoma.** — Length of first tergite 1.8 times its apical width, its surface coarsely sublongitudinally rugose (fig. 55), and its dorsal carinae distinct in basal quarter of tergite (fig. 55); second tergite smooth, moderately elongate (fig. 55) and 1.2 times longer than third segment (fig. 55); length of ovipositor sheath 1.28 times fore wing.

**Colour.** — Brownish-yellow; antenna (except scapus, pedicellus and annellus), hind tibia (except base), hind tarsus, pterostigma and base of parastigma dark brown; remainder of parastigma yellowish; stemmaticum and ovipositor sheath blackish; lateral lobes of mesoscutum partly infuscated; basal third of wing membrane yellowish, remainder of fore wing (except two yellowish bands, fig. 48) and hind wing apically and posteriorly (fig. 48) dark brown.

## EXCLUDED SPECIES

***Pseudohelcon nigripennis* Fahringer**

*Pseudohelcon nigripennis* Fahringer, 1941: 220; Shenefelt, 1970: 202.

Unfortunately the type from Tanzania (Matengo, 1500-1700 m) is lost; I could not find it in the Vienna Museum and according to Dr. Fischer (pers. comm.), who sorted out the types in the Fahringer Collection, it was then no longer present in this collection. It is excluded from the subtribe *Pseudohelconina* because it has the fore tarsus about as long as fore tibia, vein SR1 of fore wing short, ending far before apex of wing, body black, fore wing evenly dark brown (except sub-hyaline patch near base of pterostigma) and marginal cell of hind wing not widened apically. It fits better in the *Diospilini* because of the narrowed marginal cell of hind wing, smooth propodeum and first tergite, albeit that the absence of vein CU1b of fore wing indicates that it belongs to an aberrant group possibly near *Pseudostrandiella* Fahringer, 1936. It cannot be included in *Pseudostrandiella* because of the absence of vein CU1b of fore wing, presence of vein a of fore wing, vein cu-a of fore wing subinterstitial and probably differently shaped second submarginal cell of fore wing and clypeus.

## ABBREVIATIONS OF TYPE DEPOSITORIES

BMNH = British Museum (Natural History), London  
MNHN = Muséum National d'Histoire Naturelle, Paris  
RMNH = Rijksmuseum van Natuurlijke Historie, Leiden  
ZMB = Zoologisches Museum der Humboldt-Universität, Berlin

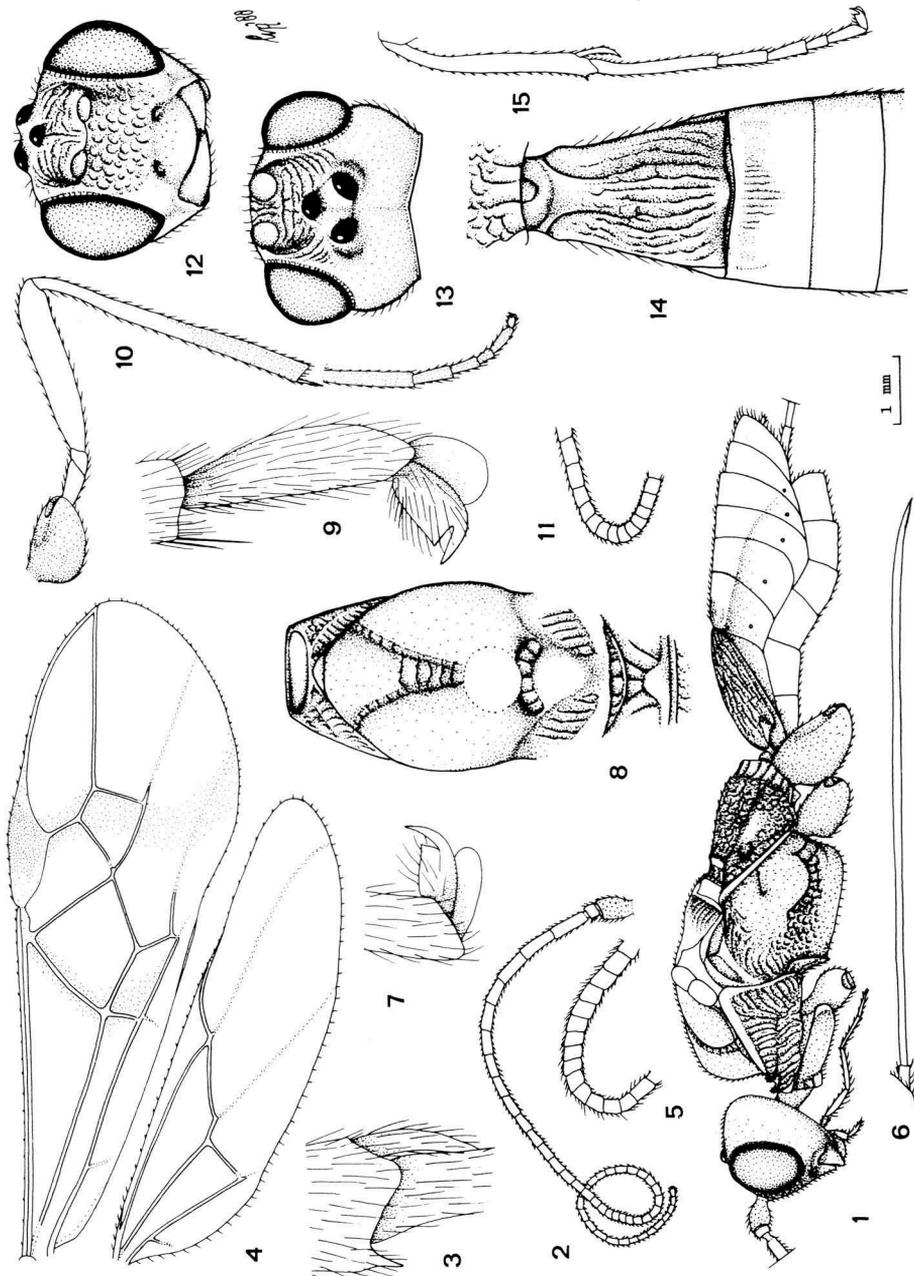
## ACKNOWLEDGEMENTS

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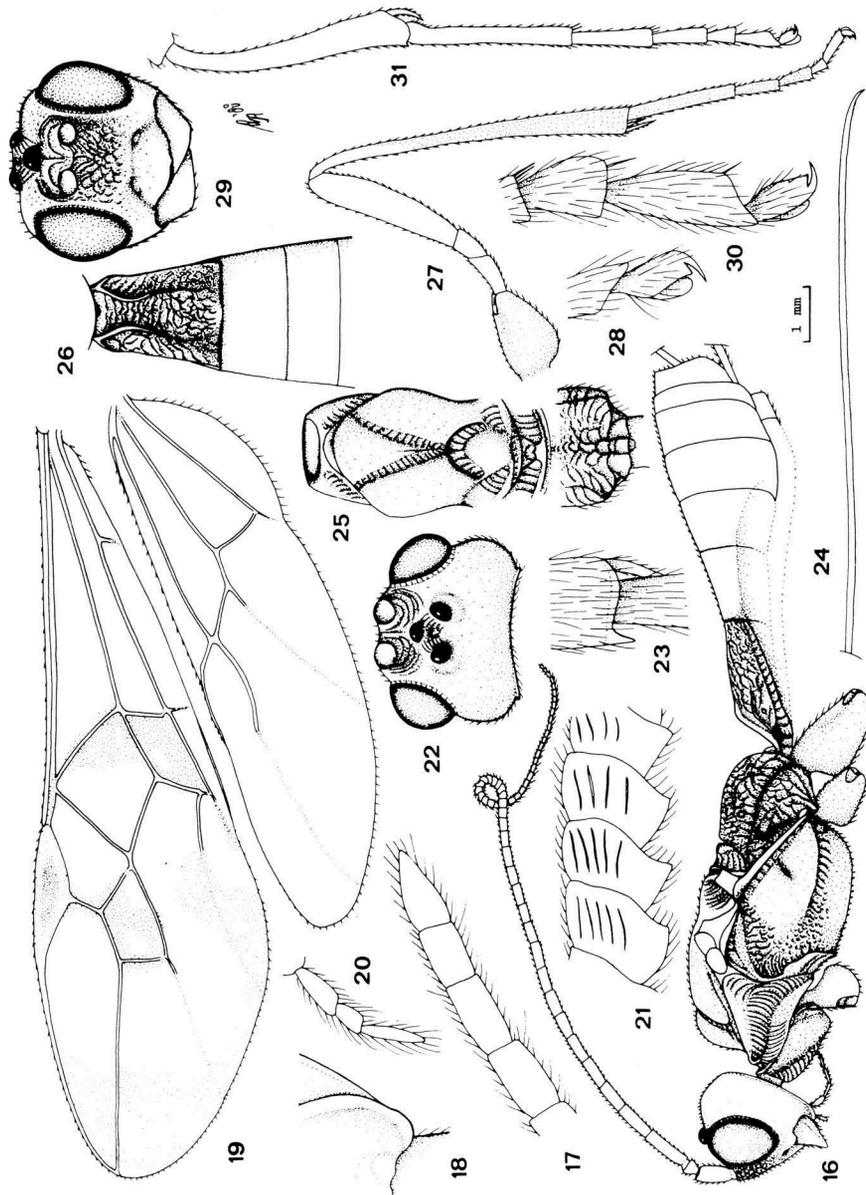
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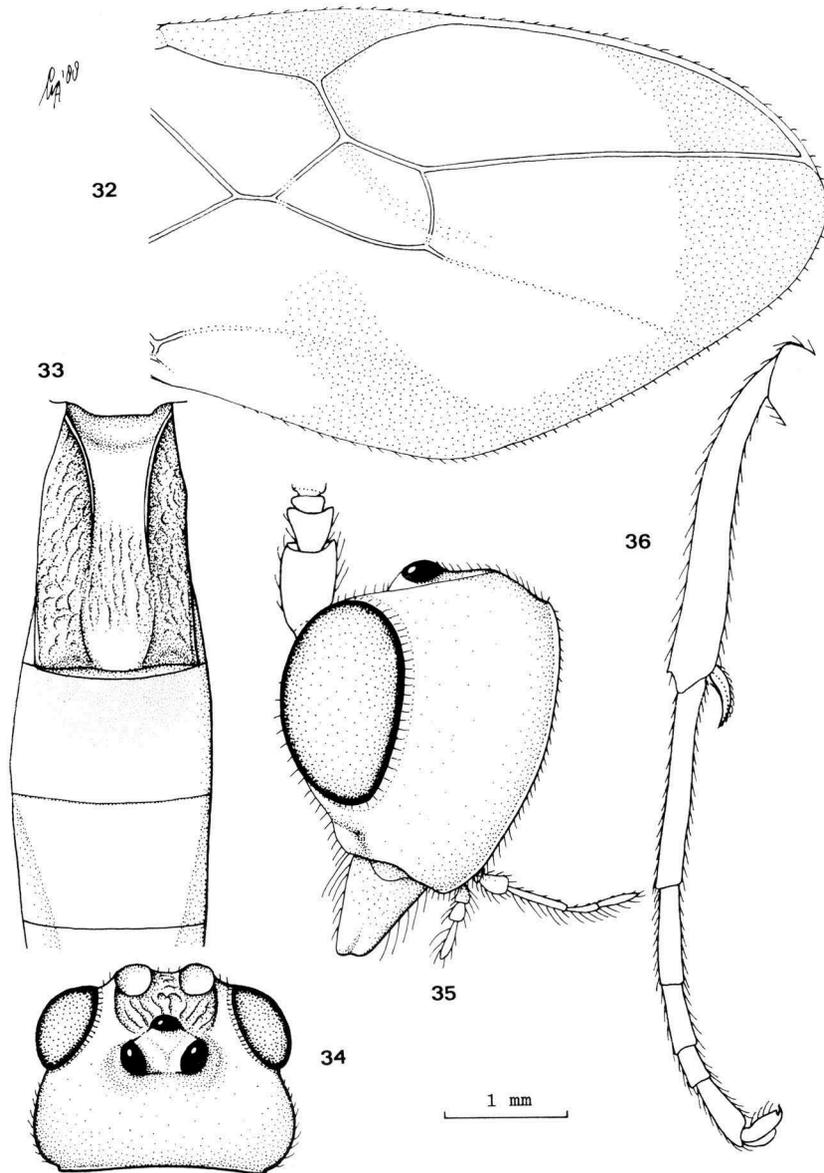
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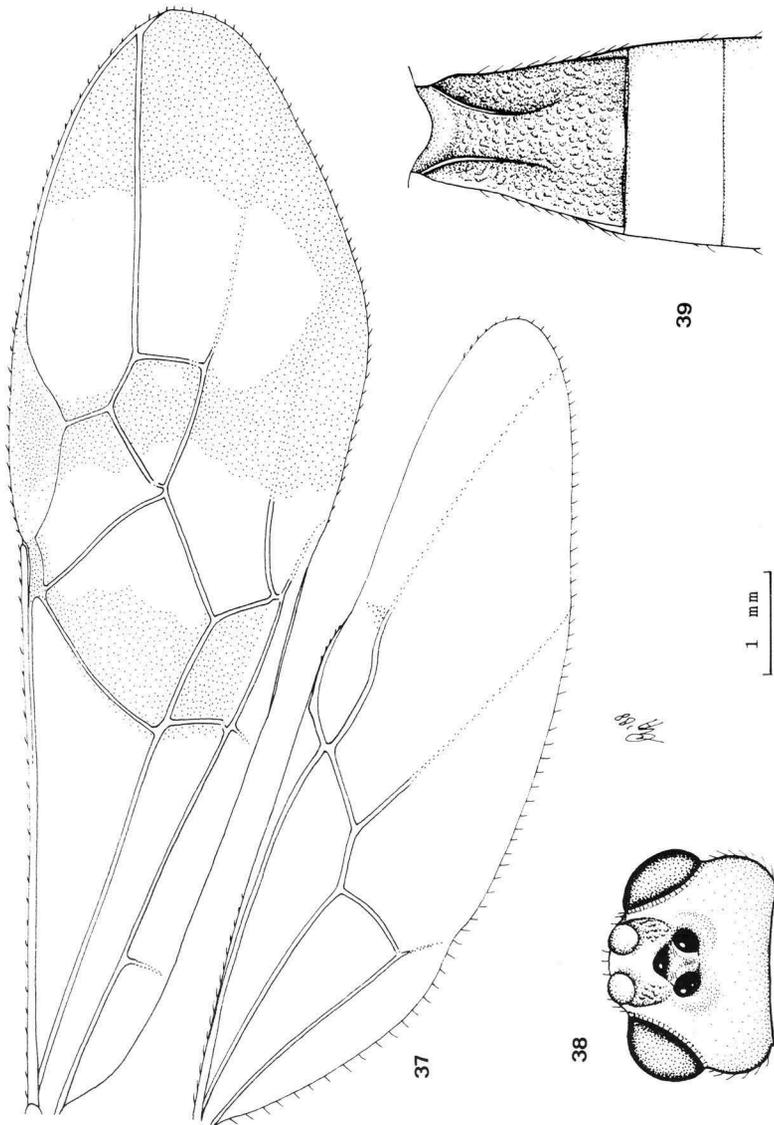
Figs. 1-15, *Flavihelcon distanti* (Turner), ♀, holotype (except fig. 11 of ♀, Zimbabwe, SE. Lupane). 1, habitus, lateral aspect; 2, antenna; 3, apex of fore tibia, lateral aspect; 4, wings; 5, 11, antennal segments near apical 0.3 of antenna; 6, ovipositor; 7, fore claw; 8, thorax, dorsal aspect; 9, hind claw; 10, hind leg; 12, head, frontal aspect; 13, head, dorsal aspect; 14, first-third metasomal tergites, dorsal aspect; 15, fore tibia and tarsus. 1, 2, 4, 6, 10: scale-line (= 1 ×); 3, 7, 9: 7 ×; 5, 11, 15: 2 ×; 8, 12-14: 1.5 ×.



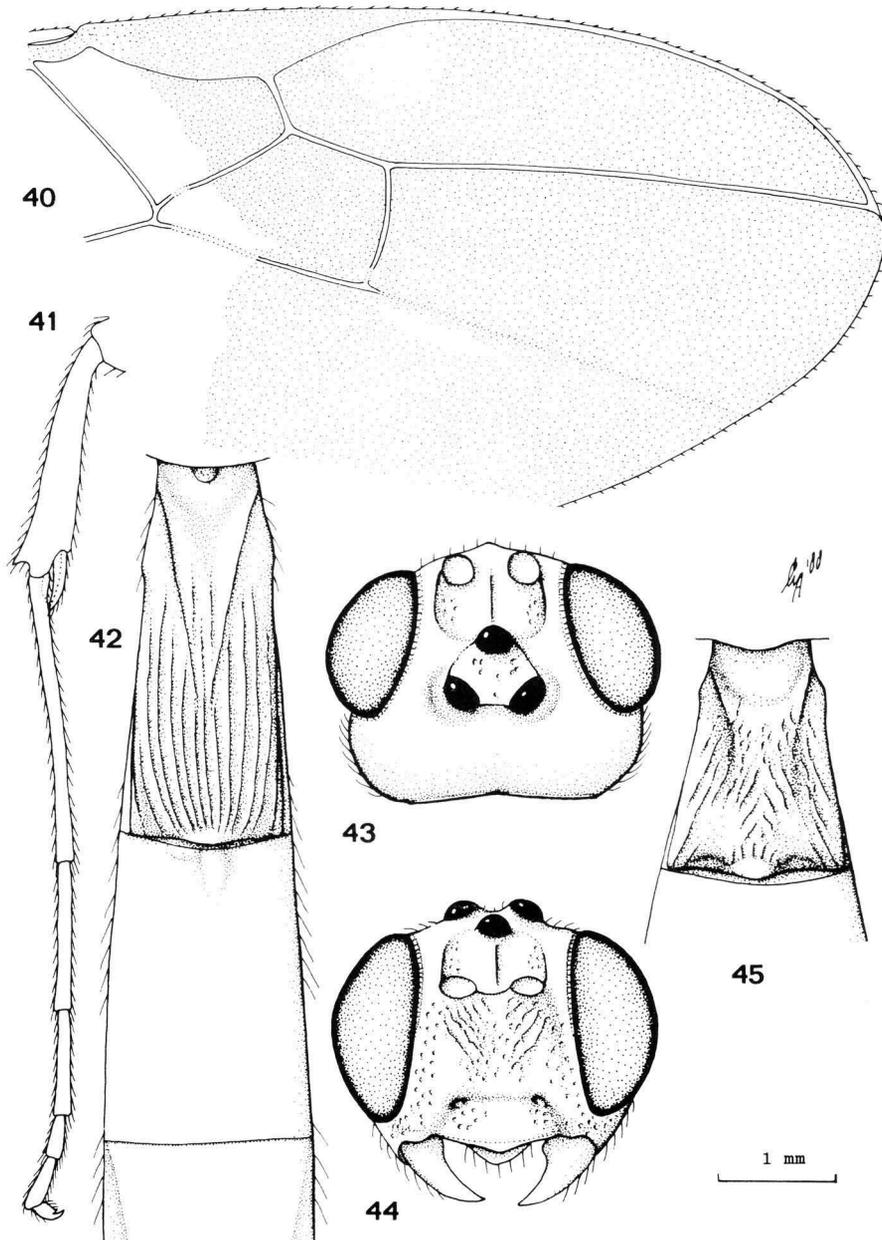
Figs. 16-31, *Afrohelcon magnificus* gen. nov., spec. nov., ♀, holotype. 16, habitus, lateral aspect; 17, apex of antenna; 18, occipital flange, latero-posterior aspect; 19, wings; 20, labial palp; 21, antennal segments near apical 0.3 of antenna; 22, head, dorsal aspect; 23, apex of fore tibia, lateral aspect; 24, ovipositor; 25, mesosoma, dorsal aspect; 26, first-third metasomal tergites, dorsal aspect; 27, hind leg; 28, middle claw; 29, head, frontal aspect; 30, hind claw; 31, fore tibia and tarsus. 16, 19, 24-26, 27: scale-line (= 1 ×); 17, 21: 12 ×; 18, 20, 23, 28, 30: 5.2 ×; 22, 29: 1.5 ×; 31: 1.8 ×.



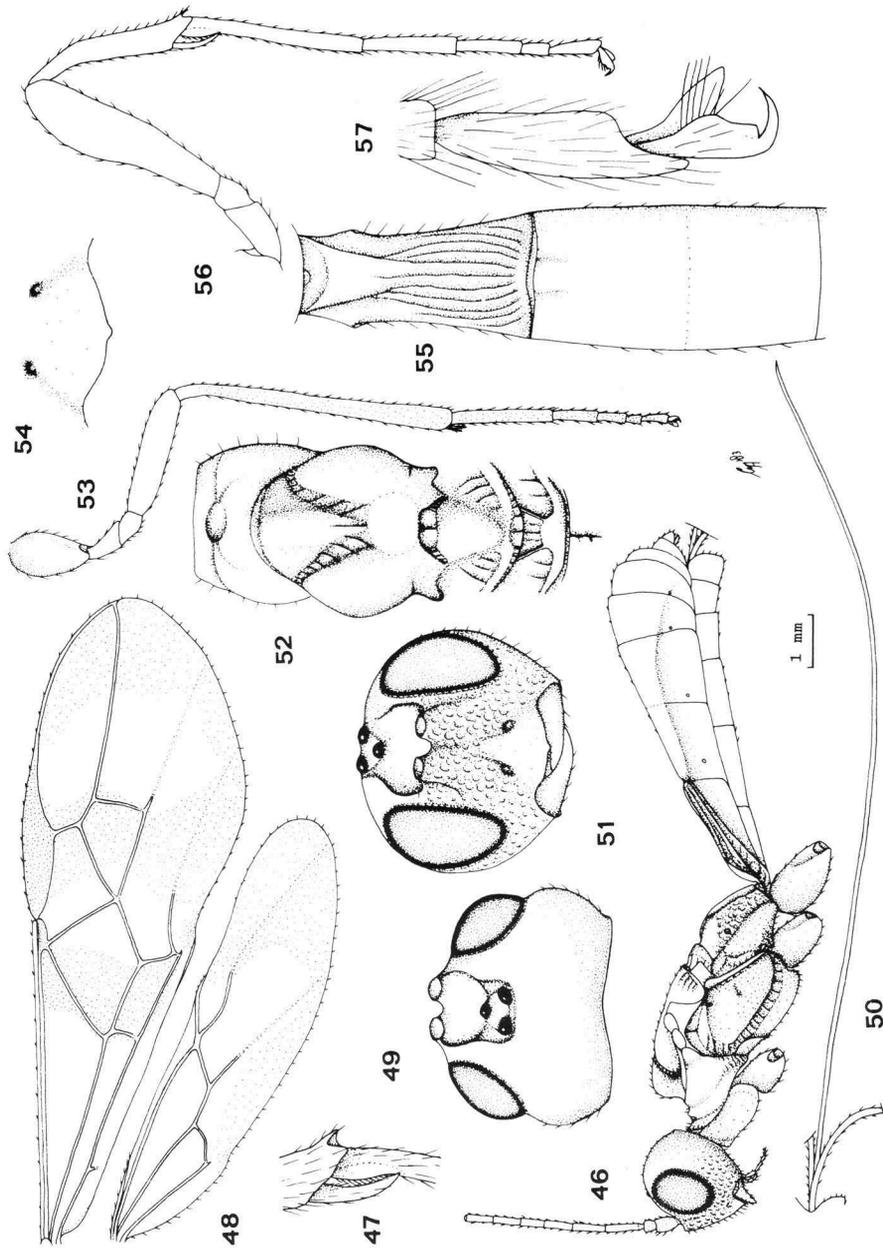
Figs. 32-34, *Afrohelcon prolatus* spec. nov., ♂, holotype; figs. 35, 36, *Afrohelcon splendidus* spec. nov., ♂, holotype. 32, apex of fore wing; 33, first-third metasomal tergites, dorsal aspect; 34, head, dorsal aspect; 35, head, lateral aspect; 36, fore tibia and tarsus, lateral aspect. 32-34, 35: scale-line (= 1 ×); 35: 1.1 ×.



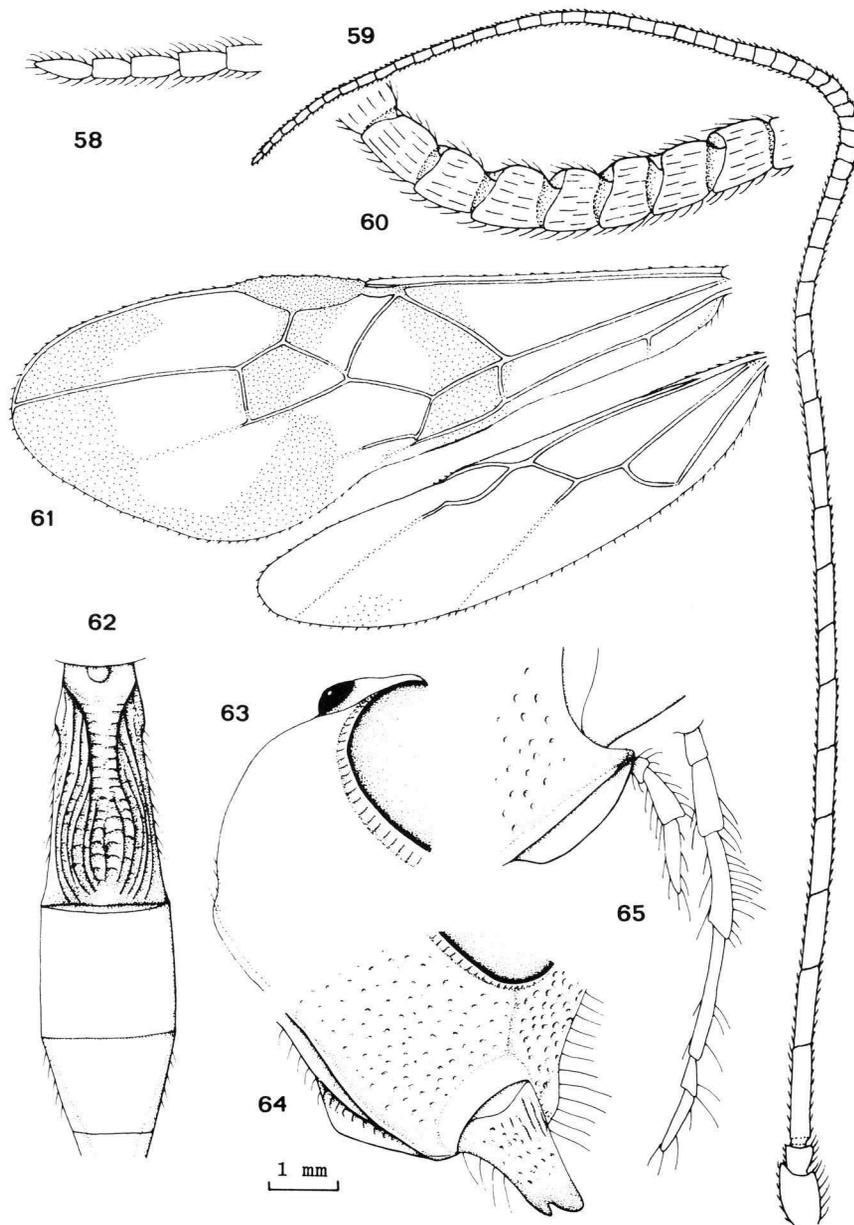
Figs. 37-39, *Afrohelcon splendidus* spec. nov., ♀, holotype. 37, wings; 38, head, dorsal aspect; 39, first and second metasomal tergites, dorsal aspect. 37: scale-line (= 1 ×); 38: 1.2 ×; 39: 1.1 ×.



Figs. 40-42, *Pseudohelcon elongatus* spec. nov., ♀, holotype; figs. 43-45, *Afrohelcon minutus* spec. nov., ♂, holotype. 40, apex of fore wing; 41, fore tibia and tarsus, lateral aspect; 42, first, and second metasomal tergites, dorsal aspect; 43, head, dorsal aspect; 44, head frontal aspect; 45, first metasomal tergite, dorsal aspect. 40-42: scale line (= 1 ×); 43-45: 2 ×.



Figs. 46-57, *Pseudohelcon tessmanni* Szépligeti, ♀, lectotype. 46, habitus, lateral aspect; 47, apex of fore tibia, lateral aspect; 48, wings; 49, head, dorsal aspect; 50, ovipositor; 51, head, frontal aspect; 52, mesosoma, dorsal aspect; 53, hind leg; 54, clypeus, frontal aspect; 55, first-third metasomal tergites, dorsal aspect; 56, fore leg; 57, hind claw. 46, 48, 50, 53: scale-line (= 1 ×); 47, 54: 3.5 ×; 49, 51, 52, 55, 56: 1.8 ×; 57: 9 ×.



Figs. 58-65. *Pseudohelcon augustipalpis* spec. nov., ♀, holotype. 58, apex of antenna; 59, antenna; 60, antennal segments near apical 0.3 of antenna; 61, wings; 62, first-third metasomal tergites, dorsal aspect; 63, stemmaticum, lateral aspect; 64, occipital flange, lateral aspect; 65, palpi, lateral aspect. 58, 60: 6 ×; 59: 2 ×; 61: scale-line (= 1 ×); 62: 1.4 ×; 63, 64: 4 ×; 65: 6.4 ×.