

Notes on African Hydrocoptus (Col., Dytiscidae)

by J. Balfour-Browne, M. A.

The number of species included in the genus has been considerably increased, for Africa, in recent years and, having difficulty in interpreting some of the recently described species I have been compelled to obtain original material of a number of them. Examination of this material and further study of recently received material for determination has led to the discovery of several cases of misidentifications leading to synonymy, among them being one of the oldest described African species, *Hydrocoptus koppi* Wehncke, which has proved to have been misunderstood by all workers.

I am greatly indebted to Dr. Haaf of the Frey Museum, Tutzing, Dr. Freude of the Bayerische Staatssammlung, Munich, Dr. A. Villiers of the Paris Museum, Dr. Basilewsky of the Congo Museum, Tervuren, and to the late Dr. Felix Guignot of Avignon, for the loan of invaluable material which has enabled me to unravel some confused species.

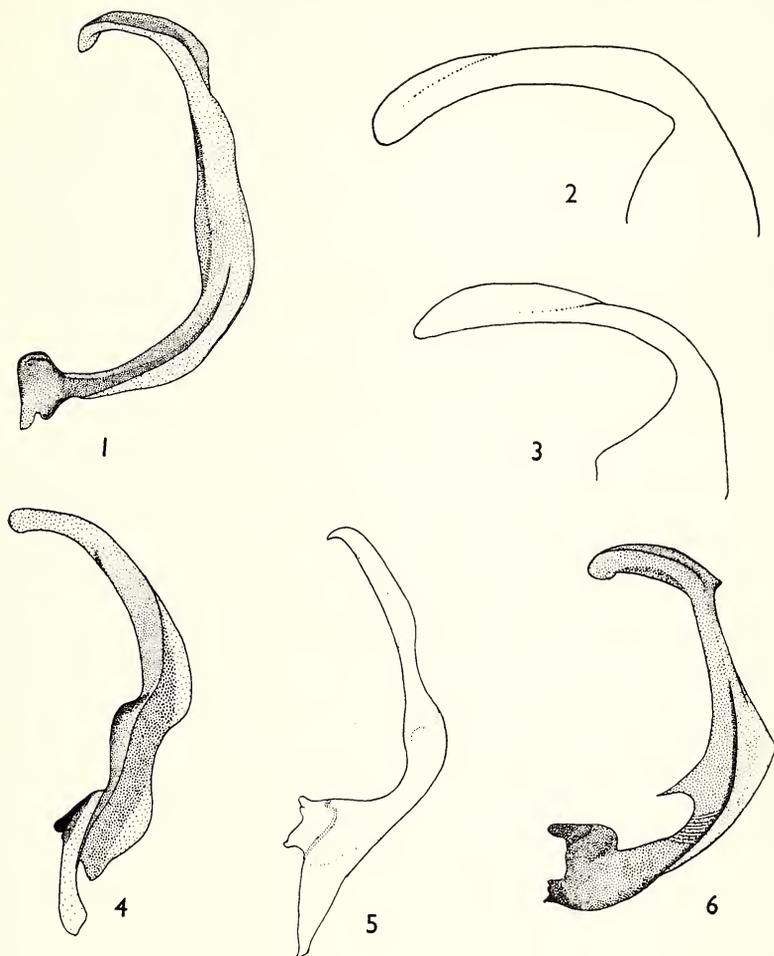
The following notes cover only those species I have found to be misunderstood and three new species are described.

Hydrocoptus rhipax Guignot, (1957, Expl. Hydrobiol. Lacs Kivu, Edouard et Albert (1952-4), 3:152) is to be removed from the genus. In the reprint sent me by Guignot and in a letter dated 2. VIII. 1958 it is stated that this is a synonym of *Synchortus saegeri* Gschwendtner, the error being stated to be due to Guignot being unable to see the anterior legs of his specimen! The original description mentions both the pro- and mesotarsi!

Hydrocoptus koppi Wehncke

Hydrocoptus koppi Wehncke, 1883, Deutsche ent. Zeitschr. 27:146 nec auctt.

After examination of some of Wehncke's syntype specimens from the Oberthür collection, Sharp's collection and Régimbart's collection it has become apparent that the species has been, by almost all authors, misinterpreted. As I shew below the *H. koppi* Wehncke of authors is an undescribed species, which I name *aethiopicus*, of widespread distribution from the



Legend of figures.

1. *Hydrocoptus koppi* Wehncke, syntype in BM (NH), lateral.
2. *Hydrocoptus aethiopicus* sp. n., holotype, lateral.
3. *Hydrocoptus angolensis* Peschet, specimen from Zululand, lateral.
4. *Hydrocoptus freyi* sp. n., holotype, dorsal.
5. *Hydrocoptus freyi*, lateral.
6. *Hydrocoptus grandis* sp. n., holotype, lateral.

Congo to Cape Province. The true *koppi* has an aedeagus conforming to the type seen in *H. africanus* Gschwendtner (Fig. 1) but is separable only with difficulty from *aethiopicus* on external characters.

The true *koppi* is known to me only from Gold Coast (Ghana), Nigeria (Malkin and Gregory collections) and it also occurs in Sudan: Shambe, Bahr el Jebel, 28. V.–19. VI. 1954 and River Post 21, approx. 105 km. S. of Lake No, 28. V.–19. VI. 1954 (I. W. B. Thornton leg.).

Two females determined as *H. koppi* Wehn. by Guignot from Guinea: Région Kindia, Mt. Gangan, 500 m., 6. V. 1951 and N'Zérékoré, 8. VII. 1951 appear to be correctly determined but confirmation by males remains desirable, the former being only 3.069 mm., the latter 3.465 mm. long.

Hydrocoptus aethiopicus sp. nov.

Hydrocoptus koppi auctorum, nec Wehncke.

"*Hydrocoptus koppi* Wehncke" is frequently mentioned in the literature and Omer-Cooper (1957, Mem. ent. Soc. South. Africa 5:4) records the species from "Gold Coast (type), Uganda, Kenya, Tanganyika, Belgian Congo, Angola, East Cape Province and Swaziland" and (1957, J. ent. Soc. South. Africa 20:363 fig. 1 a) adds "Nyasaland and Southern Rhodesia". There seems never to have been any question as to the identity of the species and I was, therefore, considerably surprised on dissecting the male of a pair in the British Museum (Nat. Hist.) from Wehncke, via Sharp Collection, bearing the describer's label and the original Addah label, and therefore syntypes, to find an aedeagus entirely distinct from that figured by Omer-Cooper.

Through the kindness of Dr. A. Villiers, of the Paris Museum, I have also seen a ♂ and ♀ syntype from Wehncke's collection (Oberthür Collection). The aedeagus of the male is identical with that of the ♂ syntype in the British Museum (Fig. 1). I have also seen two specimens from Régimbart's collection, one ♀ labelled "Addah, Côte d'Or./koppi Wehn." in Régimbart's handwriting is, by the mounting, certainly a specimen received from Wehncke; the second, also a ♀, from "Loango int. Ht. Quilou" is certainly not conspecific with Wehncke's species. Régimbart himself stated that it was a specimen with very large punctures.

It is clear that most author's have misinterpreted Wehncke's species and that the species so named is actually an undescribed species.

The two species are, in fact, excessively similar externally, of almost precisely the same size and colour and degree of impression of reticulation. In *aethiopicus* the internal serial row of punctures is less numerous and consists of slightly larger punctures than in typical *koppi* but the two external series are of smaller punctures than in the compared species and posteriorly in the area of confused (i. e. non-linear) punctation the punctures are clearly

smaller when the two species are directly compared, as is the rather confused punctuation towards the sides of the elytra.

The decisive difference in the form of the aedeagus of the two species (cf. Figs. 1 and 2) leaves no possible doubt of their distinctness.

Holotype, ♂, Angola: Huila District, Rio Corocá, c. 8 miles N. of Porto Alexandre, 22–23. VI. 1954, “small pond with algae and Lemna, Jun-cus fringing”, J. Balfour-Browne leg. In the British Museum (Nat. Hist.).

Paratypes, 53 specimens, same data as holotype; 10, Angola: Monga, 4. VI. 1954, “shallow reedy vlei”; 1, South Africa: Knysna Main Forest, 1500 ft., 17. III. 1954, “small pool”; 32, Knysna, Concordia, 17. III. 1954, “large pool with Scirpus”; 5, Storms Rivier Bridge, 19. III. 1954, “swampy places in river”, (all J. Balfour-Browne leg.).

The full extent of distribution of this species remains rather uncertain. The only Uganda specimens I have seen are three females from Kampala (G. H. E. Hopkins leg.) in Mrs. Omer-Cooper's collection which I believe to be *aethiopicus*, not *koppi*. The only Kenya specimen I have seen is a ♀ from Taveta determined as *koppi* Wehn. by Guignot. This is almost certainly *aethiopicus*. From Tanganyika I have seen two specimens determined as *koppi* Wehn. by Zimmermann, kindly sent me by Dr. Freude. One from Ngerengere, IX. 1912, is a ♂ *aethiopicus*, the other from Dar-es-Salam, IV. 1911, is a female *aethiopicus*. The only Belgian Congo specimens I have seen are determined by Guignot as *koppi* Wehn. from the Parc National Garamba; both are undoubted *aethiopicus*. All Angolan specimens I have examined are *aethiopicus*. Specimens from Storms River, East Cape Province, in Mrs. Omer-Cooper's collection and collected also by myself are also *aethiopicus* as are specimens from Swaziland, Transvaal (nr. Nelspruit), and Zululand, all reported as *koppi* Wehn. by Mrs. Omer-Cooper (l. e.) on my authority, before the dissection of Wehncke's specimens. I have seen no specimens ascribable to *aethiopicus* from West Africa, where the true *koppi* of Wehncke seems to occur and the available information suggests that the two species are allopatric without overlap.

Hydrocoptus angolensis Peschet

(*Hydrocoptus castaneus* Zimmermann) (*Syn. nov.*)

Peschet, 1925, Miss. Rohan-Chabot 1912–1914, 4 (III): 28.

Zimmermann, 1926, Ent. Blätter 22:20.

Hydrocoptus angolensis Peschet, sec. Guignot in coll.

Through the kindness of Dr. Freude of the Staatssammlung, München, I have seen the two original specimens of this species, both females, one labelled "Kilossa, März 12 (Type) Samml. A. Zimmermann" with a pink Holotypus label of the Staatssammlung, the other labelled "D. O. Africa, Usaramo 14 (leg. Methner, Type) Samml. A. Zimmermann" with a pink Paratypus label of the Staatssammlung. There is also a third specimen, also a female, labelled "Dtsch. O. Afrika (Samml. A. Zimmermann) cum type comp./Hydrocoptus castaneus Zimmerm. det. Zimmermann". There is no doubt at all that all three specimens are conspecific.

The holotype specimen measures 3.659 mm. in length by micrometer. The colour is a nearly uniform castaneous, only the sides of the elytra paler. The elytra bear, internally, two nearly regularly linear series of fine, sharply impressed small punctures; external to the second series is a double rather irregular series of slightly larger punctures; external to that, again is an anteriorly abbreviated series of fine small punctures followed by an irregular very widely spaced series of larger punctures, about 6 in all up to the declivity; between this and the margin are three linear series, much abbreviated anteriorly, of very fine punctures with a few rather irregular and barely linear larger punctures. The venter is flavo-testaceous.

I find it quite impossible to separate this species from a specimen determined as *H. angolensis* Peschet by Guignot, labelled "Exped. Mus. G. Frey, Soudan fr. 1951, W. Afr. leg. Bechyné/Bamako, 20. 7. 51" kindly sent me by Dr. Haaf; the only difference is in the paler colour of this specimen with a slightly paler longitudinal discal streak. Three further specimens, 1 ♂, 2 ♀, from Zululand, Mzuzi, XII. 1947, submitted by the Commonwealth Institute of Entomology also certainly belong here, differing only in a very slightly stronger punctuation of the elytra and darker elytra. Almost certainly methods of killing and preservation before mounting will account for the colour differences. The ♂ from Mzuzi enables the identification of the species by aedeagus (Fig. 3). A male from Sudan, Shambe, Bahr el Jebel, 28. V.-19. VI. 1954, I. W. B. Thornton leg., with an aedeagus identical with that of the Mzuzi specimen extends the distribution of the species considerably.

I have not seen Peschet's original material, from the Benguela District of Angola, described as a variety of *H. seriatus* Sharp, but it is highly probable that Guignot has correctly interpreted that species. If that is confirmed the name proposed by Peschet has priority, as is here accepted.

Hydrocoptus africanus Gschwendtner

Hydrocoptus africanus Gschwendtner, 1930, Rev. Zool. Bot. afr., 19:79.

Hydrocoptus impudicus Guignot, 1957, Expl. Hydrobiol. Lacs Kwu, Edouard et Albert (1952-4), 3 (II):153, fig. 8 (*Syn. nov.*)

The publication by Mrs. Omer-Cooper, (1957, Journ. ent. Soc. S. Afr., 20:360, fig. 2) of a figure of the aedeagus of the unique type of *H. africanus* Geschw. and a comparison with Guignot's primitive figure of the aedeagus of the unique type of *H. impudicus* Guign. leaves no doubt that the latter is a synonym of the former.

It is apparent that Guignot had wholly misinterpreted Gschwendtner's species on examination of a series in the Museum Frey, kindly sent me by Dr. Haaf. This series of 3 specimens from French Guinea labelled "*Hydrocoptus africanus* Zimm., Guignot det., 1953" have an aedeagus totally different from Omer-Cooper's figure and are described below as a new species under the name *Hydrocoptus freyi*. The misidentification of *africanus* naturally led Guignot to regard his *impudicus* as a new species.

Hydrocoptus uellensis Guignot

Hydrocoptus uellensis Guignot, 1954, Ent. Arb. 3:104.

Hydrocoptus dermatylus simplex Guignot, 1954, Ent. Arb. 3:105 (*Syn. nov.*)

Having had an opportunity to examine the type series of *H. dermatylus* Guignot and of *H. dermatylus simplex* Guignot, through the kindness of Dr. Haaf, I find myself unable to accept the status of the latter as a subspecies of *dermatylus**. The shape of the aedeagus of the type specimen of *dermatylus* dissected by Guignot differs so little from that of *uellensis*, Guignot and *simplex* Guignot that it is impossible to base specific differences thereon and recourse must be had to any other characters available. Those claimed by Guignot are the "slightly less strong elytral punctures and very slight differences in the aedeagus". Differences in the strength of the punctures between individuals of other species are known to occur. A direct comparison of a specimen of *uellensis* Guignot from the Parc National Garamba determined by Guignot and the type of *H. dermatylus simplex* Guignot shew differences far too slight to be acceptable as dividing different species.

*)Guignot, 1959, Ann. Mus. roy. Congo Belge, ser in 8vo., Zool., 78 : 472 has raised *simplex* Guignot to full specific status without comment. No alteration in this argument is required.

Further, a single specimens from Kindia, the type locality of *d. simplex* agrees so precisely in aedeagus and punctuation with the specimen of *uellensis* from the Garamba as to leave no doubt in my mind that *d. simplex* is a synonym of *uellensis*.

The status of *d. dermatylus* Guignot, wholly sympatric with *uellensis* in French Guinea, does not seem possible to resolve on taxonomic grounds alone. The form may be readily recognised by the much smaller, less impressed punctures of the six serial rows (not counting the double third series from the suture, though this is also smaller than in authentic *uellensis*), but no other character, even of the aedeagus, seems to differ significantly. Until breeding can be undertaken I am inclined to leave *dermatylus* Guignot as a valid species.

Hydrocoptus freyi sp. n.

Hydrocoptus africanus Gschwendtner, Guignot det, in coll. Frey; Guignot, 1959, Ann. Mus. roy. Congo Belge, ser. in 8 vo., Zool., 78:470, (*partim*).

A series of six specimens from French Guinea, determined as *africanus* Gschwendtner by Guignot, have kindly been sent by Dr. Haaf. As stated above under *africanus* Gschwendtner, Guignot wholly misconceived that species of which the type has been seen and dissected by Mrs. Omer-Cooper.

The six specimens standing as "africanus" are two distinct species with three specimens of each. Three females I unhesitatingly name *H. uellensis* Guignot. Two males and one female, (one male bearing Guignot's determination label "Guignot det., 1953/Hydrocoptus africanus Zimm.") represent a new species, by sculpture close to *africanus* Gschwendtner but with an aedeagus wholly distinct from all previously described African species. The new species is described below: -

Flavo-testaceous, head posteriorly and pronotum anteriorly fuscous, elytra very dark castaneous or almost black with side margin and longitudinal discal band, starting behind base and interrupted at top of declivity, flavo-testaceous; elytra with seven more or less regular linear series of fine punctures, the third from suture distinctly double with some widely spaced irregularly linear punctures between fourth and fifth and sixth and seventh series; finely reticulate, moderately shining. Aedeagus as figured (Figs. 4, 5).

Holotype, ♂, French Guinea: Region Kindia, Mt. Gangan, 500 m., 5. V. 1951, Bechné leg., 3.465 mm. long. In Museum Frey Tutzing.

Paratypes: 1 ♂, same locality as holotype but 6. V. 1951, 1 ♀ Kindia, 24. V. 1951.

This new species is easily separated from *uellensis* Guignot by the darker elytra with distinct discal band like an exclamation mark and by the distinctly more shining elytra. It rather closely resembles the true *africanus* in both these characters but the totally distinct type of aedeagus effectively isolates it from all others.

Hydrocoptus grandis sp. n.

This very recently received new species is immediately distinguished from all previously known by the much greater size. All the specimens seen are uniformly dark castaneous brown, only the anterior part of the head and sides of pronotum and elytra paler testaceous. By structure of aedeagus the new species is certainly related to *H. africanus* Gschwendtner and *H. megas* Omer-Cooper.

Head strongly microreticulate, quite dull, areolae very small, round. Pronotum microreticulate, quite strongly on disc, less strongly and more shining towards sides. Elytra reticulate as on pronotum, with seven more or less regular series of fine punctures, third distinctly double, internal row of pair coarser than outer and with widely spaced irregular larger punctures between fourth and fifth and sixth and seventh series, the two latter more irregular than the five internal series. Aedeagus as figured, (Fig. 6).

Holotype, ♂, Angola: (Ang. 4627.8), no other data available, 4.356 mm. long. In British Museum (Nat. Hist.).

Paratypes: 1, 4627.8; 8, 4517.24; 1, 4593.10; 8, 4623.16; 1, 4603.13; 1, 4568.14; 1, 4550.14.

The data given are those accompanying specimens from Dundo Museum. No interpretation sheets have yet been received.

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Zeitschrift/Journal: [Entomologische Arbeiten Museum G. Frey](#)

Jahr/Year: 1961

Band/Volume: [12](#)

Autor(en)/Author(s): Balfour-Browne J

Artikel/Article: [Notes on African Hydrocoptus \(Col., Dytiscidae\). 60-67](#)