INSTITUT DES PARCS NATIONAUX DU CONGO BELGE | INSTITUUT DER NATIONALE PARKEN VAN BELGISCH CONGO

Exploration du Parc National de la Garamba

MISSION H. DE SAEGER

en collaboration avec

P. BAERT, G. DEMOULIN, I. DENISOFF, J. MARTIN, M. MICHA, A. NOIRFALISE, P. SCHOEMAKER, G. TROUPIN et J. VERSCHUREN (1949-1952).

FASCICULE 13

Exploratie van het Nationaal Garamba Park

ZENDING H. DE SAEGER

met medewerking van

P. BAERT, G. DEMOULIN, I. DENISOFF, J. MARTIN, M. MICHA, A. NOIRFALISE, P. SCHOEMAKER, G. TROUPIN en J. VERSCHUREN (1949-1952).

AFLEVERING 13

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Fascicule 13 (1)

NATIONAAL GARAMBA PARK
ZENDING H. DE SAEGER
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Aflevering 13 (1)

PYGOSTENINI

(COLEOPTERA POLYPHAGA)

Fam. **STAPHYLINIDAE**

Subfam. **ALEOCHARINAE**

BY

DAVID H. KISTNER (Rochester)

This paper is based on a small collection of *Pygostenini* made in Garamba National Park by the H. DE SAEGER Mission from 1949-1952. In the following pages the one new species will be described and illustrated while the other species, which are better known from other localities will be merely cited (1).

The author wishes to express his gratitude to Mr. G. FAGEL (Institut des Parcs Nationaux du Congo Belge, Brussels), for the loan of specimens included in this study. All specimens deposited in the collection of the above institution will be indicated (I.P.N.C.B.). Specimens retained in the collection of the author will be indicated (D.K.). Thanks are also given to Dr. J. K. A. VAN BOVEN (Institut de Zoologie, Louvain), for the doryline ant determination which will be cited in the text.

The specimens were prepared for study and measured according the methods previously reported (KISTNER, 1958 *a*, pp. 11-12).

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(1) All the localities between [ ] are outside of the Park's boundaries.

1. — **Typhloponemys wittei** CAMERON.

Pygostenus wittei CAMERON, Explor. Parc Nat .Albert, Miss. G. F. DE WITTE, 1933-1935, fasc. 59, 1950, p. 44; Inst. Parcs Nat. Congo Belge, Brussels (Belgian Congo : Rutshuru, Albert National Park, no host). — TOTTENHAM, Ann. Mus. Roy. Congo Belge Tervuren, sér. in-8°, Zool., 51, 1956, p. 230 [Ruanda : Counterfort east of Muhavura, no host].

Typhloponemys wittei KISTNER, Explor. Parc Nat. Albert, Mission G. F. DE WITTE, 1933-1935, fasc. 91 (1), 1958, pp. 4-5, figs. 2, 3, 4, 9 [Belgian Congo : Haut-Uele, Moto, no host]. — KISTNER, Ann. Mus. Roy. Congo Belge Tervuren, sér. in-8°, Zool., 68, 1958 *a*, p. 80 (no further localities added).

Material examined. — 1 ♂ : Aka, dense galery forest of Guinea type I, 15.V.1952; Coll. by H. DE SAEGER (3463) (I.P.N.C.B.).

Remarks. — DE SAEGER (1956) gives additional notes on the capture. The specimen was collected between 9-12:00 A.M. in cut grass and prunings from arborescent shrubs on the border of a ravine which had a dense cover of foliage.

2. — **Mimocete torpilla** FAUVEL.

Mimocete torpilla FAUVEL, Rev. d'Ent., 18, 1899, p. 8; Inst. Roy. Sc. nat. Belg., Brussels, [Cameroons, no host]. — WASMANN, Ent. Mitt., 17, 1926, p. 116. — TOTTENHAM, Ann. Mus. Roy. Congo Belge Tervuren, sér. in-8°, Zool., 51, 1956, p. 230 [Urundi : Bururi; Ruanda : Terr. Nyanza, Mahembe]. — KISTNER, Explor. Parc Nat. Upemba, Miss. G. F. DE WITTE et al., 1946-1949, fasc. 49 (4), 1958 *b*, p. 38 [Belgian Congo : riv. Kenia, no host]. — KISTNER, Ann. Mus. Roy. Congo Belge Tervuren, sér. in-8°, Zool., 68, 1958 *a*, pp. 136, 138, figs. 31 A; 32 B, G; 33 A, D, E, G; 34 D, E [plus additional synonymy contained therein and many localities in the Belgian Congo, Ruanda, Urundi, Northern Rhodesia, Tanganyika, Kenya, Mozambique, and the Union of South Africa].

Material examined. — 2 ♀♀ : II/gd/4, 24.V.1951; Coll. by H. DE SAEGER (1813), at light (I.P.N.C.B.).

Remarks. — The designation II/gd refers to section gd of the second biological cell. The designation 4 refers to the ecological situation in which the specimen was taken, which in this case is herbaceous savanna (see maps and explanation given by DE SAEGER, 1954 and 1956).

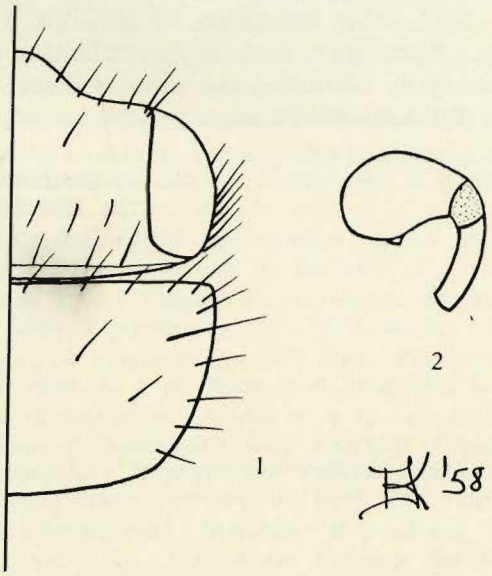
3. — **Neopygostenus desaegeri** n. sp.

(Figs. 1, 2.)

Head and pronotum shaped as in figure 1. Eye shape exactly as in *Neopygostenus seeversi* KISTNER (1958 *a*, figure 35 E, p. 137). Color light reddish brown throughout, approaching yellowish. Dorsal surface of the

head, pronotum, and elytra shiny and setigerous; chaetotaxy of the head and pronotum as shown in figure 1. Spermatheca shaped as in figure 2. Male unknown.

Measurements. — Pronotum length, 0.38-0.39 mm.; elytra length, 0.49 mm.; eye length, 0.25-0.27 mm.; gula width, 0.12-0.13 mm.; interocular distance, 0.46 mm.; head length, 0.37-0.38 mm. Number measured, 2.



FIGS. 1, 2. — *Neopygostenus desaegeri* n. sp.
1 : Head and pronotum; 2 : Spermatheca.

This species may be distinguished from all other species by the shape of the spermatheca. Identification will be facilitated by the use of the following key :

1. Pronotum rounded, slightly wider than the head ..... *Neopygostenus flavus* CAMERON.

— Pronotum angular, as wide as or shorter than the head 2

2. Spermatheca elongate, with the distal portion about twice as long as the longest axis of the bulbous portion ..... *N. seeversi* KISTNER.

— Spermatheca more compressed, with the distal portion about as long as the longest axis of the bulbous portion (fig. 2) ..... *N.desaegeri* n. sp.

Holotype. — ♀ : No. 3132, I/o/1, 10.V.1950, Coll. by H. De Saeger (No. 514). In the collection of the Institut des Parcs Nationaux du Congo Belge, Brussels.

Paratype. — 1 ♀ : same data as the holotype, (D.K.).

Remarks. — The designation I/o/1 refers to the first biological cell and a specific locality at the border of the Bagbele camp (see De Saeger, 1956). The specimens were collected from a colony of ants that were in the process of changing their nest site. The ecological situation was wooded savanna. Fortunately specimens of the ants were mounted with the myrmecophiles. These were sent for determination to Dr. J. K. A. van Boven, who provisionally identified the two workers as *Aenictus weissi* Santschi. This is the first record of any host for any of the species of *Neopygostenus*.

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ARRANGED ALPHABETICALLY.

SPECIES.

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Fascicule 13 (2)

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Aflevering 13 (2)

GYRINIDAE
(COLEOPTERA GYRINOIDEA)

BY

PER BRINCK (Lund)

The gyrinid fauna of the north-easternmost Belgian Congo and adjacent parts of the Soudan has been poorly known. It is true that there are scattered records from e.g. the Tori and from Imatong Mountains in the Soudan, and that certain species have been recorded from the north-eastern Congo, but the composition of the fauna and the number of endemic species occurring in these areas was unknown.

Therefore, it was a great pleasure to receive the large material collected by the Expedition H. DE SAEGER in the Garamba National Park in 1949-1952. My sincere thanks are due to the President of the Institut des Parcs Nationaux du Congo Belge, Brussels, Prof. V. VAN STRAELEN, and to the leader of the Expedition, Mr. H. DE SAEGER. I am also very grateful to Mr. G. FAGEL who has assisted in various ways.

In spite of the fact that the material contained several thousands of specimens, it was very homogeneous : only 17 species were represented, many of them in a considerable number of specimens. With regard to the intensity of the field work of the Expedition and the fact that it covered all seasons during a short series of years, this means that the gyrinid fauna of the area in question is comparatively poor. This is hardly remarkable. As is well known the endemic species of *Gyrinidae* usually inhabit more or less isolated mountain streams. Such habitats seem to be very rare in the Garamba area : as a matter of fact the mountains of the Park raise only 100-150 m above the surrounding savanna in spite of their summits being 900-1.061 m high. Permanent streams, covered by a canopy of dense vege-

tation, are rare. Most streams start as pools or marshes which dry up for about 4 months every year; at this time the country is dry while at other seasons it is widely flooded. This means that there is a mixing of the gyrinid fauna of most of the waters and it also means that more sensitive and stenotopic species cannot prevail in the area in question. This is confirmed by the study of the material collected by the present Expedition.

Several of the species occurring in the Garamba Park are very widespread and are met with almost all over Africa, viz.

Aulonogyrus algoensis RÉGIMBART.

Dineutus subspinosus (KLUG) (this species seems to be very common in the Park).

D. aereus (KLUG).

Orectogyrus sericeus (KLUG).

O. oscari (APETZ).

The East African element seems to be very rare in the Garamba area. In the material there is only one representative of this group, viz. *Orectogyrus pallidiventris* OCHS, which is very widespread from Abyssinia southwards to the Zambezi river. The species is fairly eurytopic and several times it has been met with in open country with more or less drying-up streams and rivers.

The Central African element is also poorly represented. The following species may be placed in this group :

Orectochilus africanus OCHS.

Orectogyrus interstitialis OCHS, represented by a race inhabiting the northern Congo.

O. specularis (AUBÉ) (very common in the Park).

It should be noted, however, that the latter species is very widespread and abundant in western tropical Africa, while eastwards it becomes more scarce; from the areas east of the great lakes there are only a few records. There are some other species in the present material which have their main distribution in the west and thence penetrate eastwards through tropical Africa in a broad belt, viz.

Dineutus sharpi RÉGIMBART.

D. micans (FABRICIUS) subsp. *serra* RÉGIMBART.

Orectogyrus alluaudi RÉGIMBART (common in the Park).

A very interesting distributional group is formed by a series of West African species which do not occur in the belt of equatorial forests in the Congo but extend eastwards in the northern savanna (of the Guinea type).

In some cases the Garamba Park is the easternmost locality of the species, so far known. The species are as follows :

Orectogyrus vagus GUIGNOT.

O. angularis RÉGIMBART ssp. *gentilis* OCHS (a race of the northernmost Congo) (common in the Garamba Park).

O. bedeli RÉGIMBART.

O. dahomeensis RÉGIMBART ssp. *nobelsi* OCHS (a race of the northern Congo).

In the material there is only one new species, viz. *Aulonogyrus desperatus*. This is hardly an endemic element of the Garamba Park; probably it is more or less widespread in the northern savanna belt, the gyrinid fauna of which is poorly known.

As intimated above there are scattered records of nine species from those parts of the Soudan which surround the Garamba Park. These species are represented in the present material with the exception of *Aulonogyrus flavipes* (BOHEMAN) which is, however, a very widespread and fairly eurytopic African species.

As far as can be decided from our knowledge of the whirligig beetles of these areas, it seems that the northern savanna belt is inhabited by a homogeneous gyrinid fauna which consists of comparatively few species with a wide distribution.

LIST OF SPECIES.

In the following list I have given no references to original descriptions or synonyms. These are all easily found in my « Revision of the *Gyrinidae* (*Coleoptera*) of the Ethiopian Region » I in Kungl. Fysiogr. Sällsk. Handl., vol. 66, No. 16 (141 pp.), LUND, 1955, and II, ib., vol. 67, No. 14 (190 pp.), LUND, 1956.

The locality numbers refer to data contained in fascicule 5 (Entomologie, Renseignement éco-biologiques) of « Expl. Parc Nat. Garamba, Miss. H. DE SAEGER », Brussels, 1956.

Aulonogyrus (Afrogyrus) algoensis RÉGIMBART, 1883.

River Mogbwamu (I/b/3'), 1.II.1950, leg. H. DE SAEGER, 1 specimen swimming near the banks of the river (depth 0.10 m, pH 6.2, at 10 a.m.). No. 189. — Naluguambala, south of Bagbele, 2.VI.1950, leg. H. DE SAEGER, 8 specimens on stream shaded by trees (pH 6.1, at 8.45 a.m.). No. 574. — Naluguambala, south of Bagbele, 25.IX.1950, leg. G. DEMOULIN, 1 specimen on river shaded by trees (pH 6.3, at 14.30 p.m.). No. 839. — Southern limit of the park, river Dungu (PpK/8/9), 15.VII.1952, leg. H. DE SAEGER, 2 specimens on small pool in forest. No. 3795.

A male specimen from locality number 189 is completely reddish brown, but in spite of this it does not show any sclerotic deficiencies. The reticulation is practically normal : only slightly more indistinct than is usual.

Aulonogyrus algoensis is a widespread tropical and subtropical species which inhabits various running and still-water habitats.

Aulonogyrus (Afrogyrus) desperatus n. sp.

(Fig. 1.)

Naluguambala, south of Bagbele, 25.IX.1950, leg. G. DEMOULIN, 1 female (allotype) specimen on river shaded by trees (pH 6.3, at 14.30 p.m.). No. 839. — River Nagbarama, NE of Bagbele (I/o/2), 30 X.1950, leg. H. DE SAEGER, 1 defective female specimen on the river. No. 922. — South of the river Garamba (II/bd/10), 28.XII.1951, leg. H. DE SAEGER, 1 male specimen (holotype) on small, slow-flowing, unshaded stream (depth 10-15 cm). No. 2956. — Mt. Embe (Soudan), 20.IV.1952, leg. H. DE SAEGER, 1 female specimen on clear stream with sandy bottom (River Mapanga), shaded by dense vegetation. No. 3346.

This is a new species of the *flavipes*-group and its presence means that it will be very difficult to identify material of this group without examination of the genital armature.

A description follows :

Length : ♂ 4,9 mm, ♀ 5,2-5,5 mm. Breadth : ♂2,6 mm, ♀2,8-3 mm.

Oval, broadest in the middle of the body, fairly convex. Dorsal side moderately shiny, greenish plumbeous, laterally dull because of strong reticulation. Pro-, meso- and metasterna red, abdomen metallic black with first and last free sternal plate more or less reddish. Epipleura anteriorly red, posteriorly darkend. Legs red, anterior tibias and tarses dark red.

Labrum short, strongly transverse, aenescent, shiny, with indistinct reticulation and micropunctuation. Clypeus, frons and vertex bronze with violaceous reflexions, strongly reticulated (meshes small, fairly isodiametric) and finely punctate; anterior margin of clypeus slightly curved or almost straight; vertex with two shallow impressions between the eyes. Orbital ridge simple.

Pronotum strongly reticulated (meshes small, more or less isodiametric), laterally smooth or with very shallow wrinkles, medially with a longitudinal, narrow and shiny strip of longitudinal meshes. Punctuation fine and moderately dense, sparse towards the lateral margin.

Scutellum fairly broad, very shiny, without reticulation.

Elytra with a dense reticulation of small, isodiametric meshes which are very strongly impressed laterally. Punctuation comparatively dense; punctures moderately impressed. Intervals 8 and 10 without distinct punctuation. The internal 3-4 striae are very weak and No. 1 has disappeared anteriorly; striae 5-6 are moderately impressed and Nos. 7-11 are well impressed, furrowed. Inner intervals flat or almost so; interval 8 is

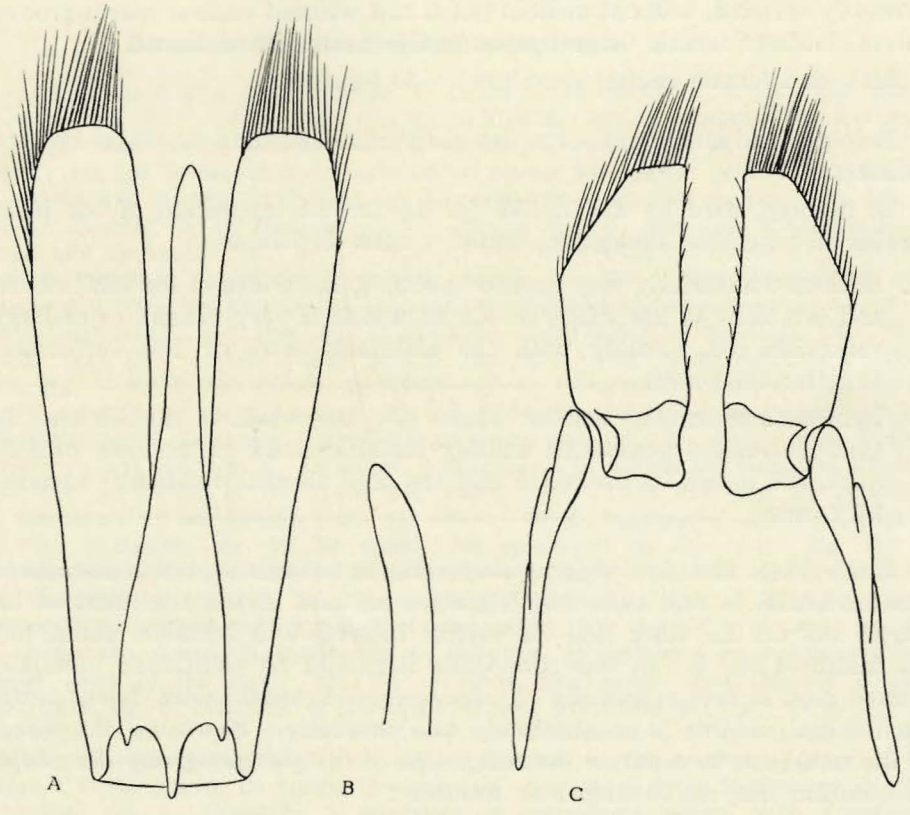

FIG. 1. — *Aulonogyrus desperatus* n. sp.
A : Aedeagus, dorsal view; B : Apex of middle lobe of aedeagus, lateral view; C : Lateral lobes of female genital armature.

depressed, No. 9 is slightly elevated, No. 10 almost flat, No. 11 slightly elevated. Anteriorly interval 8 is as broad as No. 10 and about half the width of No. 9; No. 11 is distinctly broader than No. 9 and at least twice as broad as 10. Elytral lateral margin fairly broad, widened in the middle of the body. Truncature almost straight, external and internal angles rounded.

Underside shiny, finely punctulate and reticulated. Anal sternite apically sinuate : broadly and fairly strongly excised in the male, and with the central protruding part irregularly and fairly narrowly excised in the female.

Female anterior tarses long and slender, parallel-sided. Anterior tibias slightly sinuate along the outer margin. Middle lobe of the aedeagus with a comparatively narrow apical part which is slightly thickened; apex

narrowly rounded, without median notch and without ventral sperm-groove. Lateral lobes of female ovipositor unmodified, small and broad.

Male and female genital armature : vide figure 1.

Holotype and allotype in « Institut des Parcs Nationaux du Congo Belge », Brussels.

In the key, used by me in 1955 (p. 53) for the separation of the black species of subgenus *Afrogyrus*, couple 4 runs as follows :

4. Interval 8 anteriorly very narrow (about ⅓ the width of the 9th interval and less than ⅓ the width of No. 11 which is very broad). Underside yellowish red, usually with the abdomen more or less infuscated. Length : 4-5,6 mm 5

— Interval 8 anteriorly broader (about ½-⅓ the width of the 9th and the 11th intervals). Underside usually metallic black (sometimes prosternum, the apices of the coxae and the anal sternite reddish). Length : 5-6,2 mm 6

It is evident that *Aulonogyrus desperatus* is to some degree intermediate. The underside is red with dark abdomen as said in the first half of the couple but on the other side the elytral interval 8 is broader, about half the width of No. 9. In this connection it should be mentioned that later I have seen a few specimens of *algoensis* and *bedeli* with fairly broad 8th interval, so this is no absolutely safe character. If we use the colour of the underside to separate the subgroups of the *flavipes*-group the couple in question may be arranged as follows :

4. Pro-, meso-, and metasterna red or yellowish red; abdomen red, infuscated or black 5

— At least meso- and metasterna and the abdomen (sometimes except the anal sternite) metallic black 7

5. Interval 8 usually very narrow anteriorly (about ⅓ the width of the 9th and the 11th intervals). Elytra more sparsely punctured. Pronotum laterally with distinct wrinkles. Underside red or yellowish red with the abdomen more or less darkened 6

— Interval 8 anteriorly broader (about ⅓ the width of the 9th and the 11th intervals). Elytra more densely punctured. Pronotum laterally smooth or with very shallow wrinkles. Underside red with abdomen metallic black ..... *A. desperatus* n. sp.

6. (as couple 5 in the key) ..... etc.

7. (as couple 6 in the key) ..... etc.

The middle lobe of the aedeagus is similar to that of *bedeli* but is longer and more slender and particularly the median part is narrower.

Dineutus (Spinosodineutes) subspinosus (KLUG, 1834).

River Aka (I/a/2), 19.XII.1949, leg. G. DEMOULIN, 13 specimens on pool with clayey bottom. No. 136. — River Aka (I/a/2), 26.XII.1949, leg. G. DEMOULIN, 15 specimens on pool with clayey bottom. No. 143. — River Nambili, SE of Bagbele (I/c/2‴), 30.XII.1949, leg. G. DEMOULIN, 7 specimens on stream with partly quiet water. No. 145. — River Aka (I/a/2), 2.I.1950, leg. G. DEMOULIN, 73 specimens on pool. No. 146. — River Nambili, SE of Bagbele (I/c/2‴), 6.I.1950, leg. G. DEMOULIN, 6 specimens on pool and on marsh. No. 150. — North of the river Mogbwamu (I/b/2‴), 18.I.1950, leg. G. DEMOULIN, 1 specimen on marshy stream. No. 161. — River Mogbwamu, near Bagbele (I/b/2″), 25.I.1950, leg. G. DEMOULIN, 3 specimens on marshy pool. No. 232. — River Aka (I/a/2), 20.II.1950, leg. G. DEMOULIN, 2 specimens on drying-up pool, filled with frogs and tadpoles (water muddy and very warm, water temperature 38°5). No. 256. — River Aka (I/a/3), 20.II.1950, leg. G. DEMOULIN, 8 specimens on stream among dead branches and stones. No. 257. — North of the river Mogbwamu (I/b/2″), 22.II.1950, leg. G. DEMOULIN, 3 specimens on permanent pool. No. 258. — River Nambili (I/c/2‴), 25.II.1950, leg. G. DEMOULIN, 8 specimens on marsh on mountain plateau. No. 259. — South of the river Mogbwamu (I/b/3″), 8.III.1950, leg. G. DEMOULIN, 4 specimens on permanent pool. No. 298. — River Nagbarama, north of Bagbele (I/o/2), 23.III.1950, leg. H. DE SAEGER, 106 specimens on the river. No. 324. — Badzamboli Moke, south of the river Mogbwamu (I/c/4), 15.III.1950, leg. G. DEMOULIN, 25 specimens on stream. No. 354. — River Nagbarama, north of Bagbele (I/o/2), 48 specimens on fast-flowing and quiet parts of the river (pH 7.2, at 9 a.m.). No. 359. — River Aka (I/a/3), 24.III.1950, leg. G. DEMOULIN, 16 specimens on fast-flowing and quiet parts of the river. No. 360. — River Mogbwamu, near Bagbele (I/b/2″), 20.III.1950, leg. G. DEMOULIN, 42 specimens on open permanent pool (pH 6.2, at 9 a.m.). No. 364. — River Aka (I/a/2), 21.IV.1950, leg. G. DEMOULIN, 38 specimens on overflowing semi-temporary pool. No. 462. — Gangala, at the southern border of the park, 2.V.1950, leg. H. DE SAEGER, 92 specimens. No. 491. — River Mogbwamu (I/b/3′), 17.V.1950, leg. G. DEMOULIN, 3 specimens on permanent stream with Cyperacees (pH 6.0, at 9.30 a.m.). No. 523. — Naluguambala, south of Bagbele, 2.VI.1950, leg. H. DE SAEGER, 3 specimens on stream shaded by trees (pH 6.1, at 8.45 a.m.). No. 574. — River Aka (I/a/2), 12.VI.1950, leg. G. DEMOULIN, 1 specimen on temporary stream (pH 5.9, lowest water level 0.75 m). No. 592. — River Mogbwamu (I/b/2″), 28.VI.1950, leg. G. DEMOULIN, 1 specimen on temporary pool (pH 6.1 at 9 a.m., lowest water level 0.65 m). No. 646. — River Aka (I/a/1-2), 10.VII.1950, leg. G. DEMOULIN, 1 specimen on temporary stream. No. 682. — River Nagbarama, NE of Bagbele (I/o/2), 30.VIII.1950, leg. G. DEMOULIN, 1 specimen on stream shaded by trees. No. 791. — 17 km from Bagbele, on the road to Dungu (km 17), 25.IX.1950, leg. G. DEMOULIN, 1 specimen on rock pool (pH 6.3, at 16 p.m.). No. 843. — River Kalangata, south of the river Garamba (II/ke/10), 3.III.1951, leg. H. DE SAEGER, 27 specimens on the open river. No. 1314. — South of the river Garamba (II/gd/4), 25.III.1951, leg. H. DE SAEGER, 1 specimen at light. No. 1453. — River Garamba (II/gb/11), 5.V.1951, leg. P. SCHOEMAKER, 28 specimens among vegetation at the border of a marsh. No. 1676. — River Garamba (II/fd/10), 10 V.1951, leg. P. SCHOEMAKER, 8 specimens among aquatic plants. No. 1781. — South of the river Garamba (II/ge/11), 13.XI.1951, leg. H. DE SAEGER, 1 specimen on small, shallow marsh. No. 2758. — South of the river Garamba, near the camp (II/fd/14), 16.V.1951, leg. P. SCHOEMAKER, 143 specimens on pool in laterit area. No. 1785. — South of the river Garamba, near the camp (II/gd/14), 28.VI.1951, leg. P. SCHOEMAKER, 1 specimen on pool in laterit area. No. 2022. — 500 m south of the source of the river Nambirima (II/gd/14s), 6.X.1951, leg. P. SCHOEMAKER, 7 specimens on pool in laterit area. No. 2564. — South of the river Garamba (II/hd/14s), 17.X.1951,

leg. H. De Saeger, 2 specimens on small pool, fed by rain. No. 2644. — South of the river Garamba (II/gd/8), 8.VI.1951, leg. H. De Saeger, 1 specimen on open spring (pH 6.8, at 8-10 a.m., temperature fairly constant, depth 5-15 cm). No. 2732. — South of the river Garamba (II/ge/13s), 21.XI.1951, leg. H. De Saeger, 12 specimens on permanent pool in the savanna (pH 6.6, water temperature 23°5, depth 15 cm, at 8 a.m.). No. 2779. — South of the river Garamba (II/gd/11), 30.XI.1951, leg. H. De Saeger, 5 specimens among grass tufts on marsh with dense vegetation. No. 2821. — Near the river Garamba (II/fc/14), 10.XII.1951, leg. H. De Saeger, 7 specimens on temporary pool, fed by the river. No. 2880. — Near the river Garamba (II/fc/14), 26.XII.1951, leg. J. Verschuren, 1 specimen on drying up temporary pool (pH 6.4). No. 2943. — South of Garamba (II/gc/8), 22.XII.1951, leg. H. De Saeger, 2 specimens on small drying up spring, some few centimetres deep. No. 2949. — Near the river Garamba (II/fd/14s), 4.II.1952, leg. H. De Saeger, 14 specimens on drying-up pool shaded by trees (pH 6.8, water temperature 24°5, at 9 a.m.). No. 3097. — River Garamba (II/fe/10), 19.XI.1952, leg. H. De Saeger, 2 specimens on stagnant parts of the river. No. 3131. — Ndelele, near the northeastern border (Ndelele 9), 20.II.1952, leg. H. De Saeger, 2 specimens on slow-flowing tributary to the river Moko, passing through mountainous area. No. 3139. — Near the river Garamba (II/fd/12), 10.III.1952, leg. H. De Saeger, 2 specimens among dense vegetation at the shore of a pool (pH 6.6, water temperature 24°5, at 9 a.m.). No. 3180. — Morubia, tributary to the river Garamba (Morubia/9), 12.III.1952, leg. H. De Saeger, 2 specimens on the marshy river in open forest. No. 3188 — Ndelele, at the northeastern border of the park (K.117/14s), 19.III.1952, leg. H. De Saeger, 92 specimens on permanent pool with stagnant water (pH 6.8, water temperature 26°5, depth max. 1 m, at 9 a.m.). No. 3199. — Upper Moko river (Haute Moko/10), 21.III.1952, leg. H. De Saeger, 4 specimens on drying-up, isolated pool with sandy bottom (pH 6.6, water temperature 23°5, depth 30 cm, at 9 a.m.). No. 3208. — Southeastern part of the park (PFSK 17/d/9), 26.III.1952, leg. H. De Saeger, 27 specimens on stagnant, muddy parts of small stream (pH 6.6, water temperature 23°6, at 9 a.m.). No. 3227. — South of the river Garamba (II/gd/10), 25.III.1952, leg. J. Verschuren, 14 specimens on open marsh at Thalia. No. 3252. — South of the river Garamba (II/gd/4), 29.V.1952, leg. H. De Saeger, 2 specimens on temporary unshaded pool fed by rain, in laterit area (pH 6.6, water temperature 23°, at 14 p.m.). No. 3568. — South of the river Garamba (II/gd/11), 24.VI.1952, leg. H. De Saeger, 8 specimens on shallow marsh (pH 6.6, water temperature 20°5, at 9 a.m.). No. 3693. — Near the river Garamba (II/fd/14s), 3.IV.1952, leg. H. De Saeger, 2 specimens on small temporary pool, fed by recent rains (pH 6.4, water temperature 25°5, at 9 a.m.). No. 3278. — Inimvua, northern part of the park, 20.V.1952, leg. H. De Saeger, 4 specimens on temporary pool (maximum depth 0.4 m) in laterit area (pH 6.6, water temperature 23°5, at 10 a.m.). Savanna with scattered trees. No. 3489. — River Garamba (II/fd/14), 28.VI.1952, leg H. De Saeger, 1 specimen on shaded temporary pool. No. 3715.

The specimens are fairly variable with regard to the size of the body : length of male 6,2-7,5 mm and length of female 6,4-7,7 mm.

This is an ecologically and geographically very widespread African species which is closely related to the Indo-Malayan species *unidentatus* (Aubé).

Dineutus (Spinosodineutes) sharpi RÉGIMBART, 1883.

River Aka (I/a/M), 7.VI.1950, leg. G. DEMOULIN, 2 specimens on sub-permanent, semi-shaded pool (pH 5.9, at 9 a.m.). No. 584. — River Paika, on the road Dungu-Bagbele, 80 km from Bagbele, 20.VI.1950, leg. G. DEMOULIN, 179 specimens on pool shaded by trees. No. 618.

This is a species of the tropical forest belt. It is widespread in West Africa and eastwards it penetrates through the Belgian Congo to Lake Tanganyika (Uvinsa, Tang. Terr.). The above records are the north-easternmost localities known so far.

Dineutus (Protodineutus) aereus (KLUG, 1834).

River Nagbarama, north-east of Bagbele (I/o/2), 22.III.1950, leg. G. DEMOULIN, 5 specimens (pH 7.2, at 9 a.m.). No. 359. — Garamba (II/gb/11), 5.V.1951, leg. P. SCHOEMAKER, 5 specimens among the vegetation at the border of a pool. No. 1676. — South of the river Garamba (II/gd/14s), 28.VI.1951, leg. P. SCHOEMAKER, 1 specimen on pool in laterit area. No. 2022. — South of the river Garamba (II/gd/14s), 6.X.1951, leg. P. SCHOEMAKER, 1 specimen on pool in laterit area. 500 m south of the source of the river Nambirima. No. 2564. — Upper Moko (Haute Moko/10), 21.III.1952, leg. H. DE SAEGER, 76 specimens on drying-up, isolated pool (maximum depth 30 cm, bottom sandy; pH 6.6, water temperature 23°5, at 9 a.m.). No. 3208. — South-eastern part of the park (PFSK 17/d/9), 26.III.1952, leg. H. DE SAEGER, 2 specimens on slow-flowing small stream with muddy water (pH 6.6, water temperature 23°6, at 9 a.m.). No. 3227.

Dineutus aereus is a very widespread African species which occurs in almost all types of freshwater habitats. It is very abundant in open country with more or less temporary waters.

Dineutus (Protodineutus) micans (FABRICIUS) ssp. **serra** RÉGIMBART, 1907.

River Nagbarama, NE of Bagbele (I/o/2), 13.IX.1950, leg. G. DEMOULIN, 1 specimen on river shaded by trees (pH 6.2, at 9 a.m.). No. 816. — South of the river Garamba (II/id/14), 16.VII.1952, leg. H. DE SAEGER, 5 specimens on open pool. No. 3794. — Southern limit of the park, river Dungu (PpK/8/9), 15.VII.1952, leg. H. DE SAEGER, 2 specimens on small pool under sparse vegetation. No. 3795.

Dineutus micans is a tropical species, the typical form of which occurs in the countries along the northern shores of the Gulf of Guinea. The main part of Central Africa is inhabited by ssp. *serra* which occurs in a broad belt from the coast of the Atlantic Ocean eastwards to Uganda, western Kenya and Northern Rhodesia. It is a variable race, characterized by the strong serrulation of the elytra. In the northern parts of the distributional area most specimens have a fairly weak serrulation. In the present material, however, this applies only to a female from locality number 816. In the other specimens the serrulation of the apex of the elytra is rather strong.

Orectogyrus (Allogyrus) alluaudi RÉGIMBART, 1889.

River Nagbarama, NE of Bagbele (I/o/2), 23. III.1950, leg. H. DE SAEGER, 3 specimens on the river. No. 324. — South of the river Mogbwamu (I/b/3″), 14.IV.1950, leg. H. DE SAEGER, 1 specimen on pool existing for 6-8 months a year, occasionally fed by the river Mogbwamu but usually by surface water. — Naluguambala, south of Bagbele, 2.VI.1950, leg. H. DE SAEGER, 7 specimens on stream shaded by trees (pH 6.1, at 8.45 a.m.). No. 574. — North of the river Mogbwamu (I/b/2″), 14.VI.1950, leg. G. DEMOULIN, 3 specimens on permanent pools (pH 6.0, at 10 a.m.). No. 603. — North of the river Mogbwamu (I/b/2″), 28.VI.1950, leg. G. DEMOULIN, 17 specimens on permanent pools (pH 6.1, at 9 a.m.; lowest water level 0.65 m). No. 646. — South of the river Garamba (II/fe/10), 19.XI.1952, leg. H. DE SAEGER, 1 specimen on stagnant part of the river. No. 3131. — Ndelele, near the north-eastern border of the park (K. 117/14s), 19.III.1952, leg. H. DE SAEGER, 4 specimens on permanent pool (pH 6.8, water temperature 26.5 at 9 a.m.; maximum depth 1 m). No. 3199. — River Tori (Tori/9, Soudan), 20.III.1952, leg. H. DE SAEGER, 5 specimens on pool shaded by dense forest (pH 6.2, water temperature 22°, depth 30 cm). No. 3203. — Upper Moko river (Haute Moko/10), 21.III.1952, leg. H. DE SAEGER, 70 specimens on isolated, stagnant pool with sandy bottom (pH 6.6, water temperature 23°5; maximum depth 30 cm). No. 3208. — Ndelele, near the north-eastern border of the park (K. 120/10), 28.III.1952, leg. H. DE SAEGER, 42 specimens on small open pool (pH 6.4, water temperature 25° at 9 a.m.; depth 0.40 m). No. 3264. — North of the river Garamba (II/cc/8), 8.II.1950, leg. G. DEMOULIN, 120 specimens op open stream with sandy bottom (depth 0.40 m). No. 3303. — Nagero, at the southern border of the park (Nagero/18), 11.IV.1952, leg. H. DE SAEGER, 55 specimens on backwater near the banks of the river Dungu. No. 3321. — Near the river Nambira (II/ge/8), 10.VII.1952, leg. H. DE SAEGER, 18 specimens on shaded pool (maximum depth 0.3 m). No. 3766 — Southern border of the park (PpK. 8/9), 15.VII.1952, leg. H. DE SAEGER, 6 specimens on small pool shaded by scattered trees. — River Garamba (II/fc/14), 17.VII.1952, leg. H. DE SAEGER, 5 specimens on pool fed by the river at high water. No. 3806.

This is a rather variable species which is widespread in Africa.

It seems to be common in West Africa and from the Cameroons evidently extends eastwards via the northern Congo to the Soudan and Eritrea. There are also a few records from more southerly localities in the Belgian Congo and in this way the species penetrates southeastwards as far as Southern Rhodesia.

Orectogyrus alluaudi was described from West Africa (Ivory Coast) and the present material differs in certain respects from most West African specimens : the external margin of the elytral glabrous area is usually less convex, its anterior half sometimes almost straight. I have examined a considerable material of the species from various tropical African localities and found that also in this respect — as in length, width, convexity, colour of pubescence, etc. — there is much variation; there are populations in Western Africa (Nigeria) which are similar to the Garamba-material.

The middle lobe of the aedeagus is slightly more slender in West African specimens than in East African specimens (from Rhodesia and the E. Congo) when examined in alcoholic or fresh-boiled specimens, but owing to its weak sclerotization it becomes more or less deformed as soon as it dries up.

The Rhodesian specimens are similar to most West African populations as regards the convexity of the sides of the elytral glabrous area, while specimens from Eritrea seem to agree with the Garamba-material in this respect (cfr. OCHS, Ann. Mus. Civ. Stor. Nat. 52, p. 168, Genova, 1926).

The present material is also very variable with regard to size and shape of the body. The length of the males varies between 4,7 and 6,1 mm and that of the females between 5 and 6,3 mm.

It should be noted that in the female specimens the posterior part of the glabrous area of the elytra is rather variable; usually it extends to $^2/_3$-$^4/_5$ the elytral length and is apically regularly and narrowly bilobed. Sometimes the apical prolongations along the suture are rather narrow, abruptly separated from their anterior parts and extend almost to $^5/_6$ or $^6/_7$ the elytral length.

Orectogyrus (s. str.) **pallidiventris** OCHS, 1934, f. typ.

River Mogbwamu (I/b/3'), 15.II.1950, leg. G. DEMOULIN, 1 specimen. No. 253. — North of the river Garamba (II/dd/9), 1.II.1952, leg. H. DE SAEGER, 2 specimens on backwater of the river (clear water) in forest (0.40 m deep). No. 3079. — River Tori (Soudan) (Tori/9), 20.III.1952, leg. H. DE SAEGER, 3 specimens on pool in dense forest (pH 6.2, water temperature 22°, at 9 a.m.) No. 3203. — Upper Aka river, (Aka), 15.V.1952, leg. H. DE SAEGER, 1 specimen near the source, on a clear stream with sandy bottom, shaded by dense vegetation (pH 6.4, water temperature 24°, at 10 a.m., depth 0.10 m). No. 3462.

This is an East African species which occurs from Abyssinia southwards as far as Southern Rhodesia and Mozambique.

Orectogyrus (s. str.) **vagus** GUIGNOT, 1938.

River Mogbwamu (I/b/3'), 1.II.1950, leg. H. DE SAEGER, 8 specimens on quiet parts near the banks of the river (0.10 m depth, pH 6.2, at 10 a.m.). No. 189. — River Mogbwamu (I/b/3'), 8.II.1950, leg. G. DEMOULIN (water temperature 20°7, pH 6.4, at 10 a.m.), 7 specimens. No. 249. — River Mogbwamu (I/b/3'), 15.II.1950, leg. G. DEMOULIN, 5 specimens. No. 253. — River Aka (I/a/3), 17.III.1950, leg. G. DEMOULIN, 26 specimens on rapids of the river Aka. No. 356. — River Aka (I/a/3), 24.III.1950, leg. G. DEMOULIN, 10 specimens on rapids of the river. No. 360. — The Bagbele Camp (km 17), 6.VII.1950, leg. G. DEMOULIN, 1 specimen on well in mountainous area. No. 671. — River Nagbarama, NE Bagbele (I/o/2), 29.IX.1950, leg. G. DEMOULIN, 3 specimens on river shaded by trees. No. 854. — River Kiliwa (II/fb/16), 7.III.1951, leg. J. VERSCHUREN, 1 specimen. No. 1343. — South of the river Garamba (II/fe/9), 31.III.1952, leg. H. DE SAEGER, 1 specimen in open ditch with muddy water and sandy bottom (0.50 m depth, pH 6.6, water temperature 24°5, at 9 a.m.). No. 3269.

Orectogyrus vagus is a comparatively variable species. The above specimens are usually slightly larger than most West African specimens but in the latter populations there is a considerable variation in this respect. The same applies to the convexity of the body, the length and width of

the elytral costae and the density of the reticulation of the glabrous areas of the dorsum. In the above material there is a short series (from loc. No. 189) with dull glabrous upper parts of the body, because of the very strongly impressed, somewhat irregular reticulation. Evidently, this is an abnormality; some of the specimens are slightly reddish brown, indicating an abnormal development of the sclerotization.

Orectogyrus vagus is a West African element, previously known from Ivory Coast, Nigeria and the French Congo. It seems probable that it belongs to the western group of species which inhabit the savanna region north of the belt of continuous equatorial forests.

Orectogyrus angularis RÉGIMBART, 1891, ssp. **gentilis** OCHS, 1947.

River Mogbwamu (I/b/3'), 1.II.1950, leg H. DE SAEGER, 16 specimens on quiet parts near the banks of the river (0.10 m depth, pH 6.2, at 10 a.m.). No. 189. — River Mogbwamu (I/b/3'), 8.II.1950, leg. G. DEMOULIN, 2 specimens (pH 6.4, water temperature 20°7, at 10 a.m.). No. 249. River Mogbwamu (I/b/3'), 15.II.1950, leg. G. DEMOULIN, 12 specimens. No. 253. — River Aka (I/a/3), 17.III.1950, leg. G. DEMOULIN, 9 specimens on fast-running parts of the river. No. 356. — River Aka (I/a/3), 24.III.1950, leg. G. DEMOULIN, 32 specimens on the river. No. 360. — Pool existing for 6-8 months every year, occasionally fed by the river Mogbwamu but usually by surface water (I/b/3"), 14.IV.1950, leg. H. DE SAEGER, 3 specimens. — The junction of the rivers Aka and Mogbwamu (Akam.), 21.IV.1950, leg. G. DEMOULIN, 2 specimens. No. 461. — The junction of the rivers Aka and Mogbwamu (Akam.), 19.V.1950, leg. G. DEMOULIN, 1 specimen on river Aka. No. 532. — Naluguambala, South of Bagbele, 2.VI.1950, leg. H. DE SAEGER, 1 specimen on stream shaded by trees (pH 6.1, at 8.45 a.m.). No. 574. — River Nagbarama, NE of Bagbele, (I/o/2), 9.VIII.1950, leg. G. DEMOULIN, 2 specimens on stream shaded by trees. No. 750. — River Kiliwa (II/fb/16), 7.III.1951, leg. J. VERSCHUREN, 111 specimens. No. 1343. — Central section of the park, the Garamba, (II/fd/17), 13.II.1951, leg. P. SCHOEMAKER, 2 specimens. No. 1682. — Central section of the park, the Garamba, (II/fe/10), 16.I.1952, leg. H. DE SAEGER, 3 specimens on the open river (depth 0.20 m, pH 6.6, water temperature 22°5, at 9 a.m.). No. 3019. — South of the river Garamba (II/hd/4), 11.II.1952, leg. H. DE SAEGER, 3 specimens. — Garamba (II/fd/Gar.), 13.II.1952, leg H. DE SAEGER, 113 specimens swimming together in dense swarm on the flowing water, in the shadow. No. 3120. — South of the river Garamba (II/fe/10), 19.II.1952, leg. H. DE SAEGER, 4 specimens on quiet parts of the open river. No. 3131. — Ndelele, at the northeastern border of the park (k/120/10), 28.III.1952, leg. H. DE SAEGER, 1 specimen on small open pool with muddy water. (Maximum depth 0.40 m, pH 6.4, water temperature 25°). No. 3264. — South of the river Garamba (II/fe/9), 31.III.1952, leg. H. DE SAEGER, 292 specimens on open ditch with muddy water, bottom sandy (0.50 m depth, pH 6.6, water temperature 24°5, at 9 a.m.). No. 3269. — N. of the river Garamba (II/cc/8), 7.IV.1952, leg. H. DE SAEGER, 232 specimens on open stream with sandy bottom. Maximum depth 0.40 m. No. 3303.

Orectogyrus angularis is a complicated species from a taxonomic point of view. Various races have been described from Sierra Leone and a belt extending eastwards as far as Uele in the Belgian Congo. The present material agrees very well with the typical series of ssp. *gentilis* OCHS from Monga (Uele). There is no doubt as to the identity which enlarges the

distribution of this race far northeastwards. Like certain other species *O. angularis* is a West African element which penetrates to the northeastern Belgian Congo via the savanna belt, north of the equatorial continuous forest.

There is some variation as regards the external characters, as follows :

Length 6,9-8,5 mm. Most specimens are fairly broad and moderately convex as is usual among the eastern races of the species.

Scattered specimens are smaller and narrower and some are so small and slender that they remind of the western races. The colour of the pubescence is very uniform : always gray laterally and more or less golden yellowish dorsally. The sutural angle is always dentiform, though its prominence may be more or less evident. In the male the sutural costa is $\frac{1}{3.5}$-$\frac{1}{2.5}$ the elytral length, and the lateral costae $\frac{3}{5}$-$\frac{5}{7}$ the elytral length. In the female, the sutural costa is very long : $\frac{6}{7}$-$\frac{13}{14}$ the elytral length; the lateral costae, which are moderately broad and of almost equal breadth, are slightly shorter.

Orectogyrus (s. str.) **interstitialis** OCHS ssp. **sassanus** BRINCK, 1956.

River Mogbwamu (I/b/3'), 1.II.1950, leg. H. DE SAEGER, 13 specimens on quiet parts near the banks of the river (0.10 m depth, pH 6.2, at a.m.). No. 189. — River Mogbwamu (I/b/3'), 15.II.1950, leg. G. DEMOULIN, 8 specimens. No. 253. — Rapids of the river Aka (I/a/3), 17.III.1950, leg. G. DEMOULIN, 13 specimens. No. 356. — Rapids and quiet parts of the river Aka (I/a/3), 24.III.1950, leg. G. DEMOULIN, 10 specimens. No. 360. — Pool existing for 6-8 months a year, occasionally fed by river Mogbwamu but usually by surface water (I/b/3"), 14.IV.1950, leg. H. DE SAEGER, 26 specimens. — The junction of the rivers Aka and Mogbwamu (Akam.), 21.IV.1950, leg. G. DEMOULIN, 7 specimens on the rivers. No. 461. — Nalugwambala South of Bagbele, 2.VI.1950, leg. H. DE SAEGER, 1 specimen on stream shaded by trees (pH 6.1 at 8.45 a.m.). No. 574. — River Kiliwa (II/fb/16), 7.III.1951, leg. J. VERSCHUREN, 5 specimens. No. 1343. — River Garamba (II/fd/17), 13.II.1951, leg. P. SCHOEMAKER, 1 specimen. No. 1682. — River Garamba (II/fd/Gar.), 13.II.1952, leg. H. DE SAEGER, 2 specimens swimming together on the rapids of the river, in the shadow. No. 3120.

Subsp. *sassanus* was described from material collected in « Région de Sassa » in the northern Belgian Congo. The typical material consists of a long series in the « Musée Royal du Congo Belge, Tervuren ».

Orectogyrus interstitialis is a comparatively variable species. This is evident from a series collected in the National Albert Park (Ishango, river Semliki, alt. 912 m., 1-4.VI.1935) and sent me by Mr. FAGEL. GUIGNOT (1948, Expl. P. N. Albert, fasc. 16, p. 35) dealt with this population as *O. interstitialis* and subsp. *congrex*. The characters separating these nominal taxa from the Semliki seem to be interchangeable, however, and the variation of the median lobe of the male genitalia is considerable. At least partly this is due to the fact that the ventral part of the lobe is only

slightly sclerotized and therefore apt to shrinking and deformation. It was rather interesting to see that in the material specimens occur which are externally close to *O. familiaris*, a species which has the same sort of median lobe as *interstitialis*, particularly its subsp. *sassanus*. It would be very interesting to analyze the complete material of *familiaris* and *interstitialis*, kept in various collections.

The material from the Garamba National Park agrees well with subsp. *sassanus* and under present conditions has to be classified as belonging to this race.

Orectogyrus (s. str.) **bedeli** RÉGIMBART, 1884.

Western section of the park, Badzamboli Moke, (I/c/4). 13.I.1950, leg. G. DEMOULIN, 1 specimen on stream shaded by trees. No. 158. — River Aka (I/a/3), 17.III.1950, leg. G. DEMOULIN, 5 specimens on rapids. No. 356. — Naluguambala South of Bagbele, 2.VI.1950, leg. H. DE SAEGER, 1 specimen on stream shaded by trees (water temperature 23°8, pH 6.1, at 8.45 a.m.). No. 574. — River Tori (Soudan) (Tori/9), 20.III.1952, leg. H. DE SAEGER, 3 specimens on pool in dense forest (pH 6.2, water temperature 22°, at 9 a.m.). No. 3203. — Upper Moko, tributary to the river Garamba (Haute Moko/10), 21.III.1952, leg. H. DE SAEGER, 11 specimens on isolated pool with stagnant water on sandy bottom (maximum depth 30 cm, pH 6.6, water temperature 23°5, at 9 a.m.). No. 3208. — Pidigala, tributary to the river Aka, 23.IV.1952, leg. H. DE SAEGER, 1 specimen on fastflowing part of the stream with clear water and sandy bottom, shaded by dense vegetation (depth 0.10 m, pH 5.5, water temperature 23°4, at 10 a.m.). No. 3326.

This is a West African species which penetrates far northeastwards. Besides the above material from the north-eastern Congo and the Soudan there are previous records from Imatong Mountains (British Soudan) and Uganda.

There are no records from the central parts of the northern Belgian Congo though it is most probable that the species is widespread in the savanna of the Guinean type, north of the equatorial belt of continuous forests.

The present material agrees well with West African specimens.

Orectogyrus (s. str.) **specularis** (AUBÉ, 1838).

Western section of the park, Badzamboli Moke, (I/c/4), 13.I.1950, leg. G. DEMOULIN, 3 specimens on stream shaded by trees. No. 158. — Western section of the park, Badzamboli Moke, (I/c/4), 10.II.1950, leg. G DEMOULIN, 7 specimens on small stream shaded by trees. (Water covered by algae : pH 7.3, temperature 27°2, water not covered by algae : pH 6.4, temperature 29°7, at 11-12 a.m.). No. 250. — River Mogbwamu (I/1/3'), 15.II.1950, leg. G. DEMOULIN, 1 specimen. No. 253. — River Aka (I/a/3), 17.III.1950, leg. G. DEMOULIN, 3 specimens on rapids of the river. No. 356. — River Aka (I/a/3), 24.III.1950, leg. G. DEMOULIN, 1 specimen on the river. No. 360. — River Nagbarama, NE of Bagbele (I/o/2), 29.V.1950, leg. H. DE SAEGER, 1 specimen on stream shaded by trees. No. 565. — Km 31, 31.V.1950, leg. H. DE SAEGER, 35 specimens on marsh with Cyperus vegetation (temperature 23°, pH 5.7, at 11 a.m.). No. 567. — River Nagbarama,

NE of Bagbele (I/o/2), 13.VI.1950, leg G. DEMOULIN, 7 specimens on stream shaded by trees. No. 598. — The Bagbele Camp, (Km 17), 6.VII.1950, leg. G. DEMOULIN, 1 specimen on the source of the river Nagbarama. No. 671. — River Nagbarama, NE of Bagbele (I/o/2), 12.VII.1958, leg. G. DEMOULIN, 9 specimens on stream shaded by trees. No. 689. — River Nagbarama, NE of Bagbele (I/o/2), 14.VII.1950, leg. G. DEMOULIN, 2 specimens on stream shaded by trees. No. 699. — River Nagbarama, NE of Bagbele (I/o/2), 19.VII.1950, leg. G. DEMOULIN, 10 specimens on stream shaded by trees (pH 6.1, temperature 22°, at 9.30 a.m.). No. 708. — River Nagbarama, NE of Bagbele (I/o/2), 7.VIII.1950, leg. G. DEMOULIN, 1 specimen on river with rocky (granitic) bottom. No. 746. — River Nagbarama, NE of Bagbele (I/o/2), 9.VIII.1950, leg. G. DEMOULIN, 17 specimens on stream shaded by trees. No. 750. — River Nagbarama, NE of Bagbele (I/o/2), 11.VIII.1950, leg. G. DEMOULIN, 2 specimens on flooding river with rocky (granitic) bottom. No. 754. — River Nagbarama, NE of Bagbele (I/o/2), 21.VIII.1950, leg. G. DEMOULIN, 9 specimens on stream shaded by trees. No. 765. — River Nagbarama, NE of Bagbele (I/o/2) 30.VIII.1950, leg. G. DEMOULIN, 51 specimens on stream shaded by trees. No. 791. — River Nagbarama, NE of Bagbele (I/o/2), 13.IX.1950, leg. G. DEMOULIN, 45 specimens on river shaded by trees (pH 6.2, temperature 22°, at 9 a.m.). No. 816. — Napukumweli, 15.IX.1950, leg. G. DEMOULIN, « Ndiwili », 1 specimen. No. 821. — Naluguambala, South of Bagbele, 25.IX.1950, leg. G. DEMOULIN, 5 specimens on river shaded by trees (pH 6.3, at 14.30 p.m.). No. 839. — Bagbele (Km 17), 25.IX.1950, leg. G. DEMOULIN, 1 specimen on rock pool (pH 6.3 at 16 p.m.). No. 843. — River Nagbarama, NE of Bagbele (I/o/2), 29.IX.1950, leg. G. DEMOULIN, 53 specimens on river shaded by trees. No. 854. — River Nagbarama, NE of Bagbele, (I/o/2), 5.X.1950, leg. G. DEMOULIN, 81 specimens on river shaded by trees. No. 867. — River Nagbarama, NE of Bagbele (I/o/2), 11.X.1950, leg. G. DEMOULIN, 13 specimens on river with rocky (granitic) bottom. No. 887. — River Nagbarama, NE of Bagbele (I/o/2), 16.X.1950, leg. G. DEMOULIN, 5 specimens on river shaded by trees. No. 890. — River Nagbarama, NE of Bagbele (I/o/2), 30.X.1950, leg. H DE SAEGER, 43 specimens on fast-flowing part of the river. No. 922. — Garamba (II/fd/10), 10.V.1951, leg. P. SCHOEMAKER, 1 specimen among aquatic plants. No. 1781. — Garamba district, the source of the Nakobo (II/dd/8), 29.IX.1951, leg. H. DE SAEGER, 10 specimens on fast-flowing, clear water near the source, in dense forest plantation. No. 2513. — Temporary pools south of the Garamba river (II/gd/14s), 9.X.1952, leg. P. SCHOEMAKER, 39 specimens among aquatic vegetation. No. 2565. — River running through forest, north of the river Garamba (II/dd/9), 1.II.1952, leg. H. DE SAEGER, 67 specimens on backwater (0.40 m depth). No. 3079. — River Tori (Soudan) (Tori/9), 20.III.1952, leg. H. DE SAEGER, 1 specimen on pool in dense forest (pH 6.2, water temperature 22°, at 9 a.m.). No. 3203. — Pidigala (North of the park), 23.IV.1952, leg. H. DE SAEGER, 323 specimens on clear stream with sandy bottom, shaded by dense vegetation (pH 5.5, water temperature 23°4, maximum depth 0.10 m). No. 3326. — Mt. Embe (Soudan), 134 specimens on clear fast-running part of the river Mapanga, shaded by dense vegetation, bottom sandy. No. 3346. — Mt. Embe (Soudan), 93 specimens on pool filled with algae and shaded by dense vegetation, near the river Meridi (pH 6.0, water temperature 22°2, at 8-10 a.m.). No. 3388. — Aka, 15.V.1952, leg. H. DE SAEGER, 53 specimens on stream with clear water, shaded by dense vegetation, bottom sandy (maximum depth 0.10 m, pH 6.4, water temperature 24°, at 10 a.m.). No. 3462. — Aka, 14.V.1952, leg. H. DE SAEGER, 30 specimens on stream with clear water and sandy bottom, in deep shadow near the source (maximum depth 0.10 m, pH 6.0, water temperature 23°5, at 10 a.m.). No. 3464. — Aka/2, 19.V.1952, leg. H. DE SAEGER, 98 specimens on stream with clear water and shaded by dense vegetation (pH 5.4, water temperature 21°5, at 10 a.m.). No. 3478. — North-eastern section of the park, (PFNK 7/6), 28.VII.1952, leg. H. DE SAEGER, 12 specimens on clear part of the stream, in dense forest, (bottom sandy and clayey, pH 6.4, water temperature 21°2, maximum depth 0.10 m, at 9 a.m.). No. 3835.

Orectogyrus specularis occurs abundantly in the western and central parts of tropical Africa. In East Africa it is comparatively rare, though evidently in the north-eastern Congo and adjacent parts of the Soudan there are still large populations to be met with.

The species is usually very variable. The present material, however, is rather homogeneous.

Orectogyrus (s. str.) **dahomeensis** RÉGIMBART ssp. **nobelsi** OCHS, 1930.

Pool existing for 6-8 months a year, occasionally fed by the river Mogbwamu but usually by surface water (I/b/3″), 14.IV.1950, leg. H. DE SAEGER, 1 specimen. — River Mogbwamu (I/b/3′), 15.II.1950, leg. G. DEMOULIN, 1 specimen. No. 253. — Upper Aka river, (Aka), 15.V.1952, leg. H. DE SAEGER, 1 specimen below the source of a clear stream with sandy bottom, shaded by dense vegetation (depth 0.10 m, pH 6.4, water temperature 24°, at 10 a.m.). No. 3462.

The above specimens are all females. As far as can be seen they belong to ssp. *nobelsi* OCHS which should, however, be checked by an examination of the male genitalia.

Orectogyrus dahomeensis is a widespread, primarily West African species. Subsp. *nobelsi* penetrates eastwards from the French Congo; the easternmost locality previously recorded was Uele in the northern Belgian Congo.

It is evident that this is another example of a western species extending eastwards in the savanna of the Guinean type, north of the equatorial forest belt.

Orectogyrus (**Trichogyrus**) **sericeus** (KLUG, 1834).

Pool existing for 6-8 months every year, occasionally fed by the river Mogbwamu but usually by surface water (I/b/3″), 14.IV.1950, leg. H. DE SAEGER, 2 specimens. — North of the river Garamba (II/ed/14), 2.II.1951, leg. H. DE SAEGER, 33 specimens on small isolated pools on the sandy banks of the river. No. 1181. — Central section of the park, Garamba (II/fd/12), 27.XII.1951, leg. H. DE SAEGER, 11 specimens on channel connected with the river Garamba, slow-flowing water, depth 1 m, surface partly covered with aquatic vegetation. No. 2951. — Central section of the park, Garamba (II/fd/Gar.), 13.II.1952, leg. H. DE SAEGER, 76 specimens on quiet water in the shadow, near the banks of the river (pH 6.6, water temperature 25°3, at 10 a.m.). No. 3119.

This is a very widespread species, occurring from Egypt in the north to Rhodesia and Mozambique in the south and as far westward as Senegal. The species is comparatively variable which is well demonstrated by the present material.

Orectogyrus (**Trichogyrus**) **oscari** (APETZ, 1854).

River Mogbwamu (I/b/3′), 1.II.1950, leg. H. DE SAEGER, 1 specimen on currents and quiet parts of the river (pH 6.2, at 10 a.m., depth 0.10 m). No. 189. — River Mogbwamu (I/b/3′), 5 specimens on the river (pH 6.4, water temperature 20°7, at 10 a.m.).

No. 249. — River Mogbwamu (I/b/3'), 15.II.1950, leg. G. DEMOULIN, 19 specimens on the river. No. 253. — River Aka (I/a/3), 17.III.1950, leg. G. DEMOULIN, 1 specimen on the rapids of the river. No. 356. — River Aka (I/a/3), 24.III.1950, leg. G. DEMOULIN, 2 specimens on rapids and quiet parts of the river. No. 360. — South of the river Garamba (II/fe/10), 16.I.1952, leg. H. DE SAEGER, 1 specimen on open river (pH 6.6, water temperature 22°5, at 9 a.m.). No. 3019. — River Garamba (II/fd/Gar.), 13.II.1952, leg. H. DE SAEGER, 2 specimens on quiet, shaded parts near the banks of the river (pH 6.6, water temperature 25°3, at 10 a.m.). No. 3119.

Orectogyrus oscari is a widespread African species which is comparatively variable with regard to the shape and size of the elytral glabrous area, as is evident from the present material. The species has been recorded from Egypt southwards to the Union of South Africa; westwards it proceeds to French Guinea. The species seems to be comparatively rare in East Africa, east of the great lakes : I know of a few records only, viz. Tanganyika territory : Ipiana near Langenburg, August 1898, leg. STOLZ, coll. Museum Berlin, and ? Manjoni, coll. AHLWARTH (OCHS communicavit).

Orectochilus africanus OCHS, 1923.

Pool existing for 6-8 months every year, occasionally fed by the river Mogbwamu but usually by surface water (I/b/3"), 14.IV.1950, leg. H. DE SAEGER, 7 specimens.

In the Ethiopian region there is only one representative of the Indo-Malayan genus *Orectochilus*, viz. *O. africanus*. Previously, the species had been collected three times : in the early 1920s and 1929 at Stanleyville and in 1931 at Equateur, Flandria. These localities are at the Congo River, fairly distant from the Garamba National Park. There may be a connection with the records from the Congo basin : the streams and river of the Garamba Park gather into the Dungu River which is a tributary of the Congo River.

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ARRANGED ALPHABETICALLY.

SPECIES.

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