On Some Oribatid Mites from Tshad and East Africa Collected by Prof. H. Franz, Vienna

By

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To Professor Endre Dudich Ph. D for His 70eth Birthday

Prof. Franz collected several soil samples during his research trip in Afrika, in 1962. I undertook the classification of the oribatid material of the samples. The present paper submits the systematic evoluation of some interesting species found in the material The short description and drawings of the identified species are given below.

Fam.: Plateremaeidae Trägardh, 1931

The following genera belong to this family at present: *Plateremaeus* Berlese, 1908; *Phereliodes* Grandjean, 1931; *Pedrocortesia* Hammer, 1958, and *Pedrocortesella* Hammer, 1961. The more conspicuous common features of the four genera are as follows:

1. Genu, tibia and tarsus articulating in sockets;
2. Tarsus 1. with a very thin praetarsus;
3. At most 5 pairs of notogastral hairs in posteromarginal position;
4. Anal hairs originating on a very narrow, separate plate on inner border of anal plate.

The number of anal hairs of the *Plateremaeus* species described by Berlese are not known. The Bulgarian *Plateremaeus* species described by Csiszár have 4 pairs of anal hairs, and those from Madagascar and West Africa, described by me, have 3, 4 or 6 pairs respectively. The *Pedrocortesia* and *Pedrocortesella* species described by Mary Hammer and Pletzen (1963) all have 2 pairs of anal hairs, whereas the *Phereliodes wehnckei* (Willmann, 1963) redescribed by Grandjean (1963) have 3 pairs of anal hairs.

Until we re-examine at least some of the *Plateremaeus* species described by Berlese, it is difficult to determine the status of the species described so far. Provisionally it seems expedient to relegate the forms with 2 pairs of anal hairs to the genera *Pedrocortesia*, i. e. *Pedrocortesella*, the two species with 3 anal hairs to the genus *Phereliodes*, and those with 4 and 6 anal hairs to the genus *Plateremaeus*. Thus, the two species to be described below can be allocated to the genus *Pedrocortesella*.

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Pedrocortesia franzi sp. n.

(Fig. 1)

608 × 265 μ. Sensillus is scarcely incrassate, long and ciliate on distal half. Thick lines composed of chitinous laths on prodorsum. Interlamellar hairs not discernible. Three-clawed, heterodactylous.

Notogaster with coarse, slightly assymetrical chitinous laths. Four pairs of minute posteromarginal hairs. Ventral side with as thick chitinous laths as the dorsum. Seven pairs of genital and 2 pairs of anal hairs.

Locality: Ts 95, approximately 4—5 km North of Polders von Guini, savanna, on the road to Massakory, litter, 12. 8. 1962. Leg.: H. FRANZ.

Pedrocortesia africana sp. n.

(Fig. 2)

755 × 561 μ. Sensillus very short, with a spherical apex. Interlamellar hairs indiscernible. Prodorsum with a rough polygonal structure. Three-clawed, heterodactylous.

Notogaster similar to prodorsum, but with a slightly larger polygonal reticulation. A blunt semi-spherical protruberance medially in posterior part of notogaster. Sculpture of ventral plate as that of dorsal one. Seven pairs of genital and 2 pairs of anal hairs. Three pairs of discernible fairly short posteromarginal hairs.

The new species can be distinguished from all known congeners by the shape of the sensillus and the notogastral sculpture.

Locality: OA 53, Mt. Kenya, West side, high bamboos with *Podocarpus*, 2800 m, 26. 7. 1962. Leg.: H. FRANZ.

Oppia capilligera (BERLESE, 1916)

(Fig. 3)

775 × 469 μ. BERLESE described this species in 1917 without submitting any illustrations. However, the brief description was sufficient to recognize the species. I give a brief redescription and a figure of the species.

Sensillus is setiform, very long, as long as prodorsum, finely ciliate. Prodorsal hairs fairly long, ciliate, prodorsum without chitinous costulae.

Nine pairs of notogastral hairs, *ta* reduced. 3 pairs of hairs short, all others long and ciliated.

The shape and length of the sensillus immediately distinguish the species from all related taxa.

Locality: OA 12, Street below Olkokola on western slope of Mt. Meru, approximately 2100 m. Leg.: H. FRANZ.

Multioppia problematica sp. n.

(Fig. 4)

392 × 225 μ. Sensillus fusiform and granulated. Interlamellar hairs absent, even alveoli indiscernible. Lamellar and rostral hairs normal, prodorsum without costulae.

Notogaster with 13 pairs of hairs. Hair *ta* minute, scarcely visible, other notogastral hairs fairly long.

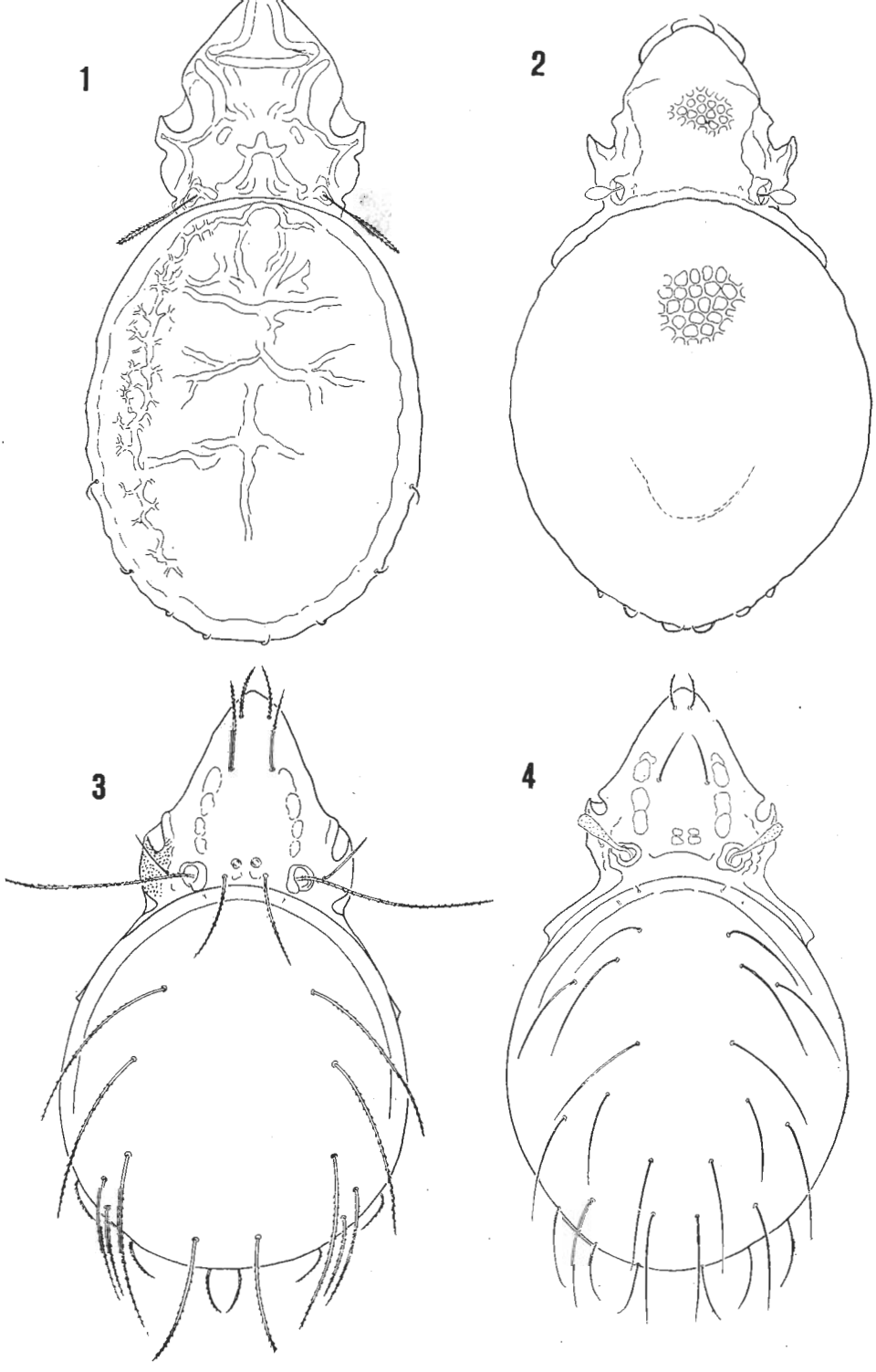

Fig. 1—4. 1: *Pedrocortesia franzi* sp. n. — 2: *Pedrocortesia africana* sp. n. — 3: *Oppia capilligera* (BERLESE, 1916) — 4: *Multioppia problematica* sp. n.

This species, owing to the lack of interlamellar hairs, can be relegated to the genus *Amerioppia* HAMMER, and, on the basis of the number of notogastral hairs, to the genus *Multioppia* HAMMER. It takes an intermediato position between the two genera; the combination of the above marks, however, distinctly separates it from any other known species.

Locality: OA 11, Mt. Meru, western slope, around Hagenia, 2700 m, sifted, 9. 7. 1962. Leg.: H. FRANZ.

Fam.: Eremellidae BALOGH, 1961

Proteremella africana sp. n.

(Fig. 5)

280×150 μ. Sensillus fusiform, long reclinate and exclinate. Prodorsum with a median protuberance with margins divergent anteriorad. Surface of prodorsum irregular with foveolae and tuberculi.

A flat protuberance in middle of notogaster emitting a transversal branch each in region of 2 and 4 pairs of notogastral hairs. Surface of notogaster with dark tuberculi connected by straight lines. 7 pairs of submarginal notogastral hairs long, thin, bacilliform, not incrassate; 3 posteromarginal hairs considerably shorter.

This new species is amply separable from both the single known species of the genus *Proteremella* and all other the related sepcies by the shape of the notogastral hairs and sculpture.

Locality: Ts 92, Deli, near Moundou, northern most galery forest of the Tshad area, 16—17. 8. 1962. Leg.: H. FRANZ.

Fam.: Ceratozetidae JACOT, 1925

Ceratozetes (?) **insignis** sp. n.

(Fig. 6)

609—630×406 μ. Sensillus slightly fusiform, distal end aciculated. Dorsosejugale suture arching strongly anteriorad, almost reaching middle of prodorsum. Lamellae touching dorsosejugal suture hence situated entirely basally, an unique situation in this family. Interlamellar and lamellar hairs long with dispersed minute hairs. 10 pairs of very fine, flexible, notogastral hairs. Minute pori in place of areae porosae.

The characteristic position of the lamellae of the new species distinguishes it from all of its known congeners.

Locality: Ts 78, Moulouang, Village in North Cameroon on the lower readus of the Chari. Sifted material from dry, though superficially moist, ground under *Acacia* shimmeling. 9. 8. 1962. Leg.: H. FRANZ.

Geminozetes (?) **lamellatus** sp. n.

(Fig. 7)

431—451×294—326 μ. Sensillus fusiform, inclinate and proclinate, with granulated head. Interlamellar hairs originating in front of dorsosejugal suture, reaching rostrum, with minute hairs. Lamellae fused in median line,

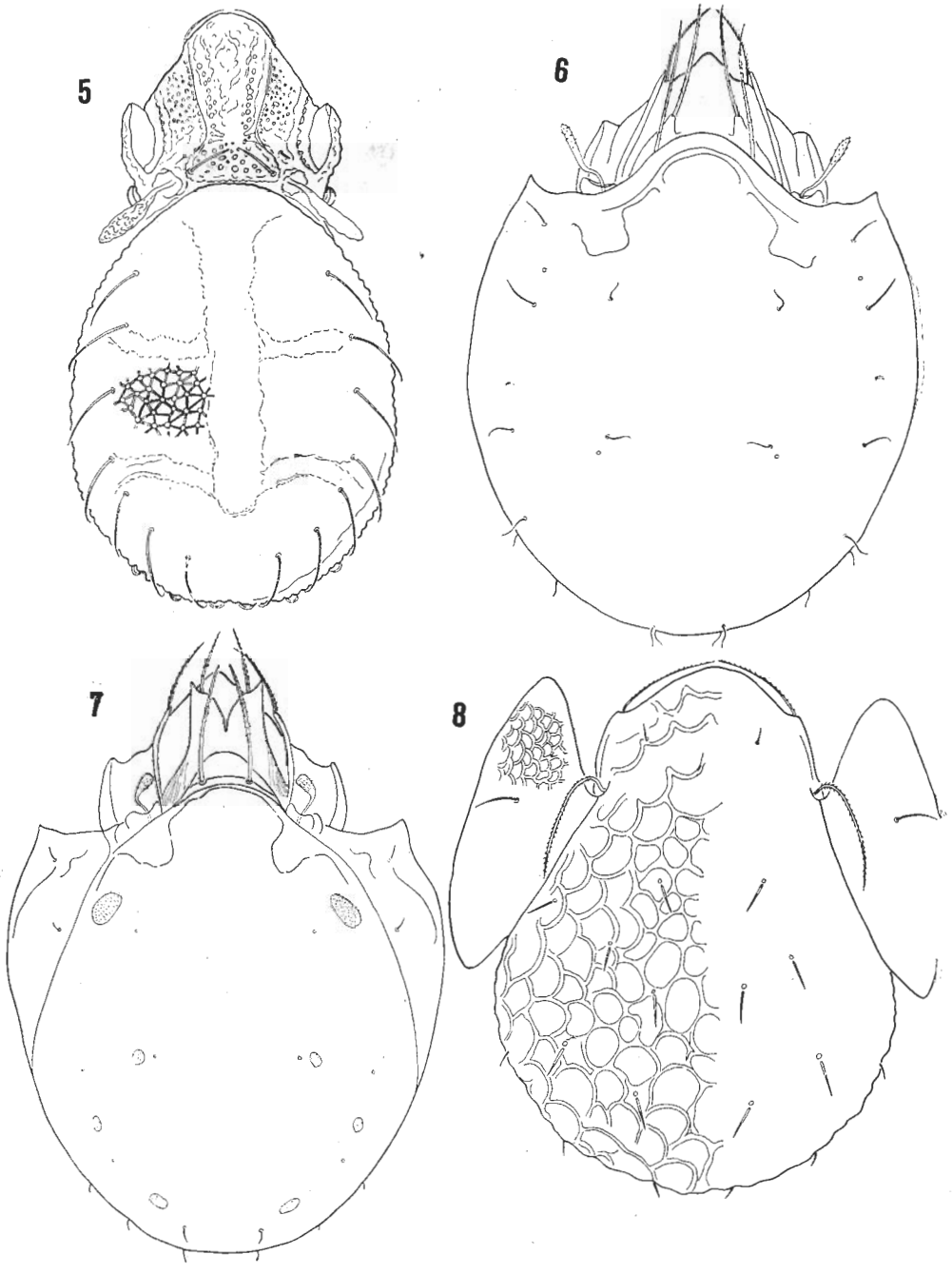

Fig. 5—8. 5: *Proteremella africana* sp. n. — 6: *Ceratozetes* (?) *insignis* sp. n. — 7: *Geminozetes* (?) *lamellatus* sp. n. — 8: *Pilizetes dudichi* sp. n.

cuspides long and wide, external apices pointed, internal ones rounded with a fairly short lamellar hair.

Notogaster with 10 pairs of very short notogastral hairs and 4 pairs of areae porosae. Areae porosae *Aa* very large. 6 pairs of genital hairs.

I relegated this unknown species to the genus *Geminozetes*, purely because of its external similarity. It differs greatly from any Ceratozetidae species described so far.

Locality: Ain Galaka Oasis Borku, in the middle of the desert South from Tibesti, 100 km from Faya-Largeau, sifted from dense grass of the spring, 23. 8. 1962. Leg.: H. FRANZ.

Pilizetes SELLNICK, 1937

All the known species of the genus inhabit the Ethiopian Region. The most conspicuous differences of the species are summarized in the identification key below:

1 (2) Areae porosae *Aa* are well discernible, large. Notogaster nearly smooth, ornamented only with fine, sporadic dots. — Tanganyika.
P. subglaber BALOGH, 1962

2 (1) Areae porosae *Aa* indiscernible. Notogaster foveolated or with coarse reticulation.

3 (4) Sensillus rapidly attenuating preapically pointed, without minute hairs (after SELLNICK). — Tanganyika.
P. africanus SELLNICK, 1937

4 (3) Sensillus tapering gradually preapically, with minute hairs.

5 (6) Notogaster with very coarse, elevated reticulation. Interlamellar hairs very short, shorter than notogastral hairs. — Tschad.
P. dudichi sp. n.

6 (5) Notogaster foveolated without elevated reticulation. Interlamellar hairs as long as or longer than notogasral hairs.

7 (8) Notogastral hairs short, at least three times shorter than pteromorphal setae (i. e. setae *ta*). Adanal setae approximately as long as anal setae. 328—350 × × 248—274 μ. — Congo.
P. curtipilus BALOGH, 1960

8 (7) Notogastral hairs long, scarcely shorter or longer than pteromorphal setae. Adanal setae longer than anal setae.

9 (10) Notogastral setae bacilliform apically blunt. Pteromorphal setae smooth and longer than notogastral setae. Foveolae of notogaster of uniform size: 390 × 300μ. — Angola.
P. sellnicki BALOGH, 1958

10 (9) Notogastral setae setiform apically pointed. Pteromorphal setae with minute hairs, shorter, or at least not longer, than notogastral setae. Foveolae of notogaster much smaller in median line, punctiform. 557—590 × 414—430 μ. — Tanganyika.
P. basilewskyi BALOGH, 1958

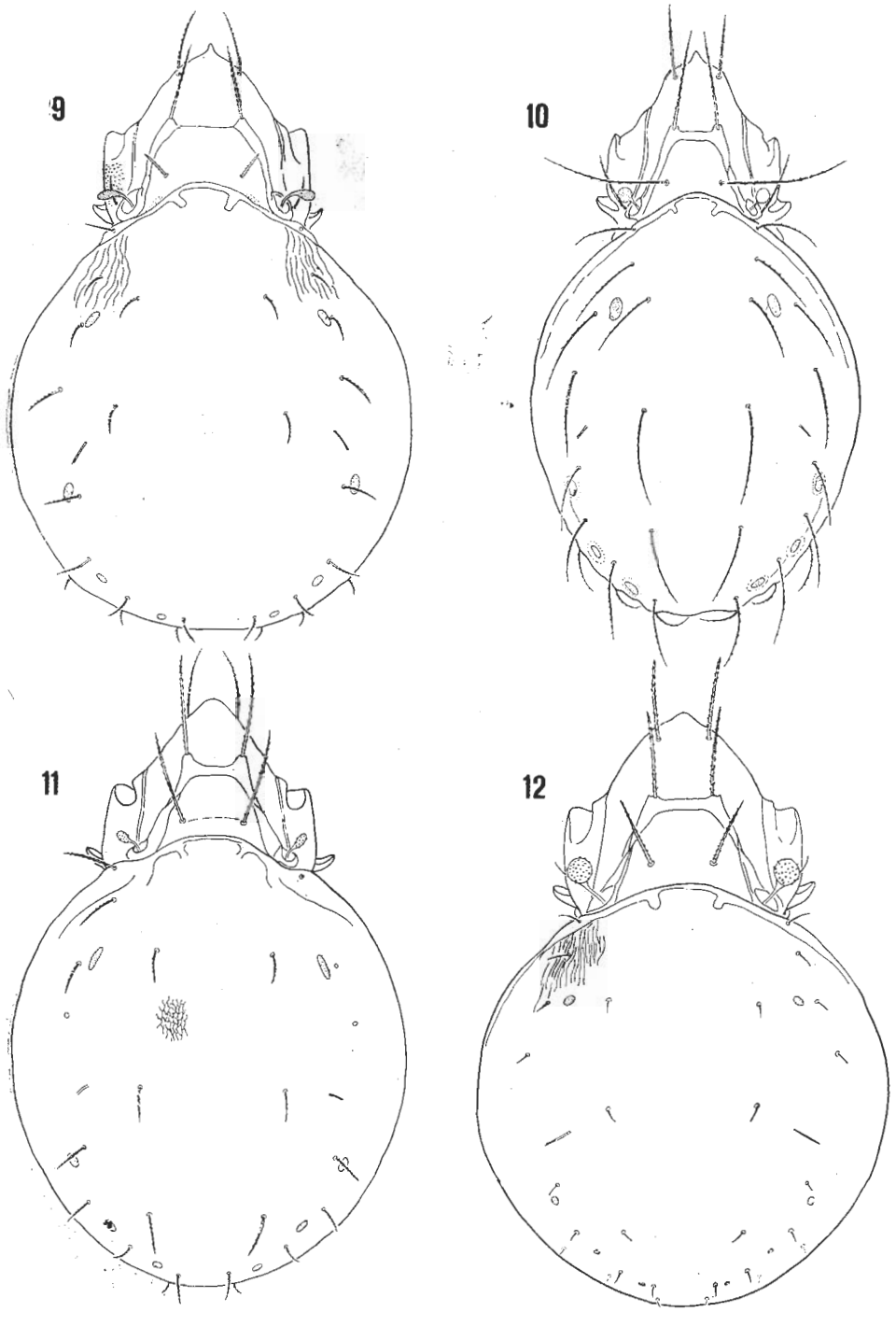

Fig. 9—12. 9: *Zygoribatula salina* sp. n. — 10: *Zygoribatula undulata* sp. n. — 11: *Zygoribatula ongicuspis* sp. n. — 12: *Zygoribatula sabulosa* sp. n.

Pilizetes dudichi sp. n.

(Fig. 8)

372—392×244—299 μ. Sensillus similar to that of other species. Interlamellar hairs short and bacilliform. Lamellar hairs very long, arched, with fine hairs. All notogastral hairs short, bacilliform; pteromorphal hair *(ta)* slightly longer than others. A coarse and strongly protruding reticulation ornamenting prodorsum and notogaster; pteromorpha with a finer and dense reticulation.

Locality: Ts 92, Deli at Moundou, northern galery forest of the Tshad area, sifted material from forest litter 16—17. 8. 1962. Leg.: H. FRANZ.

Fam.: Oribatulidae JACOT, 1929

Zygoribatula BERLESE, 1917

The genus seems to be gairly rich in species, but their majority is undescribed. I have established 5 species in the Ethiopean Region so far; their most conspicuous differences are summarized in the identification key below:

1 (2) Translamella linear, almost evanescent. — Tschad.
Z. salina sp. n.

2 (1) Translamella ribbon-shaped, scarcely or not thinner than lamellae.

3 (4) Notogastral hairs long, much longer than sensillus. Posterior margin of hysterosoma sinuous. — Tanganyika.
Z. undulata sp. n.

4 (3) Notogastral hairs short, shorter than sensillus. Posterior margin of hysterosoma straight.

5 (6) Cuspis long, extending considerably above translamella. Areae porosae A_2 and A_3 well discernible. Areae porosae *Aa* elongated. — Tschad.
Z. longicuspis sp. n.

6 (5) Cuspis short, scarcely protruding above translamella. Areae porosae *Aa* round; areae porosae A_2 and A_3 minute and punctiform.

7 (8) Shoulder sinuous with longitudinal lines. Apex of sensillus sphaerical. — Tshad.
Z. sabulosa sp. n.

8 (7) Shoulder without lines. Apex of sensillus fusiform. — Angola.
Z. dentata BALOGH, 1958

Zygoribatula salina sp. n.

(Fig. 9)

382—407×255—289 μ. Sensillus short, apically clavate. Interlamellar hairs short, with fine hairs. Lamellar and rostral setae with fine hairs. Lamellae arcuate and slightly broadening towards cuspis. Translamella linear, almost evanescent. Rostrum mucronate.

Notogaster with longitudinal, sinuous lines on the shoulders. Notogastral hairs short and ciliated. Areae porosae *Aa* medium large, oval, as well as A_1; A_2 and A_3 smaller, round. Ventral plate sparsely punctate.

Locality: Tshad, Ft. Lamy, Naga (lightly overgrown salty soil) close to Champ de Tire, 6. 8. 1962. Leg.: H. FRANZ.

Zygoribatula undulata sp. n.

(Fig. 10)

583×348 μ. Sensillus very short, apically sphaerical, punctate. Interlamellar hairs very long, almost as long as prodorsum, with scattered hairs. Translamella relatively short cuspis of lamellae projecting, rounded. Rostrum with pointed apex.

Notogastral hairs long, except for hairs *p*. With minute hairs on one side. Posterior margin of notogaster sinuous. Areae porosae large, oval; A_1, A_2 and A_3 surrounded by indistinct, concentric lines.

Ventral plate smooth; epimeral region covered with densely punctate secretum. Genital plate with minute longitudinal lines.

Locality: OA 30, Kibo SW-side, Kilimandjaro, sifted from moss, lichen and bark, under the trunk of a fallen *Senecio* tree, 19. 7. 1962. Leg.: H. FRANZ.

Zygoribatula longicuspis sp. n.

(Fig. 11)

529—568×368—417 μ. Sensillus short, apically incrassate and granulated. Lamellae with cuspis projecting considerably above translamella. Rostrum rounded.

Notogastral hairs fairly short, with scarcely discernible minute hairs. Humeral hair longer than others. Areae porosae *Aa* elongated, areae porosae A_1, A_2 and A_3 gradually decreasing in size posteriorad, but not punctiform. Ventral plate punctate.

Locality: Ts 74, Tshad, Ft. Lamy, Naga (slightly overgrown salty soil) near Champ de Tire, 6. 8. 1962. Leg.: H. FRANZ.

Zygoribatula sabulosa sp. n.

(Fig. 12)

319×206 μ. Sensillus long, apically strongly incrassate. Lamellae with fairly short cuspis. Shoulder longitudinally lined. Notogastral hairs very short. Areae porosae sphaerical, comparatively small, gradually decreasing in size posteriorad. A_2 and A_3 minute, punctiform. Ventral plate foveolated.

Locality: Ts 95, Tshad, Bekao, South from Moundou, sifted from grassy clumps in sandy soil, 18. 8. 1962. Leg.: H. FRANZ.