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(I.B.E.R.S.O.M.)

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 34

ACARI

II. Fam. ACEOSEJIDAE

BY

GERALD W. KRANTZ (Corvallis)



BRUXELLES

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GERALD W. KRANTZ (Corvallis, Oregon)

FREE-LIVING MESOSTIGMATA.

II. — THE FAMILY ACEOSEJIDAE ⁽¹⁾ ⁽²⁾.

Fifteen species of mites representing seven genera in the family *Aceosejidae* have been identified by the author in samples from Garamba National Park. Descriptions of new genera and species and references to species already known are included in the text. Aside from a few minor changes, the subfamilial and generic concepts set forth by EVANS (1958) ⁽³⁾ and EVANS and HYATT (1960) ⁽⁴⁾ have been utilized in this review.

⁽¹⁾ The species herein described are from the collection of the Mission H. DE SAEGER to Garamba National Park (1949-1952).

⁽²⁾ The following citation is that of the first paper in this series :

KRANTZ, G. W., 1961, Free-living Mesostigmata from Garamba National Park, Congo Republic. I: Two new genera of *Macrochelidae* (*Ann. Mus. Roy. Congo et Ruanda-Urundi*, Fasc. 24 : 3-13).

⁽³⁾ EVANS, G. O., 1958, A revision of the British *Aceosejinae* (Acarina : Mesostigmata) [*Proc. Zool. Soc. London*, 131 (2) : 177-229].

⁽⁴⁾ EVANS, G. O. and K. H. HYATT, 1960, A revision of the *Platysejinae* (Mesostigmata : *Aceosejidae*) based on material in the collections of the British Museum (Natural History) [*Bull. Brit. Mus. (Nat. Hist.)*, 6 (2) : 27-101].

Family **ACEOSEJIDAE** BAKER and WHARTON, 1952.

Dorsal shield entire, with or without lateral incisions, and with three or four longitudinal rows of simple or ornamented setae. Sternal shield of female with three (rarely two) pairs of setae, a posteriorly truncate epigynial shield with or without a pair of setae, and an anal or ventrianal shield with varying numbers of preanal setae. Metasternal shields present or absent. Males typically with separate sterniti-genital and ventrianal shields. Chelicerae toothed; male with « spermatophorenträger » on movable digit. Palpal claw two-tined. Legs I with or without ambulacra; legs II of male unarmed. Free-living species commonly found in forest litter, moss, etc.

Type species : *Lasioseius muricatus* KOCH (1839).

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EVANS (1957) organized the *Aceosejidae* into two subfamilies based on morphological characters used in the following key :

1. Rostral setae and internal setae on palptrochanter long, whip-like; tarsi II and III, and often IV provided with a pair of long lanceolate setae usually incurved distally; para-anal setae often situated in line with the posterior margin of the anus or considerably posterior to the anus; peritrematal shield may extend beyond the posterior margin of coxae IV and the peritreme may be developed posterior to the stigma; median lobe of pulvillus of legs II-IV often lanceolate **PLATYSELINAE.**
- Rostral setae and internal setae on palptrochanter never long and whip-like; tarsi II-IV without specialized setae; peritreme and peritrematal shield normal; para-anal setae normal in position; pulvillus never lanceolate **ACEOSEJINAE.**

In the course of this study, exceptions to some of EVANS' key characters have been noted. These exceptions will be mentioned under the specific descriptions where they occur.

A KEY TO THE GENERA AND SPECIES OF *PLATYSEIINAE*
COLLECTED BY THE MISSION H. DE SAEGER
TO GARAMBA PARK, CONGO (1949-1952).

1. Posterior portion of dorsal shield with five pairs of setae in the J series (fig. 23) 2
- Posterior portion of dorsal shield with less than five pairs of J setae 5
2. Setae of posterior dorsal shield expanded and pectinate distally; fixed digit of chelicera dentate throughout its length ... *HYATTELLA* n. gen.
Hyattella epicrioides n. sp.
- Setae of posterior dorsal shield simple, or with some of the posterior dorsal setae pectinate but not expanded distally; fixed digit of chelicera edentate proximally *SEJUS* KOCH. 3
3. Dorsal shield strongly crenulate-reticulate; setae J_4 less than half the length of the distance between the insertions of setae J_4 and J_5 ; vertex notched medially *Sejus crenulatus* n. sp.
- Dorsal shield ornamented other than above; setae J_4 longer than half the distance between setae J_4 and J_5 ; vertex well developed 4
4. Dorsal pattern consisting of strong reticulation, with the mediolateral areas of the shield divided transversely into four indistinct sections (fig. 18); setae J_4 extending beyond insertions of J_5 ; vertical setae separated by a distance equal to that of the width of the setae
Sejus kennedyi EVANS and HYATT.
- Dorsum reticulated as illustrated; vertical setae widely separated and inserted on two well-developed lobes *Sejus lobatus* n. sp.
5. With three or four pairs of J setae (fig. 13); idiosoma elongate
PLESIOSEJUS EVANS and HYATT.
Plesiosejus berlesei n. sp.
- With only two pairs of setae in the J series (J_4 and J_5); idiosoma sub-circular or pyriform in outline *PLATYSEIUS* BERLESE. 6
6. Ventrional shield fused laterally and posteriorly to dorsal shield, without spinose setae; setae i_3 and i_4 of nearly equal length (fig. 11)
Platyseius congoensis n. sp.
- Ventrional shield rounded laterally, not fused to dorsal shield; with three pairs of strongly spinose postanal setae
Platyseius spinosus EVANS and HYATT.

Genus **HYATTELLA** n. gen.

Dorsal shield entire, without incisions; posterior portion of shield with fifteen pairs of pectinate, distally expanded setae. Vertical setae well developed. Presternal shields present. Pulvillar lobes rounded.

Type species : *Hyattella epicrioides* n. sp. Monotypic.

Hyattella epicrioides n. sp.

(Figs. 1-4.)

Female : Length of idiosoma averages 570 μ , with a range of 555-587 μ ; width of idiosoma at level of coxae IV averages 379 μ , with a range of 376-385 μ . With the characters of the genus. Dorsal shield tuberculate-reticulate, resembling the condition commonly found in the family *Epicriidae*; lateral and posterior margins of shield scalloped as illustrated (fig. 4). Sternal shield with reticulate pattern (fig. 1) and three pairs of setae; metasternal shields free. Epigynial shield truncate posteriorly and with a single pair of setae. Ventrianal shield with five pairs of setae in addition to the usual pair of pre-anal and the single postanal setae. With four narrow platelets between the epigynial and ventrianal shields. Metapodal shields large, sub-circular. Peritrematal shields extending posteriorly around coxae IV, ornamented anteriorly, peritremes extend anteriorly beyond coxae I. Tectum (fig. 2) with three anterior projections. Internal seta of palpal femur wedge-shaped distally. Fixed digit of chelicera (fig. 3) dentate throughout its length; movable digit with three teeth. Legs I slightly longer than dorsal shield and each with a pair of claws at the end of a long (c. 40 μ) pretarsus. Legs II-IV with claws and a rounded pulvillus.

Male : Unknown.

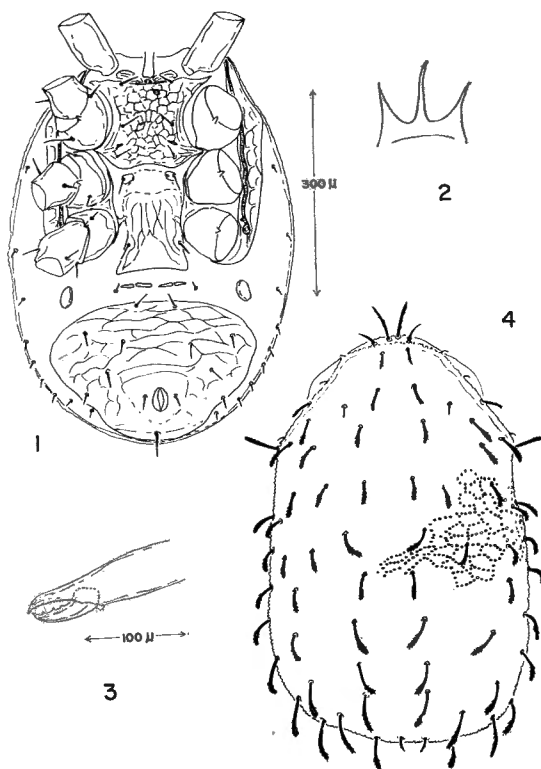
Type material. — Holotype female and two paratypes with the following data : « Tête de source déboisée »; 13 december, 1951 — Coll. H. DE SAEGER (Coll. No. 2930); two paratypes ex « expansion marécageuse », 12 July, 1951 — Coll. H. DE SAEGER (Coll. No. 2071); two paratypes ex « savane herbeuse brûlée en décembre », 25 January, 1952 — Coll. H. DE SAEGER (Coll. No. 3048); two paratypes ex « bord de vallon marécageux », 7 August, 1952 — Coll. H. DE SAEGER (Coll. No. 3921).

The holotype female will be deposited in the collection of Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. Paratypes will be placed in the collections of the U. S. National Museum, Washington, D.C., the British Museum (Natural History), London, England,

Potchefstroom University, Potchefstroom, South Africa, the Institute of Acarology, Wooster, Ohio, U.S.A., and Oregon State University, Corvallis, Oregon, U.S.A.

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The genus *Hyattella* appears to be closely related to the genus *Zerconopsis* HULL in that the posterior dorsal setae of *Hyattella epicrioides* are ornamented. The ventrianal shield has more than three pairs of preanal setae, and the pulvilli of legs II-IV are rounded.



FIGS. 1-4. — *Hyattella epicrioides* n. gen., n. sp. Female.

1 : Venter; 2 : Tectum; 3 : Chelicera; 4 : Dorsum.

Hyattella has been placed in the *Platyseiinae* primarily because of its elongate rostral and palp trochanter setae, and because of the presence of macrosetae on tarsi II-IV. Its placement, however, should be considered provisional inasmuch as the relative value of these characters as opposed to those of cheliceral dentition and pulvillar lobe structure has not been ascertained. It is possible that *Hyattella epicrioides* represents a group

which is intermediate between the *Platyseiinae* and *Aceosejinae* (near the genus *Zerconopsis* HULL) or, on the basis of chelicerae, dorsal setal pattern and pulvillar lobes, an aberrant member of the aceosejine genus *Lasioseius*.

Genus **PLATYSEIUS** BERLESE, 1916.

Platyseius BERLESE, A. (1916), Redia, 12 : 42; EVANS, G. O. and K. H. HYATT (1960), Bul. Brit. Mus. (Nat. Hist.), 6(2) : 34.

Platyseius spinosus EVANS and HYATT.

(Figs. 5, 7, 8.)

Platyseius spinosus EVANS, G. O. and K. H. HYATT (1960), Bul. Brit. Mus. (Nat. Hist.), 6(2) : 41.

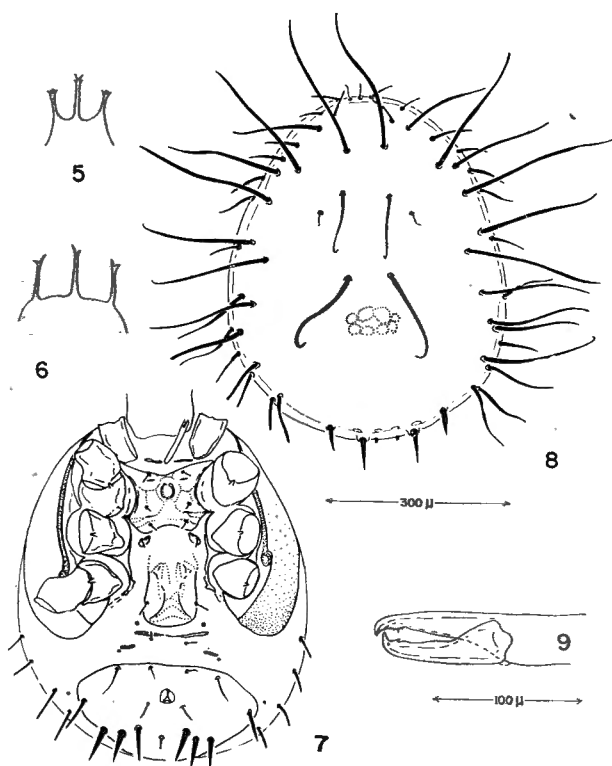
P. spinosus was collected at the following locations in Garamba Park : « Savane herbeuse de bas-fond », 28 September, 1951 — Coll. H. DE SAEGER (Coll. No. 2618); « bord de rivière », 24 August, 1951 — Coll. H. DE SAEGER (Coll. No. 2351).

According to the description of this species presented by EVANS and HYATT, the ventrianal shield of the female has only two pairs of thick spinose postanal setae, with a third pair inserted in the integument posterior to the shield. The specimens which I have examined have all three pairs on the shield (fig. 7.). Inasmuch as the original description was based on only one specimen, it is conceivable that the posterior pair of setae may be on or off the shield. It is doubtful that such a variation can have any significance at the specific level.

Platyseius congoensis n. sp.

(Figs. 6, 9-12.)

Female : Length of idiosoma averages 487 μ , with a range of 470-517 μ ; width of idiosoma at level of coxae IV averages 409 μ , with a range of 376-446 μ . Dorsal shield (fig. 11) pyriform, unornamented; dorsal setae simple, commonly recurved distally, and arranged as in figure 11; setae i_3 and i_4 are approximately the same length. Tritosternum large, with two strongly spinose lacinae; tritosternal base flanked by a pair of narrow presternal shields. Sternal shield (fig. 10) unornamented; with three pairs of setae, of which the most posterior is distinctly longer than the more anterior pairs. Metasternal shields free, flanking the anterolateral corners of the posteriorly truncate epigynial shield. Epigynial shield separated from ventrianal shield by a narrow integumental band with expanded extremities which represent the typical medial pair of platelets; with a pair of platelets posterior and lateral to the above. Ventrianal shield evenly curved anteriorly to the lateral margins of the idiosoma, where



FIGS. 5, 7 and 8. — *Platyseius spinosus* EVANS and HYATT. Female.

5 : Tectum; 7 : Venter; 8 : Dorsum.

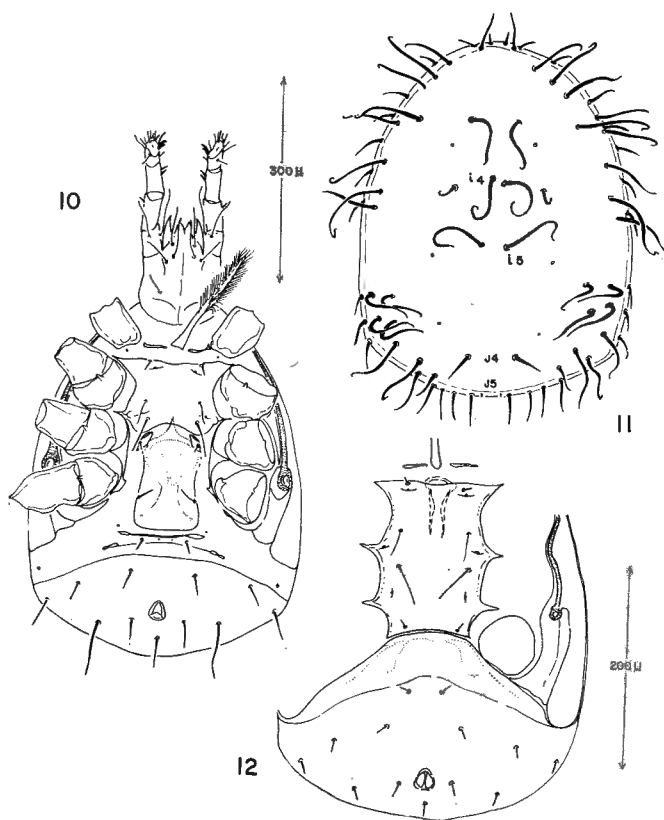
FIGS. 6, 9. — *Platyseius congoensis* n. sp.

6 : Tectum of female; 9 : Chelicera of female.

it joins the dorsal shield; with four pairs of ventrianal setae in addition to the usual pair of para-anals and single postanal setae. Peritrematal shield strongly developed posterior to coxae IV. Tectum (fig. 6) with three anterior projections, all of which are distally divided. Legs I slightly longer than body; with pretarsi and ambulacra on tarsi I; tarsus I nearly twice the length of tibia I. Legs II-IV each with claws and trilobed acuminate pulvillus.

Male (fig. 12): Length of idiosoma averages $427\ \mu$, with a range of $423-432\ \mu$; width of idiosoma at level of coxae IV averages $331\ \mu$, with a range of $329-333\ \mu$. Similar in most respects to the female. Spermatophoral process on the movable digit of the chelicera more than three times the length of the digit. Sternal setae III distinctly longer than other sternal hairs, as in female. « Genital » portion of ventral sclerotization not fused to sternal shield; geniti-ventrianal area as illustrated.

Type material. — Holotype female, eleven paratype females, and allotype male with the following data : « Ex galerie forestière », 4 March, 1952 — Coll. H. DE SAEGER (Coll. No. 3182). The holotype female and allotype male will be deposited in the collection of the Institute of National



FIGS. 10-12. — *Platyseius congoensis* n. sp.

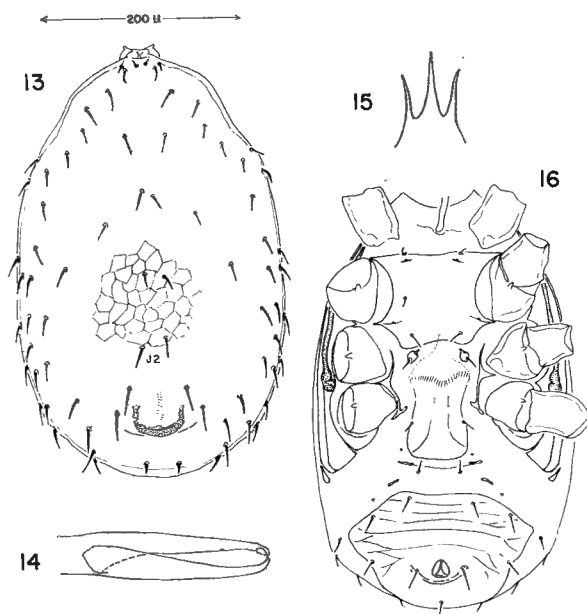
10 : Venter of female; 11 : Dorsum of female; 12 : Venter of male.

Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. Paratypes will be placed in the collections of the U.S. National Museum, Washington, D.C., the British Museum (Natural History), London, England, Potchefstroom University, Potchefstroom, South Africa, the Institute of Acarology, Wooster, Ohio, U.S.A. and Oregon State University, Corvallis, Oregon, U.S.A.

Genus **PLESIOSEJUS** EVANS and HYATT.

Plesiosejus EVANS, G. O. and K. H. HYATT (1960), Bul. Brit. Mus. (Nat. Hist.), 6(2) : 42.

The definition of *Plesiosejus* is expanded as follows : Posterior portion of dorsal shield with three or four pairs of J setae; dorsal shield entire. Vertical setae present or absent. Sternal shield with three pairs of simple



FIGS. 13-16. — *Plesiosejus berlesei* n. sp. Female.
13 : Dorsum; 14 : Chelicera; 15 : Tectum; 16 : Venter.

setae; metasternal shields free. Genital shield truncate posteriorly and bearing a pair of setae. Ventrianal shield with three or four pairs of setae, in addition to the usual pair of para-anal and single postanal setae. Male with sterniti-genital and ventrianal shields.

Type species : *Ameroseius italicus* BERLESE, 1905.

***Plesiosejus berlesei* n. sp.**

(Figs. 13-16.)

Female : Length of idiosoma averages 448 μ , with a range of 423-456 μ ; width of idiosoma at level of coxae IV averages 283 μ , with a range of 258-296 μ . Dorsal shield with a fine reticulate pattern; similar to *P. italicus*, except that a pair of short vertical setae is present, and that only one pair of J setae is missing (J_1); length and disposition of dorsal setae as illustrated (fig. 13). Tritosternum well-developed, with two pilose lacinae; presternal platelets absent. Sternal shield unornamented, with three pairs of simple setae; metasternal shields free. Epigynial shield flanked posteriorly by two narrow pairs of platelets. Ventrianal shield large, reticulate, pointed laterally (fig. 16), and with three pairs of ventrianal setae in addition to the para- and postanal setae. Peritrematal shield developed posterior to coxae IV; metapodal shields present. Tectum (fig. 15) with three smooth anterior spines. Chelicerae (fig. 14) narrow, long; movable and fixed digits edentate. Legs I approximately as long as the idiosoma, tibia I $\frac{2}{3}$ the length of tarsus I; tarsus I with claws and short pretarsi. Pulvilli on legs II-IV produced into three acuminate lobes.

Male : Unknown.

Type material. — Holotype female and three paratype females with the following data : « Galerie forestière », 4 March, 1952 — Coll. H. DE SAEGER (Coll. No. 3182). The holotype female will be deposited in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. Paratypes will be placed in the U.S. National Museum, Washington, D.C., the British Museum, (Natural History), London, England, and Oregon State University, Corvallis, Oregon, U. S. A.

Genus **SEJUS** C. L. KOCH, 1843.

Sejus KOCH, C. L. (1843), Übers. Arachnidensyst., 3 : 92; EVANS, G. O. and K. H. HYATT (1960), Bul. Brit. Mus. (Nat. Hist.), 6(2) : 49.

Cheiroseius BERLESE, A. (1916), Redia, 12 : 33.

Episeius HUEL, J. E. (1918), Trans. Nat. Hist. Soc. Northumberland (n. s.), 5 : 63.

Episeiella WILLMANN, C. (1938), Ann. Hist. Nat. Mus. Hung., 31 : 167.

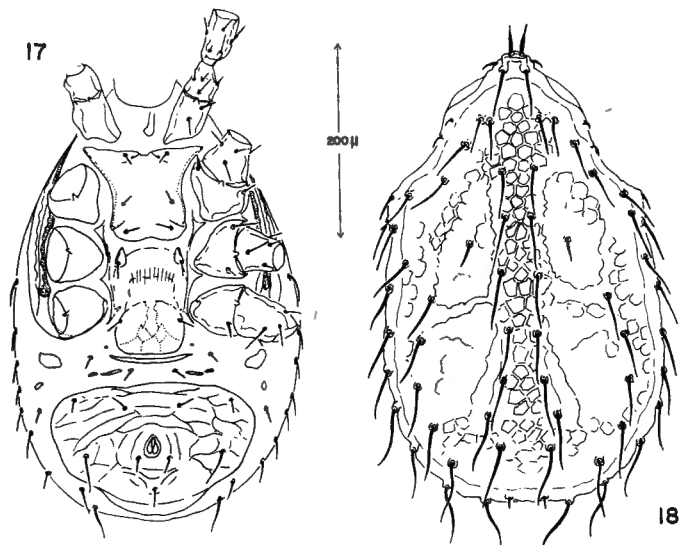
***Sejus kennedyi* EVANS and HYATT.**

(Figs. 17-18.)

Sejus kennedyi EVANS, G. O. and K. H. HYATT (1960), Bul. Brit. Mus. (Nat. Hist.), 6(2) : 65.

S. kennedyi was found in three locales within Garamba Park — « Tête de source déboisée », 13 December, 1951 — Coll. H. DE SAEGER (Coll. No. 2930); « Galerie forestière dense », 15 January, 1952 — Coll. J. VERSCHUREN (Coll. No. 3026); « Galerie forestière sèche », 18 April, 1952 — Coll. H. DE SAEGER (Coll. No. 3338).

A distinctive feature of this species which was not alluded to in EVANS and HYATT'S description is the ornamentation of the dorsal shield (fig. 17). The « division » of the shield into four sectors appears to supply a useful specific character.



FIGS. 17-18. — *Sejus kennedyi* EVANS and HYATT. Female.

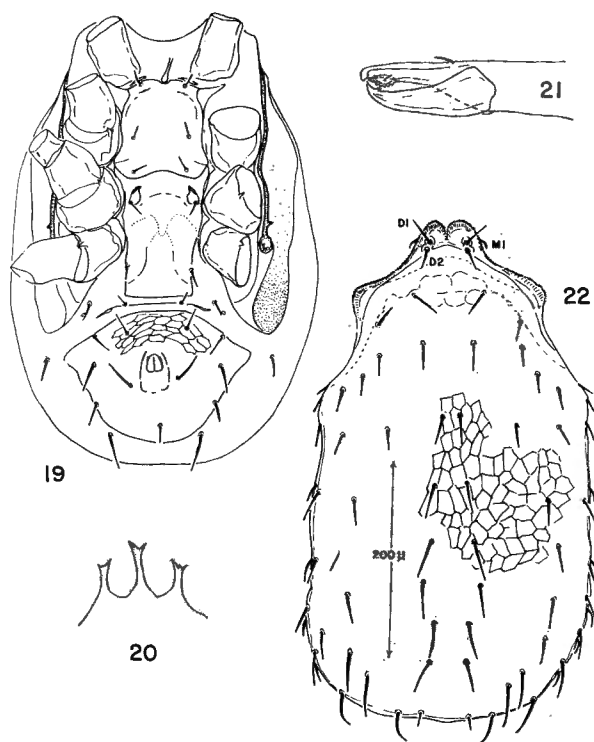
17 : Venter; 18 : Dorsum.

***Sejus lobatus* n. sp.**

(Figs. 19-22.)

Female : Length of idiosoma averages 499 μ , with a range of 470-517 μ ; width of idiosoma at level of coxae IV averages 292 μ , with a range of 282-305 μ . Dorsal shield entire, strongly reticulated, and with two large anterior lobes on which setae D_1 , D_2 and M_1 are inserted (fig. 22). Seta J_4 longer than half the distance between setae J_4 and J_5 . Other dorsal setae as

illustrated. Tritosternal base flanked by a pair of narrow presternal platelets. Sternal shield without distinct ornamentation, and with three pairs of short simple setae; metasternal shields free. Epigynial shield truncate posteriorly, without distinct ornamentation; with four small platelets between the epigynial and ventrianal shields. Ventrianal shield (fig. 19) reticulate, rounded posteriorly, pointed laterally, and with four pairs of



FIGS. 19-22. — *Sejus lobatus* n. sp. Female.
19 : Venter; 20 : Tectum; 21 : Chelicera; 22 : Dorsum.

setae in addition to the para- and postanal setae. Peritrematal shields extending posteriorly well beyond coxae IV. Tectum with three anterior distally divided projections (fig. 20). Chelicerae as illustrated (fig. 21). Legs I somewhat longer than body; claws and pretarsi minute; tarsus I nearly three times the length of tibia I; pulvillar lobes of legs II-IV acuminate.

Male : Unknown.

Type material. — Holotype female and four paratype females with the following data : « Tête de source déboisée », 13 december, 1951 — Coll. H. DE SAEGER (Coll. No. 2930). The holotype female will be deposited in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. Paratypes will be placed in the collections of the U.S. National Museum, Washington, D.C., the British Museum (Natural History), London, England, and Oregon State University, Corvallis, Oregon, U.S.A.

***Sejus crenulatus* n. sp.**

(Figs. 23-25.)

Female : Length of idiosoma averages 471 μ , with a range of 470-474 μ ; width of idiosoma at level of coxae IV averages 285 μ , with a range of 282-296 μ . Dorsal shield notched anteriorly, crenulate-reticulate as illustrated (fig. 23); vertical setae short, setae J_4 less than half the length of the distance between the insertions of J_4 and J_5 ; other dorsal setae as illustrated. Presternal shields absent. Sternal shield with a pair of anterior prominences, as in *S. signatus*, *nepalensis*, *necorniger*, and others (EVANS and HYATT 1960); metasternal shields free. Epigynial shield as illustrated (fig. 25), flanked posteriorly by two pairs of platelets. Distance between epigynial and ventrianal shields almost equal to the length of the ventrianal shield (1 : 1,25). Ventrianal shield triangular, truncate anteriorly, and with nine setae. Peritrematal shield well developed posterior to coxae IV; metapodal shields small. Tectum (fig. 24) with three distally divided anterior projections. Movable digit of chelicera with one prominent tooth; fixed digit dentate distally. Legs I with claws and a short pretarsus; at least 1 $\frac{1}{2}$ times longer than dorsal shield; tibia I distinctly longer than tarsus I. Legs II-IV with ambulacra and triple-lobed acuminate pulvilli.

Male : Unknown.

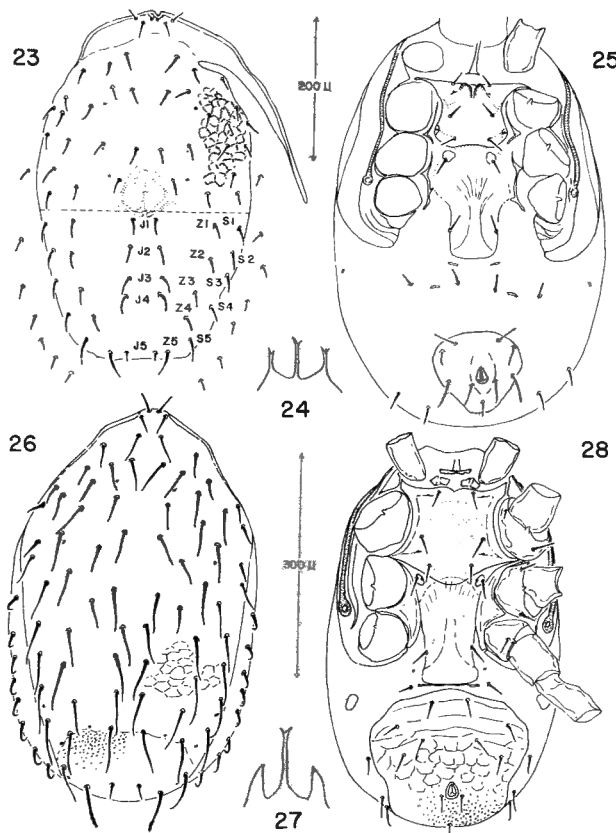
Type material. — Holotype female and one paratype female with the following data : « Galerie forestière », 4 March, 1925 — Coll. H. DE SAEGER (Coll. No. 3182). The holotype female will be deposited in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. The paratype will be placed in the collection of the U.S. National Museum, Washington, D.C.

A KEY TO THE GENERA AND SPECIES OF *ACEOSEJINAE*
COLLECTED BY THE MISSION H. DE SAEGER
TO GARAMBA PARK, CONGO (1949-1952).

1. With posterior marginal setae in the integument adjacent to the dorsal shield; elongate species with well-developed dorsal and ventral sclerotization *LASIOSEIUS* BERLESE 2
- With posterior marginal setae inserted on the dorsal shield 6
2. Sternal shield convex posteriorly; setae J_3 extending well beyond the insertions of J_4 (fig. 26) *Lasioseius convexus* n. sp.
- Sternal shield concave posteriorly; setae J_3 at most reaching the insertions of J_4 3
3. Metasternal shields absent *Lasioseius durumae* n. sp.
- Metasternal shields present 4
4. Sternal setae I inserted on presternal platelets which are partially fused to sternal shield; with thirteen setae on the ventrianal shield
Lasioseius garambae n. sp.
- Sternal setae I inserted on sternal shield; presternal platelets free; with eleven setae on the ventrianal shield 5
5. Tarsus IV with three long stout setae; tectum denticulate; with an integumental strip between epigynial and ventrianal shields
Lasioseius analis EVANS.
- Tarsus IV without long stout setae as above; tectum with three anterior projections; with four narrow platelets between epigynial and ventrianal shields *Lasioseius nambirimae* n. sp.
6. Idiosoma pyriform; tarsi II-IV with basal « sensory » structure (fig. 38) ventrally; with ventrianal shield *AFRICOSEIUS* n. gen.
Africoseius areolatus n. sp.
- Idiosoma elongate; tarsi II-IV without structure referred to above; with anal shield *PROCTOLAE LAP S* BERLESE 7
7. Dorsal setae robust, simple; dorsal shield ornamented; anal shield with prominent anterior projection *Proctolaelaps oudemansi* n. sp.

- Dorsal setae (except for D_1 and Z_5) attenuate, the more posterior being the longer; anal shield without prominent anterior projection

Proctolaelaps nemathrix n. sp.



FIGS. 23-25. — *Sejus crenulatus* n. sp. Female.

23 : Dorsum; 24 : Tectum; 25 : Venter.

FIGS. 26-28. — *Lasioseius convexus* n. sp. Female.

26 : Dorsum; 27 : Tectum; 28 : Venter.

Genus **LASIOSEIUS** BERLESE.

Lasioseius BERLESE, A. (1916), Redia, 12 : 34; EVANS, G. O. (1958), Proc. Zool. Soc. London, 131(2) : 215.

Aceosejus SELLNICK, M. (1941), Zool. Anz., 133 : 149.

Borinquolaelaps FOX, A. (1946), J. Parasit., 32 : 450.

***Lasioseius convexus* n. sp.**

(Figs. 26-28.)

Female : Length of idiosoma averages 546 μ , with a range of 517-582 μ ; width of idiosoma at coxae IV averages 303 μ , with a range of 300-305 μ . Dorsal shield with reticulate pattern laterally (fig. 26) and with a distinct punctate area posteriorly. Setae Z_5 pectinate distally; other setae simple, as illustrated. Tritosternum flanked basally by a sclerotized strip of cuticle which is sinuous posteriorly (fig. 28); presternal shields at least partially divided. Sternal shield with weak punctate pattern; notched anteriorly and convex posteriorly; with three pairs of setae. With a pair of metasternal shields flanking the anterior corners of the truncate epigynial shield. With four narrow platelets between the epigynial and the ventrianal shield. Ventrianal shield ornamented as illustrated (fig. 28); with eleven setae. Peritrematal and endopodal shields fused at coxae IV; peritreme extending anteriorly and dorsally to a point adjacent to setae M_1 ; metapodals present. Tectum with distally divided central projection (fig. 27) and two lateral tusk-like prominences. Fixed digit of chelicera with approximately fourteen teeth; movable digit with four. Legs short; with well-developed ambulacra and rounded pulvilli.

Male : Unknown.

Type material. — Holotype female and two paratype females with the following data : « Savane de vallée », 30 March, 1951 — Coll. H. DE SAEGER (Coll. No. 1489). The holotype female will be deposited in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. Paratypes will be placed in the collections of the U.S. National Museum, Washington, D.C. and the British Museum (Natural History), London, England.

***Lasioseius analis* EVANS.**

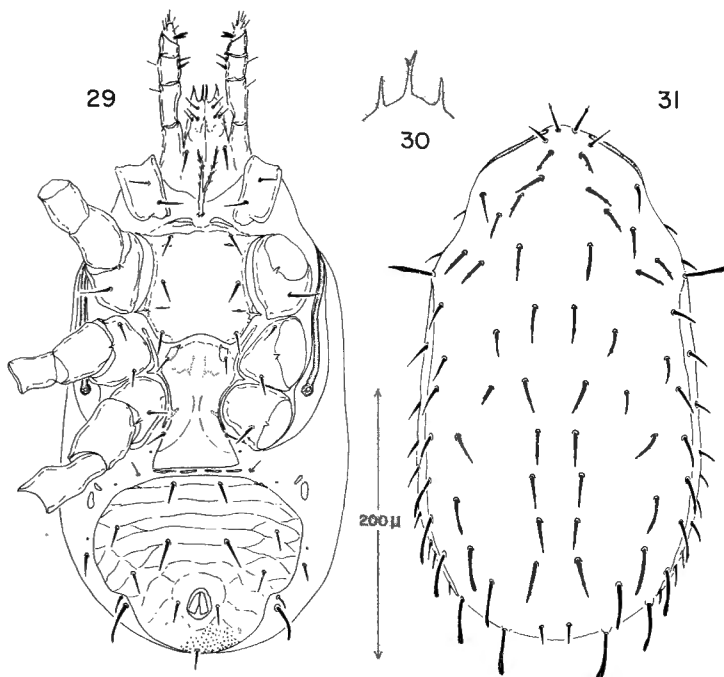
Lasioseius analis EVANS, G. O. (1958), Ann. Mag. Nat. Hist., ser. 13, vol. 1 : 581.

L. analis was found in the following samples : « Tête de source à boisement dégradé », 5 June, 1951 — Coll. H. DE SAEGER (Coll. No. 1883); « galerie forestière très claire », 13 July, 1951 — Coll. H. DE SAEGER (Coll. No. 2062); « galerie forestière », 13 August, 1951 — Coll. H. DE SAEGER (Coll. No. 2276); « galerie forestière », 24 April, 1952 — Coll. H. DE SAEGER (Coll. No. 3330).

***Lasioseius nambirimae* n. sp.**

(Figs. 29-31.)

Female : Length of idiosoma averages 403 μ , with a range of 385-423 μ ; width of idiosoma at level of coxae IV averages 232 μ , with a range of 220-235 μ . Dorsal shield reticulate; many of the dorsal setae with an expanded collar distally; posterior setae expanded and weakly pectinate distally (fig. 31). With a pair of presternal shields anterior to the unorn-

FIGS. 29-31. — *Lasioseius nambirimae* n. sp. Female.

29 : Venter; 30 : Tectum; 31 : Dorsum.

namented sternal shield; metasternal shields free. Epigynial shield unornamented and flanked posteriorly by four narrow platelets. Ventrianal shield with eleven setae, ornamented as illustrated (fig. 29). Peritrematal shields extending around coxae IV; peritremes extending anteriorly and dorsally to a point anterior of setae M_1 ; with two pairs of metapodal shields. Tectum with distally divided central prominence and two narrow lateral spines (fig. 30). Movable digit of chelicera with three teeth; fixed digit with several small teeth. Legs with well-developed ambulacra and rounded pulvilli; tarsus I approximately twice the length of tibia I; tarsus IV without long spinose setae.

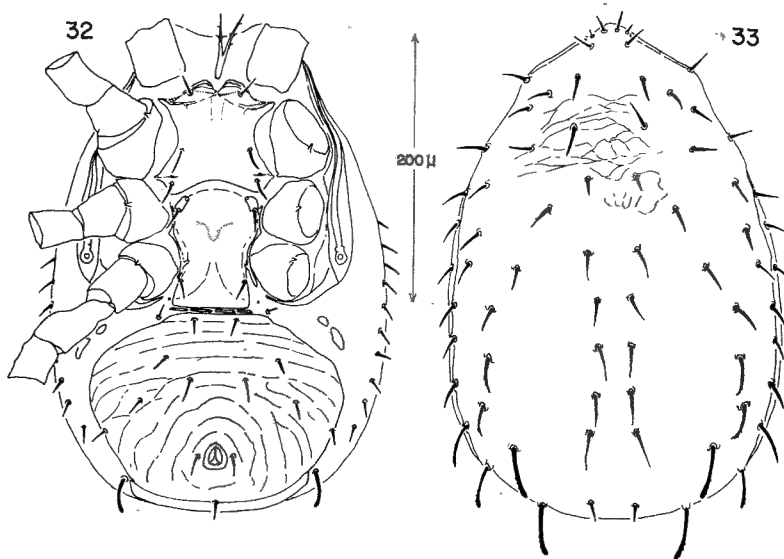
Male : Unknown.

Type material. — Holotype female and eleven paratype females with the following data : « Galerie forestière », 7 August, 1951 — Coll. H. DE SAEGER (Coll. No. 2249). The holotype female will be deposited in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. Paratypes will be deposited at the U.S. National Museum, Washington, D.C., the British Museum (Natural History), London, England, Potchefstroom University, Potchefstroom, South Africa, the Institute of Acarology, Wooster, Ohio, U.S.A., the South Australian Museum, Adelaide, and Oregon State University, Corvallis, Oregon, U.S.A.

***Lasioseius garambae* n. sp.**

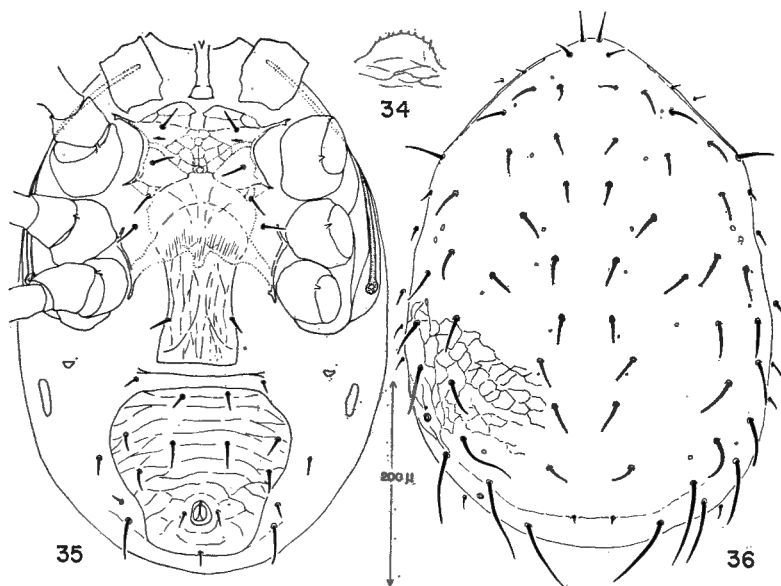
(Figs. 32-33.)

Female : Length of idiosoma averages 379 μ , with a range of 376-385 μ ; width of idiosoma at the level of coxae IV averages 257 μ , with a range of 244-282 μ . Dorsal shield with strong reticulate pattern (fig. 33); dorsal setae as illustrated. Presternal shields fused to unornamented sternal shield and bearing the first pair of sternal setae (fig. 32); metasternal shields free. Epigynial shield without ornamentation and flanked posteriorly by four narrow platelets. Ventrianal shield patterned as illustrated, with five pairs of short simple ventrianal setae, in addition to the usual pair



FIGS. 32-33. — *Lasioseius garambae* n. sp. Female.

32 : Venter; 33 : Dorsum.



FIGS. 34-36. — *Lasioseius durumae* n. sp. Female.

34 : Tectum; 35 : Venter; 36 : Dorsum.

of para-anals and the single postanal setae. Peritrematal shield and exopodal IV extending around coxae IV; with two pairs of metapodal platelets. Tectum and chelicerae not clear in either specimen. Legs shorter than idiosoma; tarsi with strong claws and rounded pulvilli.

Male : Unknown.

Type material. — Holotype female and paratype female with the following data : « Vestiges de galerie forestière ancienne », 23 August, 1951 — Coll. H. DE SAEGER (Coll. No. 2313). The holotype female will be placed in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. The paratype will be sent to the U.S. National Museum, Washington, D.C.

***Lasioseius durumae* n. sp.**

(Figs. 34-36.)

Female : Length of idiosoma averages 509 μ , with a range of 495-517 μ ; width of idiosoma at level of coxae IV averages 339 μ , with a range of 329-352 μ . Dorsal shield (fig. 36) strongly reticulate; posterior setae long and spinose, others as illustrated. Presternal shields large, flanking tritosternum, and fused posteriorly to sternal shield. Sternal shield ornamented

as illustrated (fig. 35); with three pairs of setae; notched posteromedially. Metasternal shields absent; metasternal setae inserted free in the integument. Epigynial shield weakly reticulate, platelets flanking the shield fused. Ventrianal shield reticulated; with eleven setae, including the para- and postanal setae; metapodal shields prominent. Peritrematal shields abutting expodals IV but not insensibly fused with them. Tectum (fig. 34) rounded and denticulate; chelicerae dentate distally. Legs shorter than idiosoma; tarsi with well-developed claws and rounded pulvili.

Male : Length of idiosoma = 441 μ ; width of idiosoma at level of coxae IV = 305 μ . Similar to female except for the following: metasternal setae inserted on an unornamented sternal shield; geniti-ventrianal shield strongly reticulated; genital opening at anterior edge of sternal shield. Chelicerae not clear.

Type material. — Holotype female, allotype male, and four paratype females with the following data : « galerie forestière dégradée, tête de source », 30 May, 1951 — Coll. H. DE SAEGER (Coll. No. 1861). The holotype female and allotype male will be deposited in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. Paratypes will be sent to the U.S. National Museum, Washington, D.C., the British Museum, (Natural History), London, England, Potchefstroom University, Potchefstroom, South Africa, and Oregon State University, Corvallis, Oregon, U.S.A.

Genus **AFRICOSEIUS** n. gen.

Idiosoma pyriform; posterior marginal setae inserted on the dorsal shield; dorsal setae inserted on small tubercles. Sternal, metasternal and epigynial shields typical for family; ventrianal shield large, elliptical, and with anal opening of normal size. Peritrematal shield fused with exopodals IV. Tarsi II, III and IV with a large « sensory » apparatus proximoventrally. Hypostomal setae II and anteroventral seta of the palptrochanter elongate as in *Platyseiinae*. Tarsi normal for subfamily.

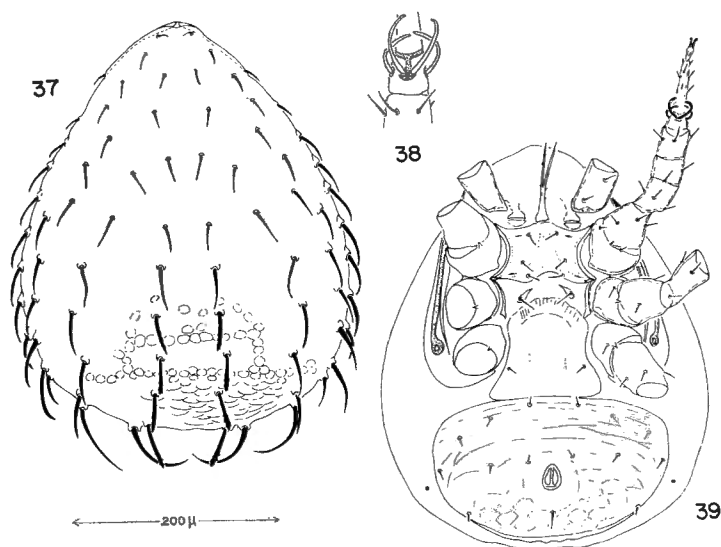
Type species : *Africoseius areolatus* n. sp. Monotypic.

Africoseius areolatus n. sp.

(Figs. 37-39.)

Female : Length of idiosoma = 404 μ ; width of idiosoma at level of coxae IV = 319 μ . Dorsal shield pyriform, unornamented anteriorly, but with areolate pattern posteriorly (fig. 37); paraverticlar setae absent; setal placement and length as illustrated. Presternal shields apparently divided transversely and flanking a weakly plumose tritosternum. Sternal shield

(fig. 39) with faint pattern and with three pairs of simple setae; metasternal shields elongate and placed mediad of the posterior corners of the sternal shield. Epigynial shield unornamented, broadened posteriorly and with a pair of short setae; posterior platelets not observed. Ventrianal shield large wider than long and ornamented as illustrated; with six pairs of short simple ventrianal setae, in addition to the usual para- and postanal setae.



FIGS. 37-39. — *Africoseius arcolatus* n. gen., n. sp. Female.
37 : Dorsum; 38 : Proximal portion of venter of tarsus II; 39 : Venter.

Peritrematal shield fused to exopodals IV and developed around coxae IV; peritremes extend anteriorly and dorsally to the apex of the idiosoma. Tectum apparently rounded and unornamented anteriorly. Movable digit of chelicera with two teeth; digitus mobilis with one tooth. Tarsi II, III and IV each with a proximoventral structure (fig. 38) which appears to be sensory in function. Tarsi with well-developed claws and blunt pulvilli.

Male : Unknown.

Type material. — One female with the following data : « galerie forestière », 24 April, 1952 — Coll. H. DE SAEGER (Coll. No. 3330). The holotype female will be deposited in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium.

According to the taxonomic scheme developed by EVANS (1958) for the *Aceosejinae*, *Africoseius* is most closely related to the genus *Proctolaelaps* BERLESE, subgenus *Neojordensia* EVANS. The affinities of *Africoseius* to *Neojordensia* appear to the author to be stronger than those between *Proctolaelaps* s. str. and *Neojordensia*. A subgeneric relationship between *Africoseius* and *Proctolaelaps* is considered unlikely, inasmuch as great differences between these groups are obvious (see following key and descriptions). A generic separation of *Proctolaelaps* and *Neojordensia* would clarify the position of these two groups in relation to *Africoseius*. The following revision is proposed :

1. Female with an anal shield; peritrematal and exopodal shields not fused *Proctolaelaps* BERLESE.
- Female with a ventrianal shield; peritrematal and exopodal shields fused 2
2. Idiosoma pyriform; ventrianal shield rounded anteriorly *Africoseius* n. gen.
- Idiosoma elongate; ventrianal shield excavated anteriorly *Neojordensia* EVANS new status.

Genus **PROCTOLAEALAPS** BERLESE.

Proctolaelaps BERLESE, A. (1923), Redia, 15 : 255; EVANS, G. O. (1958), Proc. Zool. Soc. London, 131(2) : 197.

Seiopsis BERLESE, A. (1923), Redia, 15 : 255.

Jordensia OUDEMANS, A. (1936), K. H. O. A., Bd 3 A : 214.

Chamolaelaps HULL, J. E., in TÜRK, F. A. and S. M. TÜRK (1952), Ann. Mag. Nat. Hist., 5(12) : 482.

Blattilaelaps WOMERSLEY, H. (1956), Jour. Linn. Soc. London, 42 : 566.

Proctolaelaps oudemansi n. sp.

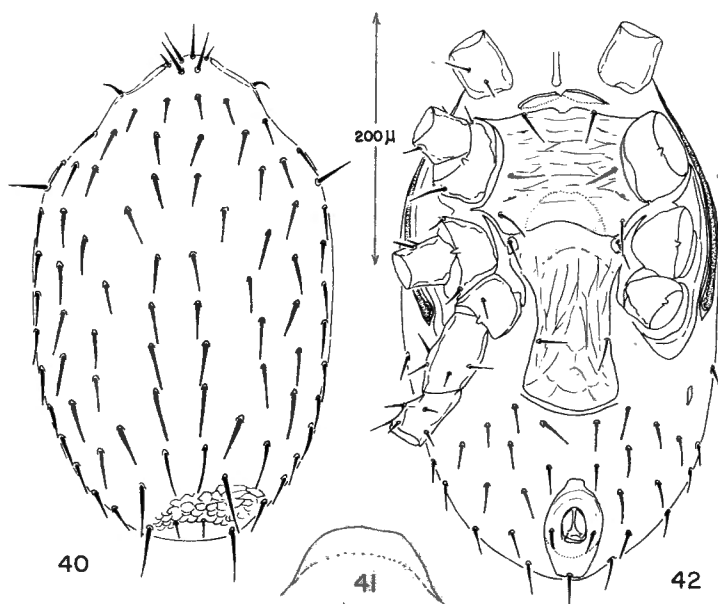
(Figs. 40-42.)

Female : Length of idiosoma averages 411 μ , with a range of 385-460 μ ; width of idiosoma at level of coxae IV averages 249 μ , with a range of 225-291 μ . Dorsal shield with light reticulate pattern; dorsal setae robust, many extending to the insertions of setae behind them (fig. 40). Tritosternum weakly pilose, with two lacinae; flanked lateroposteriorly by a pair of presternal platelets. Sternal shield (fig. 42) ornamented with a weak reticulate pattern and bearing three pairs of setae; metasternal shields free. Epigynial shield patterned as illustrated and with a pair of simple setae. Ventral region with several pairs of strong setae. Anal shield obovoid and with an anterior prominence; anal opening large. Peritrematal shield free; exopodals fused and extending around coxae IV. Tectum (fig. 41) rounded

and unornamented. Fixed digit of chelicera multidentate; movable digit with three distinct teeth. Corniculi and hyopstomal setae normal. Legs short; tarsi with strong claws and rounded pulvilli.

Male : Unknown.

Type material. — Holotype and three paratype females with the following data : « Savane herbeuse », 4 October, 1951 — Coll. H. DE SAEGER (Coll. No. 2577); four paratype females ex « savane herbeuse », 8 July, 1952 — Coll. H. DE SAEGER (Coll. No. 3748). The holotype female will be deposited in the collection of the Institute of National Parks of the Congo



FIGS. 40-42. — *Proctolaelaps oudemansi* n. sp. Female.

40 : Dorsum; 41 : Tectum; 42 : Venter.

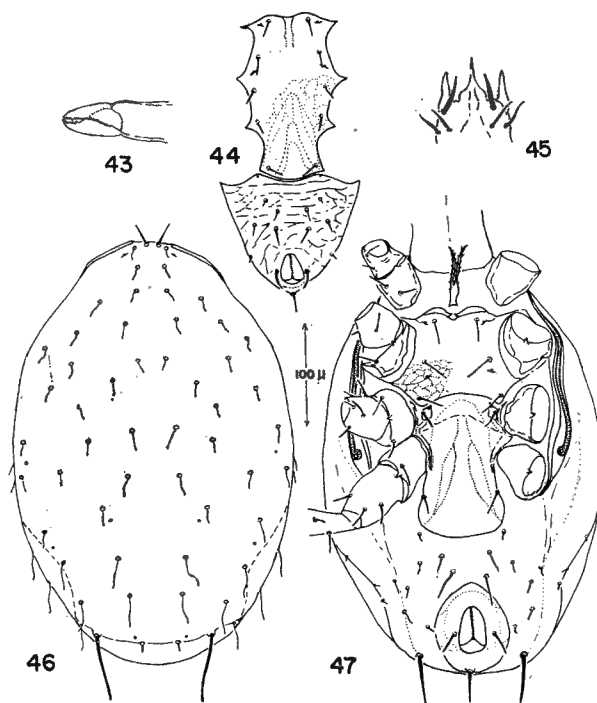
and Ruanda-Urundi, Brussels, Belgium. Paratype females will be sent to the U.S. National Museum, Washington, D.C., the British Museum (Natural History), London, England, Potchefstroom University, Potchefstroom, South Africa, the South Australian Museum, Adelaide, the Institute of Acarology, Wooster, Ohio, and Oregon State University, Corvallis, Oregon, U.S.A.

P. oudemansi may be distinguished from closely related forms by the presence of a large anterior protuberance on the anal shield, a peculiar modification shared by *P. longipilis* (CHANT) and *P. bickleyi* (BRAM). *P. oudemansi* is distinguished from these species in that seta J_4 of *P. oudemansi* does not extend beyond the insertions of J_5 .

Proctolaelaps nemathrix n. sp.

(Figs. 43-47.)

Female : Length of idiosoma averages 431 μ , with a range of 423-446 μ ; width of idiosoma at level of coxae IV averages 286 μ , with a range of 282-291 μ . Dorsal shield unornamented and curving ventral lateroposteriorly; dorsal setae, with the exception of D_1 and Z_5 , attenuate, the more posterior setae being the longer (fig. 46). Presternal platelets abutting



FIGS. 43-47. — *Proctolaelaps nemathrix* n. sp.

43 : Chelicera of female; 44 : Venter of male; 45 : Hypostome of female;
46 : Dorsum of female; 47 : Venter of female.

sternal shield which is lightly patterned as illustrated (fig 47) with three pairs of long thin setae. Metasternal shields distinct. Epigynial shield lightly ornamented and bearing a pair of setae. Vertical setae short, except for the pair directly above the anal shield. Anal opening enlarged; post-anal seta considerably heavier than para-anals; anal shield with blunt point or slight prominence anteriorly; with one pair of long spinose postanal setae inserted in the integument adjacent to the shield. Peritremes extending anteriorly to a point slightly lateral of setae M_1 (fig. 46). Ventral extensions

of dorsal shield posterior to epigynial shield. Hypostomal setae I expanded; corniculi slightly sinuate (fig. 45). Movable digit of chelicera (fig. 43) with four distinct teeth; fixed digit multidentate.

Male (fig. 44) : Length of idiosoma = 324 μ ; width of idiosoma at level of coxae IV = 197 μ . Dorsal morphology similar to that of female. Spermatophoral structure on the movable digit of the chelicera uncurved, extending beyond the cheliceral digit by only half its length. Venter as illustrated.

Type material. — Holotype female and allotype male with the following data : « Savane herbeuse à ligneux rares, non brûlée », 16 April, 1951 — Coll. H. DE SAEGER (Coll. No. 1578); one paratype female ex « savane herbeuse non brûlée », 16 June, 1951 — Coll. H. DE SAEGER (Coll. No. 1955); five paratype females ex « galerie forestière humide », 18 November, 1950 — Coll. H. DE SAEGER (Coll. No. 988); seven paratype females ex « fond marécageux », 4 May, 1951 — Coll. H. DE SAEGER (Coll. No. 1720); one paratype female ex « savane arborescente », 15 November, 1950 — Coll. J. VERSCHUREN (Coll. No. 973); one paratype female ex « plaine marécageuse à îlots de Graminées non brûlées », 24 May, 1951 — Coll. H. DE SAEGER (Coll. No. 1815). The holotype female and allotype male will be deposited in the collection of the Institute of National Parks of the Congo and Ruanda-Urundi, Brussels, Belgium. Paratypes will be sent to the British Museum (Natural History), London, England, the U.S. National Museum, Washington, D.C., Potchefstroom University, Potchefstroom, South Africa, the South Australian Museum, Adelaide, the Institute of Acarology, Wooster, Ohio, U.S.A., and Oregon State University, Corvallis, Oregon, U.S.A.

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SUMMARY

The following new genera and species are proposed :

Platyseius congoensis n. sp.

Sejus crenulatus, lobatus n. spp.

Hyattella epicrioides n. gen., n. sp.

Plesiosejus berlesei n. sp.

Lasioseius nambirimae, durumae, garambae, convexus n. spp.

Africoseius areolatus n. gen., n. sp.

Proctolaelaps nemathrix, oudemansi n. spp.

Neojordensia EVANS, a subgenus of *Proctolaelaps* BERLESE, is raised to generic standing.

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