

REVISION OF THE GENERA *TINIOCELLUS* PÉRINGUEY, 1901 AND *NITIOCELLUS* GEN. N. (COLEOPTERA, SCARABAEIDAE, ONITICELLINI)

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Abstract: The taxonomical history of the genus *Tiniocellus* Péringuey, 1901 and the 10 species-group names that have been associated with it is reviewed, and the reasons that justify the creation of *Nitiocellus* gen. n. for *Oniticellus panthera* Boucomont, 1921 and *Oniticellus collarti* Janssens, 1939, are explained. The taxonomy of the Oniticellini is briefly reviewed and a key is provided for the separation of *Tiniocellus* and *Nitiocellus* gen. n. from all the other genera currently ranged in the tribe. The synonymies of *Oniticellus variegatus* Fåhraeus, 1857 and *Oniticellus humilis* Gerstaecker, 1871 with *Tiniocellus spinipes* (Roth, 1851) are confirmed. The Asian *Tiniocellus imbellis* (Bates, 1891) and the African *Tiniocellus setifer* (Kraatz, 1895) are rehabilitated as good species. *Oniticellus modestus* Arrow, 1908 is synonymised with *T. imbellis*, and *Tiniocellus asmarensis* Balthasar, 1968 with *T. spinipes*. Three Afrotropical species, one of them containing two subspecies, are described: *T. praetermissus* sp. n. from western Africa, *T. dolosus* sp. n. from eastern, central and western Africa, *T. eurypygus* sp. n. from South Africa, the nominotypical subspecies from the uplands west of the Drakensberg mountain range, and *T. eurypygus transdrakensbergensis* ssp. n. from the lowlands east of the same mountain range. Keys are provided to the species and subspecies of *Tiniocellus*, and to the species of *Nitiocellus* gen. n. For this study 4,628 specimens were examined, including the name-bearing types of all the species-group names, except that of *T. imbellis*, which could not be found.

Key words: Coleoptera, Scarabaeidae, *Tiniocellus*, revision, new genus, new species, new subspecies, sub-Saharan Africa, Indian subcontinent.

Revisión de los géneros *Tiniocellus* Péringuey, 1901 y *Nitiocellus* gen. n. (Coleoptera, Scarabaeidae, Oniticellini)

Resumen: Se revisa la historia taxonómica del género *Tiniocellus* Péringuey, 1901 y de los 10 nombres de nivel especie que se han asociado a él, y se explican las razones que justifican la creación de *Nitiocellus* gen. n. para *Oniticellus panthera* Boucomont, 1921 y *Oniticellus collarti* Janssens, 1939. Se pasa revista brevemente a la taxonomía de los Oniticellini y se da una clave para separar *Tiniocellus* y *Nitiocellus* gen. n. de todos los demás géneros actualmente integrados en la tribu. Se confirma la sinonimia de *Oniticellus variegatus* Fåhraeus, 1857 y *Oniticellus humilis* Gerstaecker, 1871 con *Tiniocellus spinipes* (Roth, 1851). Se rehabilita el taxón asiático *Tiniocellus imbellis* (Bates, 1891) y el africano *Tiniocellus setifer* (Kraatz, 1895) como buenas especies. Se sinonimiza *Oniticellus modestus* Arrow, 1908 con *T. imbellis*, y *Tiniocellus asmarensis* Balthasar, 1968 con *T. spinipes*. Se describen tres especies afrotropicales, una de ellas con dos subspecies: *T. praetermissus* sp. n. de África occidental, *T. dolosus* sp. n. de África oriental, central y occidental, *T. eurypygus* sp. n. de Sudáfrica, con la especie nominotípica en las tierras altas al oeste de la cordillera de Drakensberg y *T. eurypygus transdrakensbergensis* ssp. n. de las tierras bajas al este de dicha cordillera. Se dan claves para las especies y subspecies de *Tiniocellus*, así como para las especies de *Nitiocellus* gen. n. Para el estudio se examinaron 4628 especímenes, incluidos los tipos de todos los nombres de nivel especie, excepto el de *T. imbellis*, que resultó imposible localizar.

Palabras clave: Coleoptera, Scarabaeidae, *Tiniocellus*, revisión, género nuevo, especies nuevas, subespecie nueva, África subsahariana, subcontinente indio.

Taxonomy/taxonomia: *Nitiocellus* gen. n., *Tiniocellus praetermissus* sp. n., *Tiniocellus dolosus* sp. n., *Tiniocellus eurypygus* sp. n., *Tiniocellus eurypygus eurypygus* ssp. n., *Tiniocellus eurypygus transdrakensbergensis* ssp. n. *Oniticellus modestus* Arrow, 1908 = *Tiniocellus imbellis* (Bates, 1891) **syn. n.**; *Tiniocellus asmarensis* Balthasar, 1968 = *Tiniocellus spinipes* (Roth, 1851) **syn. n.**

Nitiocellus panthera (Boucomont, 1921) **comb. n.**, *Nitiocellus collarti* (Janssens, 1939) **comb. n.**

1. Introduction

The most recent revision of the genus *Tiniocellus* is by Janssens (1953) who recognised four species: *spinipes* (Roth, 1851), *panthera* (Boucomont, 1921), *collarti* (Janssens, 1939), and *sarawacus* (Gillet, 1926). The study of African Oniticellini from the Transvaal Museum, sent for determination many years ago by the late Dr. Sebastian Endrödy-Younga, revealed the inadequacy of Janssens' 1953 key for the identification of material of that genus. So, in 1990 I decided to undertake its revision. In 1991, however, for professional reasons I moved temporarily to England, and had to abandon my project. Recently, French colleagues studying West African Scarabaeidae were faced with the same difficulties in the identification of material of the genus, and kindly prompted me to resume its revision.

The objective of this work is to examine the systematics of the genus *Tiniocellus* and of the species currently associated with it, and to provide a key as unambiguous as possible for their identification.

Significant differences between the six species here ascribed to the genus *Tiniocellus* on one side, and *Oniticellus panthera* Boucomont, 1921 and *O. collarti* Janssens, 1939 on the other side, convinced me of the need to erect the new genus *Nitiocellus* for the latter two species. The reasons why I believe that these two groups of species are monophyletic are explained. No attempt is made, however, to establish the phylogenetic relationships between the species of *Tiniocellus*. For this study, I have examined 4,607 specimens of *Tiniocellus* but only 21 of *Nitiocellus* gen. n., including the name-

bearing types of all species-group names, except that of *T. imbellis* which should be in the Muséum National d'Histoire Naturelle, Paris, but could not be found.

To avoid long lists, always unpleasant reading through, detailed lists of examined specimens other than the name-bearing types, are presented in the form of tables, in appendices 1 to 7, except for the two species of *Nitiocellus* gen. n. given the few specimens available for study. The labels on many examined specimens include the geographic coordinates of the place where they were collected, but many others do not. For the latter, whenever I was able to identify with reasonable reliability the locality on the label, I added the respective geographic coordinates, between square brackets, at the end of the collecting data.

I seek to give full credit to previous authors for their contributions. Therefore, I transcribe all original descriptions as well as relevant comments, and provide a translation for those in a language other than English. In the transcriptions, and respective translations, paragraphs in the original text are replaced with the sign §.

This study was carried out from 2008 through to 2010, hence my identification labels on examined specimens may be dated “2008”, “2009” or “2010”.

Dichotomous keys have sometimes been regarded as a sort of cladograms. Therefore, I have to stress that the keys in this work are not intended as anything more than practical means of identification.

Unless otherwise stated, body length was measured from the tip of clypeus to the extremity of the abdomen, and body width across the elytra at shoulders, and terminology follows Gordh & Headrick (2001).

Abbreviations

1) Depositaries

The material examined is in the following collections (in parentheses the names of curators and other personnel who helped with the loans). Whenever an institution suggests its own abbreviation, that is the one I use. Otherwise, I have adopted those proposed by Arnett *et al.* (1993).

1.1.) Institutions

- BMNH** = Natural History Museum, London, UK (Maxwell Barclay)
- CMN** = Canadian Museum of Nature, Ottawa, Quebec, Canada (François Génier, Nancy Boase)
- CNCI** = Canadian National Collections of Insects, Arachnids and Nematodes, Ottawa, Canada (Serge Laplante)
- DEI** = Deutsches Entomologisches Institut, Münchenberg, Germany (Lothar Zerche, Lutz Behne)
- DMNS** = Denver Museum of Nature & Science, Denver, USA (Frank-Thorsten Krell, Heather Thorwald)
- HNHM** = Természettudományi Múzeum Allattára, Budapest, Hungary (Ottó Merkl)
- IRSNB** = Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium (Alain Drumont, Martina Peeters)
- MNHN** = Muséum National d'Histoire Naturelle, Paris, France (Olivier Montreuil, Antoine Mantilleri)
- MRAC** = Musée Royal de l'Afrique Centrale, Tervuren, Belgium (Marc de Meyer)
- NHMLAC** = Natural History Museum of Los Angeles County, Los Angeles, USA (Brian Brown, Weiping Xie)
- NHRS** = Naturhistoriska Riksmuseet, Stockholm, Sweden (Julio Ferrer)
- NMPC** = Narodni Muzeum, Prague, Czech Republic (Jiří Hájek)

OUNNH = Hope Entomological Collections, Oxford University Museum of Natural History, Oxford, UK (Darren J. Mann, Zoë Simmons)

TMSA = Transvaal Museum, Pretoria, Republic of South Africa (James Harrison)

ZMAN = Zoölogisch Museum Amsterdam, The Netherlands (Ben Brugge, Tomas Lackner)

ZMHU = Museum für Naturkunde der Humboldt Universität, Berlin, Germany (Johannes Frisch, Joachim Willers)

ZSM = Zoologische Staatssammlung, Munich, Germany (Martin Baehr)

1.2.) Private collections

CEB = Enrico Barbero private collection, Turin, Italy.

CFG = François Génier private collection, Gatineau, Canada.

CFT = Federico Tagliaferri private collection, Piacenza, Italy.

CGMC = Giuseppe Maria Carpaneto private collection, Rome, Italy.

CIB = Igino Bonato private collection, Turin, Italy (material lent via Enrico Barbero).

CJFJ = Jean-François Josso private collection, Muzillac, France.

CPhM = Philippe Moretto private collection, Toulon, France.

CTB = Tristão Branco private collection, Oporto, Portugal.

2) Countries

For the sake of simplicity, in the text that follows and in the appendices I use the following abbreviations:

CAR = Central African Republic

DRC = Democratic Republic of the Congo (ex Zaire)

PRC = Peoples' Republic of the Congo

RSA = Republic of South Africa.

2. Taxonomic history of the genus *Tiniocellus*

The genus *Tiniocellus* was erected by Péringuey (1901) for the single species *Oniticellus spinipes* Roth, 1851, of which Péringuey (1901) considered synonyms *Oniticellus variegatus* Fåhræus, 1857 and *Oniticellus humilis* Gerstaecker, 1871. In his key to the genera of the “Tribe Coprini”, Péringuey (1901: 108) separated *Tiniocellus*, together with *Drepanocerus*, on the basis of their «antennae [being] eight-jointed», «anterior tibiae with spur and tarsi in both sexes», and «body depressed, very hairy, elytra not distinctly striate». In the description of the genus *Tiniocellus*, Péringuey (1901: 116) did not mention the antennae, but in the description of *Drepanocerus* Kirby, 1828 he wrote, in contradiction to his key: «antennae nine-jointed, ...».

The genus was retained by Kolbe (1905), who included it in a “Gruppe Drepanocerini” together with *Drepanocerus* Kirby, 1828 and *Drepanochirus* Péringuey, 1901 (a junior objective synonym of *Cyptochirus* Lesne, 1900). But it was dismissed by Arrow (1908). While describing *Oniticellus modestus*, Arrow (1908) remarked: «*Oniticellus modestus* is closely related to the African *O. spinipes*, Roth, for which Mr. Péringuey has formed a new genus *Tiniocellus*, which he has widely separated from *Oniticellus* by reason of his counting only eight joints in the antenna. This is an error, for there are nine joints, and these species cannot be separated from *O. cinctus*, F., *planatus*, Lap., *formosus*, Chev., &c.». As pointed out by Janssens (1953) (see below), the *Tiniocellus*, as well as all Oniticellini, except the recently transferred (Génier, 2009) neotropical Eurysternina, have 8-segmented antennae. Yet, in response to Arrow's (1908) comment, Péringuey (1908a: 693) admitted to an error he had not committed: «A wrongly trans-

posed line in the Key to the Genera of the tribe Coprini (Cat. i., p. 108, line 26) makes me say that in *Drepanocerus* and *Tiniocellus* the antennae are 8-jointed. In the description of the generic character I mention however, that they are 9-jointed. Arrow retains in the genus *Oniticellus*, *T. spinipes*, for which my genus was proposed (Ann. Mag. Nat. Hist., i, 1908, p. 183). But it is the fact of it having 9-jointed instead of 8-jointed antennae as is obtaining in the genera *Drepanochirus*, *Scaptocnemis*, *Oniticellus*, &c., which induced me to remove it from *Oniticellus*.»

The next author to deal with the group was d'Orbigny (1916), who disagreed with Arrow (1908): «G. J. Arrow (in The Ann. and Magaz. Nat. Hist., ser. 8, I, 1908, p. 183), après avoir rectifié l'erreur qu'a faite Péringuey en attribuant aux insectes de ce genre des antennes de huit articles (au lieu de neuf), dit que ces insectes ne peuvent être séparés d'autres Oniticellides, tels que le *planatus* et le *formosus*, que je place actuellement dans le genre *Liatongus*; je ne partage pas son opinion et je pense que le genre *Tiniocellus* doit être maintenu. Il diffère des *Liatongus* par les tibias postérieurs à peu près aussi longs que les cuisses, en triangle très allongé, leur largeur à l'extrémité n'égalant guère que le quart de leur longueur (au lieu d'être plus courts que les cuisses, et en triangle large ou assez large, leur largeur à l'extrémité égalant environ le tiers ou plus du tiers de leur longueur); les tarses postérieurs un peu plus longs que les tibias, leur premier article beaucoup plus court que les quatre suivants pris ensemble (au lieu d'être un peu plus courts ou à peu près aussi longs que les tibias et d'avoir leur premier article aussi long ou seulement un peu plus court que les quatre suivants pris ensemble); le 8^e interstrie des élytres extrêmement étroit, sauf à sa base, et non ou à peine plus large que la 7^e strie, ou presque nul, souvent les 6^e-7^e interstries à peu près aussi étroites (tandis que dans tous les genres précédents le 8^e interstrie est large ou médiocrement étroit, toujours beaucoup plus large que la 7^e strie).» {G. J. Arrow (in The Ann. and Magaz. Nat. Hist., ser. 8, I, 1908, p. 183), after rectifying Péringuey's error by attributing to the insects of this genus antennae with eight segments (instead of nine), says that these insects cannot be separated from other Oniticellids, such as *planatus* and *formosus*, which I presently range in the genus *Liatongus*; I do not share his opinion and I believe that the genus *Tiniocellus* must be maintained. It differs from *Liatongus* by the hind tibiae approximately as long as the femurs, shaped as a very elongated triangle, their width at the extremity equals only a quarter of their length (instead of being shorter than the femurs, and shaped as a broad or quite broad triangle, their width at the extremity approximately equal to a third or more than their length); the hind tarsi slightly longer than the tibiae, their 1st segment much shorter than the following four together (instead of slightly shorter or nearly as long as the tibiae and their 1st segment as long as or only slightly shorter than the following four together); the 8th elytral interstria very narrow, except at the base, not or only slightly wider than the 7th stria, or almost null, often interstriae 6th-7th almost equally narrow (whereas in all previous genera the 8th interstria is wide or moderately narrow, always much wider than 7th stria).}

Boucomont (1921) listed *Tiniocellus* as a synonym of *Oniticellus* Dejean, 1821 (there credited to "Serville, 1825", in fact Lepeletier de Saint-Fargeau & Audinet-Serville, 1828). Later Boucomont (1923) explained his reasons, writing: «Il en est de même du genre *Tiniocellus* Péring., crée pour *Onitice-*

llus spinipes, puis abandonné par son auteur.» {The same applies to the genus *Tiniocellus* Péring., created for *Oniticellus spinipes*, and afterwards abandoned by its author}. That, however, was not the case, since Péringuey (1908a), as mentioned above, although admitting to an error he had not made, retained *Tiniocellus* as a good genus. Boucomont (1923) continued: «d'Orbigny pense que ce genre doit être maintenu et lui donne de nouveaux caractères tirés de la longueur des tibias et des tarses comparée à celles des fémurs et des tibias, comme aussi de la largeur comparative du 8^e interstrie. Ces caractères me paraissent tout à fait insuffisants pour justifier une séparation générique.» {d'Orbigny believes that this genus should be maintained, and gives it further characters taken from the length of tibiae and tarsi compared to femurs and tibiae, as well as the comparative width of 8th interstria. Those characters appear to me absolutely insufficient to justify a generic separation.}

The genus was then considered a synonym of *Oniticellus* Dejean, 1821 (Boucomont & Gillet, 1927; Arrow, 1931; Janssens, 1939a; Janssens, 1939b), until Janssens (1953), denouncing the error of previous authors concerning the number of antennal segments, restored it as a good genus, status that it has retained ever since (Ferreira, 1954 and 1955; Janssens, 1956; Ferreira, 1958, 1962a and 1962b; Balthasar, 1963a; Halffter & Matthews, 1966; Ferreira, 1966, 1967a and 1967b; Balthasar, 1968 and 1969; Ferreira, 1972; Halffter & Edmonds, 1982; Cambefort & Lumaret, 1983; Cambefort, 1984; Walter, 1987; Hanski & Cambefort, 1991b; Ochi & Kon, 1996; Bezděk & Krell, 2006; Monaghan *et al.*, 2007; Moretto, 2007; Génier, 2009), except in Krajčik (2006) who listed it as a subgenus of *Oniticellus* with a question mark. Janssens (1953) wrote: «Contrairement à ce qui a été écrit par certains auteurs, les articles des antennes sont toujours au nombre de huit, chez ces insectes, comme chez tous les *Oniticellini*. § Nous partageons l'opinion de d'Orbigny (l. c., 1916), selon laquelle ce genre, créé par Péringuey, en 1901, est parfaitement valable et doit être maintenu, car des espèces plus récemment décrites et bien distinctes du génotype [*T. spinipes* (Roth), 1851] viennent confirmer ce point de vue. § Il est d'ailleurs curieux de constater la manière dont ce genre a été mis en discussion. § Péringuey, en 1901 (l. c., p. 108), déclare avec exactitude que le genre *Tiniocellus* possède (d'ailleurs comme tous les *Oniticellini*) huit articles aux antennes. Arrow, en 1908, affirme que c'est une erreur, que *O. spinipes* Roth a neuf articles aux antennes et qu'il ne peut pas être séparé des *O. cinctus* Fabricius, *O. planatus* Castelnau, *O. formosus* Chevrolat, etc. Péringuey, en 1908, admet cette remarque dont le mal fondé est cependant évident, et déclare qu'une transposition de lignes dans la clé des genres lui a fait dire que les *Drepanocerus* et les *Tiniocellus* ont huit articles aux antennes, mais que cependant dans la description générique (ce qui est exact au point de vue de la citation, mais faux au point de vue morphologique!). § En 1916, d'Orbigny (l. c.), en voulant revalider le genre *Tiniocellus*, accepte encore la "rectification" d'Arrow et, sans la contrôler, admet neuf articles aux antennes à ce genre. § Depuis, Boucomont (1921) et Arrow lui-même (1931) ont, sans relever les faits précédents, toujours attribué, comme il se doit, huit articles aux antennes des *Oniticellini*.} {Contrary to what has been written by some authors, the antennal segments are always eight, in these insects, as well as in all *Oniticellini*. § We share d'Orbigny's

(l. c., 1916) opinion, that this genus, created by Péringuey, in 1901, is perfectly valid and must be maintained, because more recently described species, well distinct from the genotype [*T. spinipes* (Roth), 1851] have confirmed this opinion. § Besides, it is curious to note the way in which this genus has been brought to discussion. § Péringuey, in 1901 (l. c., p. 108), declares with exactitude that the genus *Tiniocellus* has (moreover like all Oniticellini) eight segments in the antennae. Arrow, in 1908, sustains that it is an error, that *O. spinipes* Roth has nine segments in the antennae and that it cannot be separated from *O. cinctus* Fabricius, *O. planatus* Castelnau, *O. formosus* Chevrolat, etc. Péringuey, in 1908, accepts this remark whose lack of fundament is however evident, and declares that a transposition of lines in the key to the genera has made him say that the *Drepanocerus* and the *Tiniocellus* have eight segments in the antennae, but that nevertheless in the description of the genus he has mentioned nine segments in the antennae of those genera (which is exact in terms of the citation, but wrong in morphological terms!). In 1916, d'Orbigny (l. c.), while wishing to re-validate the genus *Tiniocellus* does still accept Arrow's "rectification" without checking it, admits nine segments in the antennae of this genus. § Subsequently, Boucomont (1921) and Arrow himself (1931), without alluding to the preceding facts, have always attributed, as it should be, eight segments to the antennae of the Oniticellini. }

The following 10 species-group names, listed here in their original combinations, have been associated with the genus-group name *Tiniocellus*:

- *Oniticellus spinipes* Roth, 1851
- *Oniticellus variegatus* Fähræus, 1857
- *Oniticellus humilis* Gerstaecker, 1871
- *Oniticellus imbellis* Bates, 1891
- *Oniticellus setifer* Kraatz, 1895
- *Oniticellus modestus* Arrow, 1908
- *Oniticellus panthera* Boucomont, 1921
- *Oniticellus sarawacus* Gillet, 1926
- *Oniticellus collarti* Janssens, 1939
- *Tiniocellus asmarensis* Balthasar, 1968

Oniticellus sarawacus Gillet, 1926, from Sarawak, Sumatra and the Malay Peninsula, was removed from *Tiniocellus* by Ochi & Kon (1996), in my opinion correctly, and placed in the new genus *Yvescambefortius*. It may be worthy noting that, judging from the original description, the species described by Zhang (1988) on a single male from Tibet as *Oniticellus puberulus*, seems to be closely related to *sarawacus*, and perhaps should be placed in the same genus. That question, however, is beyond the scope of the present work, and without examining the type I refrain from proposing a new combination. The relevant point for the present work is that *O. puberulus* is neither a *Tiniocellus* nor a *Nitiocellus*, and the taxonomical position and relationships of *sarawacus* and *puberulus* will not be dealt with here any further. The nomenclature and taxonomy of the remaining nine species-group names are examined below.

For the reasons explained below, the new genus *Nitiocellus* is created for *Oniticellus panthera* Boucomont, 1921 and *Oniticellus collarti* Janssens, 1939.

Of the remaining seven names, five, *variegatus* Fähræus, 1857, *humilis* Gerstaecker, 1871, *imbellis* Bates, 1891, *setifer* Kraatz, 1895, and *modestus* Arrow, 1908, are currently

considered synonyms of *spinipes*. The synonymies of *Oniticellus variegatus* Fähræus, 1857 and *Oniticellus humilis* Gerstaecker, 1871 with *spinipes* are confirmed, but *Oniticellus setifer* Kraatz, 1895 and *Oniticellus imbellis* Bates, 1891 are rehabilitated as good species. *Tiniocellus asmarensis* Balthasar, 1968 is synonymised with *spinipes*, and *Oniticellus modestus* Arrow, 1908 with *imbellis*. Three new afrotropical species so far confounded with *spinipes*, one of them containing two subspecies, are described: *praetermissus* sp. n. from western Africa, *dolosus* sp. n. from eastern, central and southern Africa, *eurypygus* sp. n. from South Africa, its nominotypical subspecies from the uplands west of the Drakensberg mountain range, and *eurypygus transdrakensbergensis* ssp. n. from the lowlands east of the same mountain range. In summary, as a result of this study, two genera, eight species and two subspecies are recognized:

Genus *Tiniocellus* Péringuey, 1901:

- *Tiniocellus spinipes* (Roth, 1851)
 - = *Oniticellus variegatus* Fähræus, 1857
 - = *Oniticellus humilis* Gerstaecker, 1871
 - = *Tiniocellus asmarensis* Balthasar, 1968, **syn. n.**
- *Tiniocellus imbellis* (Bates, 1891)
 - = *Oniticellus modestus* Arrow, 1908, **syn. n.**
- *Tiniocellus setifer* (Kraatz, 1895)
- *Tiniocellus praetermissus* **sp. n.**
- *Tiniocellus dolosus* **sp. n.**
- *Tiniocellus eurypygus* **sp. n.**
- *Tiniocellus eurypygus eurypygus* **ssp. n.**
- *Tiniocellus eurypygus transdrakensbergensis* **ssp. n.**

Genus *Nitiocellus* **gen. n.**

- *Nitiocellus panthera* (Boucomont, 1921), **comb. n.**
- *Nitiocellus collarti* (Janssens, 1939), **comb. n.**

3. Notes on the taxonomy and nomenclature of the Oniticellini Kolbe, 1905

The most recent worldwide revision of the Oniticellini is by Janssens (1953). Due to developments posterior to that date, including the erection of new genera, a review of the taxonomy of the tribe is necessary for a satisfactory understanding of the position of *Tiniocellus* and *Nitiocellus* gen. n. within the tribe, and their separation from the genera currently ranged in the Oniticellini.

Lansberge (1875) created a group "Drépanocérides" for those "Onitides" characterised by 8-segmented antennae, and with tarsus and spur present on the fore tibiae of males.

Kolbe (1905) divided his "Unterfam. Onthophaginae" in four "Gruppen", "Onthophagini", "Oniticellini", "Drepanocerini" and "Onitini". In the Oniticellini, Kolbe (1905) placed four genera, *Oniticellus* Dejean, 1821 (there credited to "Lep. et Serv."), *Scaptocnemis* Péringuey, 1901, *Tragiscus* Klug, 1855 and *Pinacotarsus* Harold, 1875, and in the Drepanocerini he placed three genera, *Drepanocerus* Kirby, 1828, *Drepanochirus* Péringuey, 1901, and *Tiniocellus* Péringuey, 1901.

As pointed out by Smith (2006), although Drepanocerina has priority over Oniticellini, the latter is in prevailing usage at the tribal level, hence, according to Article 35.5 of the International Code of Zoological Nomenclature, must not be displaced by the older name.

Janssens (1946) divided the Oniticellini in three subtribes, "Drepanocerides", "Oniticellides" and "Helictopleurides". Subsequently Janssens (1949) changed the names of the subtribes to "Drepanocerina", "Oniticellina" and "Helictopleurina", respectively, but maintained the 1946 criteria for their separation, which are as follows:

- The Helictopleurina, endemic from Madagascar, characterized by the 8th elytral interstria, in the basal third, at least twice as wide as the 7th interstria, and sometimes divided by a short supplementary stria, the scutellum small but always distinct, the body short and convex. In the other two subtribes the 8th elytral interstria is not or only slightly wider than the 7th, the body is elongate and usually depressed.

- The Drepanocerina characterized by the presence of a basal transverse carina on the pygidium, the dorsal face usually with scale-like or felt-like pilosity, the scutellum sometimes indistinct.

- In the Oniticellina the pygidium lacks the basal transverse carina, the dorsal face is either glabrous or with simple pilosity, and the scutellum is small but always distinct.

In his worldwide revision of the Oniticellini, Janssens (1953) did not mention the division in three subtribes that he had proposed in 1946. But, in the key to genera, he implicitly recognized five genera in the Oniticellina: *Euoniticellus* Janssens, 1953, *Tiniocellus* Péringuey, 1901, *Liatongus* Reitter, 1892, *Oniticellus* Dejean, 1821 (there credited to "Serville, 1825"), and *Tragiscus* Klug, 1855. As pointed out by Paulian (1986), *Liatongus* Reitter, 1892, type species *Onthophagus phanaeoides* Westwood, 1840, by subsequent designation of Arrow, 1931, is a subjective junior synonym of *Onthosphaenus* Motschulsky, 1860, type species *Scarabaeus vertagus* Fabricius, 1798, by subsequent designation of Paulian, 1986. Yet, the name *Liatongus* has remained in current usage, and to solve this nomenclatural problem is beyond the scope of the present work.

Paulian (1945) had proposed the genus *Pseudoniticellus*, with type species *Scarabaeus rhadamistus* Fabricius, 1775 by original designation, justifying his proposal as follows: «En dehors du génotype, ce genre comprend, à ma connaissance, *O. egregius* Klug et *O. planatus* Castelnau, d'Afrique tropicale. Arrow qui a signalé l'extraordinaire structure du prosternum d'*O. rhadamistus* Fabricius et l'a rapproché de *O. egregius* Klug, ne paraît pas avoir examiné *O. planatus* Cast. de ce point de vue. Je n'ai retrouvé de structure prosternale comparable chez aucune autre espèce des anciens genres *Oniticellus* et *Liatongus*. Dans les espèces du groupe *O. fulvus* Goeze, le prosternum est très fortement renflé en arrière des hanches antérieures chez les ♂ mais, outre qu'il s'agit là d'un caractère sexuel, absent chez les ♀, le mésosternum est découvert et porte une callosité médiane. Chez les autres espèces le mésosternum peut être découvert ou non, mais le prosternum est, soit simple, soit armé entre les hanches postérieures [sic! clearly, a lapsus for "antérieures"] d'une simple dent verticale à sommet plus ou moins émoussé.» {Besides the genotype, this genus includes, to my knowledge, *O. egregius* Klug and *O. planatus* Castelnau, from tropical Africa. Arrow who has pointed out the extraordinary structure of the prosternum of *O. rhadamistus* Fabricius and has considered it close to *O. egregius* Klug, does not seem to have examined *O. planatus* Cast. in this respect. I have not found a comparable structure in any other species of the old genera *Oniticellus* and *Liatongus*. In the species of the

group of *O. fulvus* Goeze, the prosternum is very strongly bulging behind the fore coxae in the ♂ but, apart from the fact that it is a sexual character, absent in the ♀, the mesosternum is uncovered and has a median callosity. In the other species the mesosternum may or may not be uncovered, but the prosternum is either simple, or armed between the hind [see remark above] coxae with a simple vertical tooth with the tip more or less blunt.}

Janssens (1953: 106) dismissed Paulian's proposal, noting: «Tel que nous le définissons, le genre *Oniticellus* Serville ne comprend plus que les espèces, généralement lisses et brillantes, qui ont été souvent malencontreusement séparées dans des genres, ou des tentatives de genres, différents; la présence d'une saillie posternale bien développée chez certaines espèces très évoluées ne justifie pas une coupe générique particulière, car cette saillie est plus ou moins développée suivant l'évolution des espèces de ce genre: très forte chez *O. egregius* Klug, moins chez *O. rhadamistus* (Fabricius), plus réduite chez *O. planatus* Castelnau, plus faible encore chez *O. cinctus* Serville, et quasi nulle chez *O. formosus* Guérin, *O. pictus* Hausmann et *O. tessellatus* Harold. § Le genre *Pseudoniticellus* proposé par Paulian (l. c. 1945) et pour lequel il choisit comme génotype *O. rhadamistus* (Fabricius), ne peut donc subsister pour cause d'homonymie et de synonymie, puisqu'il inclut dans son genre l'*O. planatus* Castelnau qui est le génotype de *Pseudoniticellus* Kraatz (l. c., 1895).» {As we define it, the genus *Oniticellus* Serville does not include other than the species, usually smooth and shining, that have often been untowardly separated in different genera, or tentative genera: the presence of a prosternal projection well developed in some highly evolved species does not justify a particular generic cut, because that projection is more or less developed according to the degree of evolution of this genus species: very strong in *O. egregius* Klug, less so in *O. rhadamistus* (Fabricius), more reduced in *O. planatus* Castelnau, even more weak in *O. cinctus* Serville, and almost null in *O. formosus* Guérin, *O. pictus* Hausmann and *O. tessellatus* Harold. § The genus *Pseudoniticellus* proposed by Paulian (l. c. 1945) and for which he chose as genotype *O. rhadamistus* (Fabricius), cannot thus be maintained due to homonymy and synonymy, since he includes in his genus *O. planatus* Castelnau which is the genotype of *Pseudoniticellus* Kraatz (l. c., 1895).}

Lumaret & Moretto (1983) studied the larva of *rhadamistus* and concurred in Janssens' opinion.

In fact, Paulian's *Pseudoniticellus* is not only a junior homonym of *Pseudoniticellus* Kraatz, 1895 (type species *Oniticellus planatus* Castelnau, 1840, by monotypy) but also a junior objective synonym of *Scaptodera* Hope, 1837 (type species *Scarabaeus rhadamistus* Fabricius, 1775, by monotypy). The discussion of whether Paulian's 1945 proposal should or should not be accepted is beyond the scope of the present work, but those who believe that the generic or subgeneric separation of *rhadamistus* (Fabricius, 1775) from *cinctus* (Fabricius, 1775) is justified, should use the name *Scaptodera* Hope, 1837 for the genus or subgenus including *rhadamistus*.

To the five genera implicitly included by Janssens (1953) in the Oniticellina it is necessary to add the three genera described since 1953, and the genera *Scaptocnemis* Péringuey, 1901 and *Anoplodrepanus* Simonis, 1981 transferred from the Drepanocerina to the Oniticellina by Simonis (1983)

and Krikken (2009), respectively. Davis *et al.* (2008), probably overlooking Simonis' 1983 work, maintained *Scaptocnemis* in the subtribe Drepanocerina, but remarked that: «It may be misplaced in the Drepanocerina as the sister genus is probably *Tiniocellus*, which is a member of the subtribe Oniticellina.»

Besides *Paralio tongus* Balthasar, 1963, an unnecessary replacement name for *Pseudoniticellus* Paulian, 1945 since *Scaptodera* Hope, 1837 is available, the following three genus-group names were created subsequently to Janssens' 1953 revision:

- *Paroniticellus* Balthasar, 1963, proposed as a subgenus of *Oniticellus* Dejean, 1821, but currently ranked as a genus, for *Onitis festivus* Steven, 1809, a species from the Middle East and southeastern Europe that d'Orbigny (1916) had transferred from *Oniticellus* to *Liatongus*, where Janssens (1953) maintained it.

- *Yvescambefortius* Ochi & Kon, 1996 for *Oniticellus sarawacus* Gillet, 1926, an Asian species that Janssens (1953) had transferred to *Tiniocellus*.

- *Attavicinus* Philips & Bell, 2008 for *Oniticellus monstruosus* Bates, 1887, a Mexican species that Janssens (1953) had transferred to *Liatongus*.

Moreover, with the recent transfer by Génier (2009) of the neotropical genus *Eurysternus* Dalman, 1824 to the Oniticellini, and the corresponding downgrade of the Eurysternini Vulcano, Martínez & Pereira, 1960 to the rank of subtribe, the Oniticellini currently include four subtribes.

The six species here ascribed to the genus *Tiniocellus* - *spinipes* (Roth, 1851), *imbellis* (Bates, 1891), *setifer* (Kraatz, 1895), *praetermissus* sp. n., *dolosus* sp. n., and *euryppygus* sp. n. - form a morphologically homogeneous group suggesting a close phylogenetic relationship. A detailed list of shared characteristics is provided below in the re-description of the genus. Here I highlight the following set of characteristics whose combination is unique amongst the Oniticellina, justifying their placement on a genus of their own:

- **Head** (Fig. 3-8) mutic, the clypeo-genal sutures finely engraved, the inner edges of eyes somewhat elevated, cariniform; fore edge of clypeus moderately reflexed, emarginate at middle shallowly in males, more deeply so in females; occiput with a median longitudinal carina running from the crest of the vertex to the transverse carina of the occiput.

- **Pronotum** mutic, slightly narrower than the elytra, weakly and regularly convex except for a shallow and short longitudinal furrow in front of the scutellum; sides and fore edge thinly margined, base not margined; densely covered with large, shallow punctures bearing recumbent setae; with a few scattered moderately long, erect or almost erect setae on the antero-lateral angles and sometimes also on fore edge; punctures, except those on disc, with the fore edge raised; integument strongly shagreened both inside the punctures and between them.

- **Prosternum** (Fig. 1) not produced behind the fore coxae, identical in the two sexes.

- **Scutellum** small, triangular or pentagonal, longer than wide, glabrous, the integument micro-striate.

- **Elytra** with shallow, thinly carinate on either side, shallowly punctate striae, the punctures crenating the interstriae; the latter granulose, each granule with a setiferous puncture at its hind edge, the setae recumbent; besides, some or all odd interstriae here and there with a few larger, horseshoe-

shaped granules enclosing a puncture bearing a dirty white long spatulate erect setae (see below); 5th interstria as flat as the adjacent ones; 8th interstria narrower than the epipleura; all odd interstriae with, on the apical declivity of the elytron, a short row of merged punctures with the fore edge raised, bearing a tuft of two to six dirty white long erect setae.

- **Pygidium** (Fig. 9-12) moderately convex, always longer than wide in males and wider than long in females, with a shallow, longitudinal, median furrow in both sexes.

- **Fore tibiae** with the apex forming a right angle with the inner edge in males, slanting forward in females; underside with a row of setiferous punctures parallel to the outer edge, the setae particularly long behind the tip of the outer teeth.

- **Hind tibiae** with the lower corner of the apical plate produced in a digitiform process, the spur inserted much closer to the tarsus than to the tip of the lower corner.

- **Long spatulate erect setae.** In addition to the above set of characteristics, they share an arrangement of long dirty white spatulate erect setae, both dorsally and ventrally, that amongst the Oniticellini is unique to them. These setae are arranged as follows. On the elytra: two to eight, most frequently four to six on the 1st interstria, sparsely set most frequently along its whole length, sometimes on the distal half only; one to five, most frequently one to three, rarely none on the 5th interstria, sparsely set most frequently on its posterior half (in some species also one to four on the 3rd interstria, and one or two on the 7th); most frequently the elytra are asymmetrical as to the number and position of these setae. On the pygidium a transverse basal row, plus a few scattered ones on each side of the median longitudinal furrow. Ventrally: a sparsely set transverse row on each abdominal sternite; one on the tip of the middle trochanters, and two on the tip of the hind trochanters; a row of four to six closely set on the inner edge of the hind coxae; a sparsely set, longitudinal row of five to eight on the lower face of the hind femurs. Similar setae are found in some genera of Drepanocerina, but always with a different arrangement.

The two species here transferred to *Nitiocellus* gen. n., *panthera* and *collarti*, lack all those long spatulate erect setae, having moderately long setae only on the apical declivity of the 1st elytral interstria, and on the apical callosities of the 3rd and 5th elytral interstriae. Besides, they differ from the six species here ascribed to *Tiniocellus* by a number of other characteristics, of which I highlight the following:

- **Head** (Fig. 22-23) with clypeo-genal sutures thinly cariniform; space between the crest of the vertex and the transverse carina of the occiput without a median longitudinal carina.

- **Pronotum** fairly convex, slightly wider than the elytra, with four black, glabrous spots; densely covered with small, setiferous punctures, the setae recumbent, the integument weakly shagreened.

- **Prosternum** (Fig. 2) mildly produced behind the fore coxae in a pyramidal process that covers part of the mesosternum, identical in the two sexes.

- **Elytra** with striae not carinate on either side; interstriae not granulose but with tiny setiferous punctures; 5th interstria moderately convex; 8th interstria wider than the epipleura; 1st, 3rd and 5th but not the 7th elytral interstriae with a tuft of moderately long setae on the apical declivity.

- **Pygidium** (Fig. 24-25) parabolic, longer than wide, identical in shape and size in both sexes, the edges slightly

raised giving the aspect of a concave pygidium; in the middle with two elongate, oblique, shallow callosities converging posteriorly.

- **Fore tibiae** with the apex slanting forward in both sexes; on the underside, at the base of each outer tooth with a short, oblique carina topped with a comb of long setae.

The genera *Tiniocellus* and *Nitiocellus* n. can be separated from each other and from all the other genera of Oniticeellini with the help of the following key.

Key to genera of Oniticeellini

1. Antennae 9-segmented. Pygidium with a basal transverse carina, and a longitudinal median sharp-edged groove above the carina. Central and South America subtribe Eurysternina Vulcano, Martínez & Pereira, 1960
- Antennae 8-segmented. Pygidium with or without basal transverse carina but, if carinate without a longitudinal median groove above the carina 2
2. Pygidium with a basal transverse carina. Outer teeth of fore tibiae not carinate on the underside subtribe Drepanocerina Lansberge, 1875
- Pygidium either with or without basal transverse carina but, if carinate outer teeth of fore tibiae carinate on the underside 3
3. Eighth elytral interstria very wide, at least twice wider than the 7th interstria basally. Pygidium without basal transverse carina. Abdominal sternites not protruding from elytra, not forming a groove in the upper part of their sides, but merely angulate there. Madagascar subtribe Helictopleurina Janssens, 1946
- Eighth elytral interstria not wider or only slightly wider than 7th interstria. Abdominal sternites protruding or not from elytra. Subtribe Oniticeellini 4
4. Prosternum without sutural line separating proepisternum from proepimeron. Pronotum entirely granulose *Attavicinus* Philips & Bell, 2008
- Prosternum with a distinct sutural line separating proepisternum from proepimeron. Pronotum not entirely granulose 5
5. Pygidium with a basal transverse carina. Elytral striae with a thin sulcus on either side. Seventh elytral stria adjoining the epipleural carina at approximately one third of the elytron length, the 8th interstria circumscribed to the basal third of the elytron *Scaptoconemis* Péringuey, 1901
- Pygidium without basal transverse carina. Elytral striae without sulcus on either side. Seventh elytral stria not adjoining the epipleural carina, the 8th interstria reaching the apex of elytron 6
6. Metasternum anteriorly with a carina on either side of the midline, the carinae running from the meso-metasternal suture, next to the inner edge of the middle coxae, in a curve inwardly, then almost parallel to the inner edge of the middle coxae, till approximately halfway the length of the middle coxae. Outer teeth of fore tibiae carinate on the underside, these carinae joining the longitudinal carina of the tibia. First segment of middle and hind tarsi distinctly longer than last four segments together (= *Deronitis* Arrow, 1933) *Tragiscus* Klug, 1855

- Metasternum without carinae. Outer teeth of fore tibiae either not carinate on the underside or, if carinate, the carinae not reaching the longitudinal carina of the tibia. First segment of middle and hind tarsi at most as long as the last four segments together 7
- 7. Pronotum and elytra densely setose all over 8
- Pronotum and elytra either glabrous, sparsely setose, or only partially setose 12
- 8. Abdominal sternites entirely covered by the elytra, not forming a groove in the upper part of their sides, but merely angulate there *Anoplodrepanus* Simonis, 1981
- Abdominal sternites protruding from elytra, the upper part of their sides more or less strongly folded such that they form a groove that accommodates the outer edge of the elytra at rest 9
- 9. Long spatulate erect setae present both dorsally and ventrally, arranged as follows: on the elytra: two to eight, most frequently four to six on the 1st interstria, sparsely set along its whole length; one to five, most frequently one to three, rarely none on the 5th interstria, sparsely set most frequently on its posterior half (in some species also one to four on the 3rd interstria, and one or two on the 7th); on the pygidium a transverse, basal row plus a few scattered ones on each side of the median longitudinal furrow; on the abdominal sternites a sparsely set transverse row; one on the tip of the middle trochanters, and two on the tip of the hind trochanters; a row of four to six closely set on the inner edge of the hind coxae; a sparsely set, longitudinal row of five to eight on the ventral face of the hind femurs. Elytral striae carinate on either side. Hind tibiae with the lower corner of the tibial plate produced, beyond the insertion of the spur, in a digitiform process *Tiniocellus* Péringuey, 1901
- Long spatulate erect setae absent both dorsally and ventrally, the elytra without any long setae except on the apical declivity. Elytral striae not carinate on either side. Hind tibiae with the lower corner of tibial plate produced or not 10
- 10. Pronotum with four black glabrous spots, two on the midline, and one on either side in front of the posterolateral angles. Upperside dull, underside either dull or shining 11
- Pronotum without black glabrous spots. Both upperside and underside shining. Head, pronotum and elytra densely setose, the setae thin and flexible, short everywhere except on the apical declivity of elytra. Even elytral interstriae setose all over, the setae on the 2nd and 4th interstriae recumbent towards the side, those on interstriae 6th to 8th recumbent towards the middle; 1st interstria with a row of setae along the outer edge; 3rd and 5th interstriae with a row of setae on either side, glabrous and impunctate in the middle. Underside with long thin flexible setae particularly dense on the sides of metasternum, and on metepimera and metepisterna. Outer teeth of fore tibiae not carinate underside, with a row of setiferous punctures parallel to outer edge. Lower corner of the tibial plate of hind tibiae not produced, the spur inserted slightly closer to the tarsus than to the tip of the lower corner *Paroniticeillus* Balthasar, 1963

11. Black glabrous spots on the midline of pronotum widely separated, the anterior close to the fore edge of pronotum, the posterior slightly behind the middle. Underside of outer teeth of fore tibiae not carinate, with a single puncture bearing a recumbent seta. Apical declivity of elytra with a longitudinal comb of long setae on the 1st interstria. Pygidium with a black glabrous spot in the middle, without callosities. Spur of hind tibiae inserted on the tip of lower corner of the tibial plate, which is not produced.....
 *Yvescambefortius* Ochi & Kon, 1996
- Black glabrous spots on the midline of pronotum close together on either side of the middle. Underside of outer teeth of fore tibiae with a short, oblique carina topped with a comb of long setae. Apical declivity of elytra with tufts of long setae on the 1st, 3rd and 5th interstriae. Pygidium without black glabrous spot, with callosities. Lower corner of the tibial plate of hind tibiae hardly to moderately produced, the spur inserted closer to the tarsus than to the tip of the lower corner..... *Nitiocellus* gen. n.
12. Spur of hind tibiae inserted on the tip of the lower corner of the apical plate, which is not produced. Prosternum bulging behind fore coxae, the bulge large in males, small in females. In the Old World species, but not in the West Indies *E. cubiensis* (Castelnau, 1840), the genae protrude more or less strongly from the sides of clypeus.....
 *Euoniticellus* Janssens, 1953
- Spur of hind tibiae inserted between the tarsus and the lower corner of the tibial apical plate, which is produced or not..... **13**
13. Sides of pronotum sinuate before postero-lateral angles. Margin of sides of pronotum thin. (= *Onthosphaenus* Motschulsky, 1860; see comment above).....
 *Liatongus* Reitter, 1892
- Sides of pronotum not sinuate before postero-lateral angles, either straight or convex. Margin of sides of pronotum broad. Upperside glabrous except on the clypeus and apex of elytra. (= *Oniticellus* Lepeletier de Saint-Fargeau & Audinet-Serville, 1828; *Scaptodera* Hope, 1837; *Pseudoniticellus* Kolbe, 1895; *Pseudoniticellus* Paulian, 1945; *Paraliatongus* Balthasar, 1963).....
 *Oniticellus* Dejean, 1821

4. Genus *Tiniocellus* Péringuey, 1901

Tiniocellus Péringuey, 1901: 116.

Tiniocellus: Kolbe: 1905: 547; 1914: 304. Péringuey: 1908a: 693; 1908b: 706. d'Orbigny, 1916: 29. Janssens: 1953: 56; 1956: 346. Ferreira: 1954: 247; 1955: 84, 89; 1958: 493; 1962a: 10, 34; 1962b: 128, 158; 1966: 47; 1967a: XLI; 1967b: 1149; 1972: 368, 398. Balthasar, 1963a: 107; 1969: 63. Halffter & Matthews, 1966: 255. Cambefort, 1982b: 142; 1984: 101. Halffter & Edmonds, 1982: 136. Cambefort & Lumaret, 1983: 548. Walter, 1987: 309. Hanski & Cambefort, 1991b: 473. Ochi & Kon, 1996: 29, 35. Philips *et al.*, 2004: 86, 87, and figs. 6, 7, 8, 9, 12b, 19c, 20e. Bezděk & Krell, 2006: 157. Monaghan *et al.*, 2007: 691. Moretto, 2007: 121. Davis *et al.*, 2008: 237. Génier, 2009: 16.

As synonym of *Oniticellus*: Arrow, 1908: 183. Boucomont, 1921: 227; 1923: 54. Boucomont & Gillet, 1927: 104. Arrow, 1931: 375. Janssens, 1939a: 11.

As subgenus of *Oniticellus*: Müller, 1940: 97. Krajčik, 2006: 77 (with a question mark).

TYPE SPECIES: *Oniticellus spinipes* Roth, 1851, by monotypy.

ETYMOLOGY AND GENDER: an anagram of *Oniticellus*, gender masculine.

ORIGINAL DESCRIPTION. Péringuey (1901), in the key to genera of the tribe Coprini, page 108: «A². Second joint of labial palpi longer than the basal one, the apical one small, subulate, often hidden. § B⁴. Elytra with eight striae and a lateral fold. § a¹. Antennae eight-jointed. § b¹. Anterior tibiae with spur and tarsi in both sexes. Body depressed, very hairy, elytra not distinctly striate... *Drepanocerus. Tiniocellus.*», and in the descriptive text, page 116: «Gen. TINIOCELLUS, n. gen. § Buccal organs of *Drepanocerus*, which it resembles somewhat in general appearance, being very plane on the upper side; the legs are also similarly shaped; the spurs of the intermediate and posterior tibiae are very long; the lateral fovea on the prothorax is also wanting or extremely rudimentary, and there is a visible scutellum.»

RE-DESCRIPTION:

Body moderately elongate, approximately twice longer than wide, its length varying from 4.7 to 8.3 mm, its width varying from 2.4 to 3.9 mm, weakly convex; setose both dorsally and ventrally, the setae moderately dense, their colour often matching, albeit not always, the colour of the integument.

Head (Fig. 3-8) mutic, shining with metallic hue narrowly behind the reflexed fore edge of clypeus, elsewhere dull, with sparsely set setiferous punctures, the setae erect on clypeus and genae, recumbent on frons and vertex; clypeo-genal sutures finely engraved, prolonged posteriorly behind the genae into the frons; without any visible separation of clypeus from frons, and of frons from vertex; inner sides of eyes slightly elevated, cariniform; clypeus with fore edge moderately reflexed, shallowly emarginate in males, more deeply so in females; genae protruding from eyes, angulate externally, their outer edge thick, almost vertical, with a row of closely set setiferous punctures, the setae long; vertex terminating posteriorly in a horizontal crest over the occiput, occupying the interval between the eyes, more or less widely but very shallowly emarginate at middle, topped with a row of setiferous punctures, the setae recumbent; occiput with a median longitudinal carina running from the crest of the vertex to the transverse carina of the occiput, densely and rugosely punctured and setose on either side of the longitudinal carina, the setae thin and short; labial palpi with 1st segment produced inwardly, 2nd segment longer and wider than the 1st, the 3rd segment tiny; antennae 8-segmented, scape as long as or somewhat longer than the four following segments together, 2nd segment globular, 3rd segment elongate, considerably longer than the two following segments together; contour of the head with a fringe of setae short on clypeus, long on genae.

Pronotum mutic, with a shallow median basal furrow occupying approximately half its length, fore edge and sides thinly margined, base not margined; fore edge fairly concave matching the shape of the rear of the head; antero-lateral angles obtuse and blunt; sides, in dorsal view, gently curved, the postero-lateral angles inexistent as the curve of the base follows without discontinuity that of the sides; base slightly convex, roughly as wide as the base of

the elytra; pronotum widest approximately at one third of its length, with a small and shallow callosity on either side approximately at the level where it is widest; anterior angles and sometimes also fore edge and sides with sparsely set, moderately long, erect or almost erect, aciculate setae; densely covered by large, shallow, setiferous punctures, the setae aciculate and recumbent inserted behind the fore edge of the punctures; fore edge of the punctures raised everywhere except on disc; integument strongly shagreened inside the punctures as well as between them.

Scutellum small, triangular to pentagonal, longer than wide, glabrous, the integument micro-striate.

Elytra with eight moderately wide, very shallow striae almost indistinctly punctate were it not for the punctures crenating the interstriae, thinly carinate on either side, the 7th stria more or less abridged both anteriorly and posteriorly, the 8th stria, running alongside the epipleural carina, contours the apex of elytron and joins the 2nd stria, the 3rd stria joined to the 4th, and the 5th to the 6th at the apical declivity; 1st interstria moderately but progressively more convex from base to apex, shinier than the other interstriae which are flat and dull due to their micro-reticulate integument; umbone fairly strong; apical callosity on 5th interstria weak, usually darker and shinier than the surrounding surface; 8th interstria narrower than the epipleura, progressively narrowed from the umbone towards the middle of the elytron, thereafter very narrow and partially merged with the 7th stria; epipleura flat, vertical; epipleural carina sharp, with a row of tiny setiferous punctures on the outer side of the edge, the setae very short; interstriae fairly densely covered with small granules loosely arranged in one to three rows per interstria, each granule with a setiferous puncture on its hind edge, the setae recumbent; besides, at least the 1st and 5th interstriae, sometimes also the 3rd and 7th with a few sparsely set large punctures with the fore edge raised into a horse-shoe shape, bearing a long spatulate erect seta; all odd interstriae with a tuft of two to six long erect setae on the apical declivity; whereas the recumbent setae often match the colour of the integument, i.e., they vary from light yellow to black, the setae of the tufts on the apical declivity and the long spatulate erect setae are dirty white; the arrangement of the long, spatulate, erect setae varies both intra- and inter-specifically, but overall it is as follows: two to eight, most frequently four to seven on the 1st interstria, sparsely set along its whole length; one to five, most frequently one to three, rarely none on the 5th interstria, sparsely set most frequently on its posterior half; besides these that are present in all species, the distal quarter of 3rd interstria presents one to four such setae in *dolosus* sp. n., and none to three in *imbellis*, and the distal third of the 7th interstria one or two in *dolosus* sp. n. and none to two in *spinipes* (as pointed out below, *dolosus* sp. n. is the only species always with this type of setae on the 3rd and 7th interstriae); most frequently the long spatulate erect setae are not arranged symmetrically over the two elytra, both in position and in number.

Pygidium (Fig. 9-12) not carinate basally, moderately convex, longer than wide in males, wider than long in females, with a shallow median longitudinal furrow widened apically in both sexes; with a basal transverse row of fairly closely set long spatulate erect setae, and fairly densely covered, on each side of the furrow, with thin and short,

recumbent, aciculate setae intermixed with a few long spatulate erect setae irregularly arranged.

Prosternum (Fig. 1) not produced behind the fore coxae, identical in both sexes; proepimera posteriorly nearly vertical, sparsely granulose and setose, with a row of closely set setiferous punctures close to the upper edge, the setae short and thin, and slightly below a second row of sparsely set large punctures bearing long and thick setae, the punctures becoming more closely set forward to the lateral angle of the prothorax, and joining a third row of closely set punctures bearing long setae that runs to the antero-lateral angle of the prothorax; these long setae are visible from above as a fringe; suture separating proepimeron from proepisternum cariniform, joining the row of setiferous punctures somewhat behind the antero-lateral angle, curved forward at that point and converging to the latter; proepisternum carinate on the fore edge, the carina vanishing before reaching the antero-lateral angle of the prothorax.

Mesosternum short, not covered by the prosternum, densely punctate and setose, carinate longitudinally at middle, the carina shallow and occupying the anterior half to three quarters of mesosternum length.

Metasternum with sparse long, erect, filiform setae on the anterior declivity and along the inner edge of middle coxae, elsewhere with short, recumbent, aciculate setae; laterally sparsely granulose on a microreticulate dull integument; disc more or less densely punctate, the punctures mostly large and shallow, the integument microreticulate and dull inside the punctures, smooth and shining in the intervals; disc, except in the cases where it is occupied by a long depression (males of *eurypygus* sp. n.), with a median longitudinal smooth and shining line which terminates posteriorly on a depression varying from extremely shallow and small (both sexes of *spinipes*, *setifer* and *dolosus* sp. n. and females of *eurypygus* sp. n.) to large and deep (males of *imbellis* and *praetermissus* sp. n.), and often with a smooth and shining dark patch on each side approximately at the level of the tip of the middle coxae (the shape and size of these areas are extremely variable intraspecifically); metepisterna and metepimera sparsely granulose and setose on a shagreened integument, the setae recumbent; metepisterna with a row of sparsely set, long, erect setae on the fore edge.

Abdominal sternites with shagreened integument, fairly densely covered with short, aciculate, recumbent setae, with a transverse row of sparsely set long spatulate erect setae, and a comb of fairly long setae on the posterior half of the upper edge. Abdominal sternites much shorter in the middle than laterally in males, only slightly shorter in the middle than laterally in females. Sixth sternite along the midline slightly shorter than the 5th in males, except in *eurypygus* sp. n. (Fig. 13) where the 4th and 5th sternites wither away before reaching the midline; in females 6th sternite almost as long as 4th and 5th sternites together, except in *eurypygus* sp. n. (Fig. 14) where it is almost as long as the 3rd, 4th and 5th sternites together.

Fore coxae with a few very long filiform setae on the inner tip.

Fore femurs with closely set stiff, alternating short and long setae on the upper fore edge, the lower fore edge margined; underside with moderately sparse short recumbent

aciculate setae intermixed with a few long erect filiform setae close to the hind edge.

Fore tibiae with the apex forming a right angle with the inner edge in males, an obtuse angle in females; outer edge with four teeth, crenulate or not between the base and the 1st outer tooth; upperside with a median longitudinal row of setiferous punctures, and more or less clearly sulcate over the outer edge, the sulcus with setiferous punctures; underside with a median longitudinal carina ending anteriorly in a denticle facing the insertion of the tarsus, the denticle bearing a tuft of long setae, the inner edge crenated by a row of setiferous punctures; underside of the outer teeth not carinate, with tufts of long setae.

Fore tarsi thin and short, the 1st segment orbiculate in males, elongate in females, the 5th segment as long as the preceding three together in both sexes.

Middle femurs underside with moderately sparse short recumbent aciculate setae, the trochanters with a long spatulate seta on its tip.

Middle tibiae with four transverse carinae on the outer face bearing strong spiniform setae, and on the inner edge two punctures bearing a strong spiniform seta each; upper spur twice as long as the lower one, as long as or slightly longer than the 1st tarsal segment.

Hind coxae on the inner edge with a row or four to six contiguous punctures bearing long spatulate setae.

Hind femurs underside with moderately sparse short recumbent aciculate setae, and a longitudinal row of five to eight strong punctures bearing long spatulate erect setae much longer than the remaining setae on the femur, this row situated somewhat behind the middle, the punctures usually but not always perfectly aligned; trochanters bearing two long spatulate setae on its tip. In two species, *praetermissus* sp. n. and *eurypygus* sp. n., the postero-inferior edge of the hind femurs bears basally one to three long setae.

Hind tibiae with on the upper, outer and lower edges three to four dentiform punctures, each bearing one or two strong spiniform setae; lower tip of the tibial plate produced in a long digitiform process, the spur inserted closer to the tarsus than to the tip of the process; spur varying from as long as 1st tarsal segment to nearly as long as the first two tarsal segments together.

Middle and hind tarsi longer than the respective tibiae, the 1st segment as long as the three following segments together; 1st segment with four to six spiniform setae on either side, and on the upper face close to the outer edge with a row of three to six punctures bearing extremely thin and short setae; 2nd, 3rd and 4th segments with spiniform setae only at the tip.

SECONDARY SEXUAL DIMORPHISM:

- Clypeus with the emargination of fore edge shallow in males, deep in females.

- Fore tarsi with 1st segment globular, as long as or shorter than the 2nd in males, elongate, longer than the 2nd segment in females. This characteristic is shared by all Oniticellini, as well as most of the genera currently ranged in the Onthophagini including the type species of the type genus, i.e., *Onthophagus taurus* (Schreber, 1759).

- Fore tibiae with apex forming with the inner edge a right angle in males, an obtuse angle in females; spur slightly curved downwards in males, more strongly so in females.

- Pygidium (Fig. 9-12) longer than wide in males, wider than long in females.

- Metasternum: discal concavity, when present, either somewhat larger and deeper in males than in females (*imbellis* and *praetermissus* sp. n.), or much larger and deeper in males than in females (*eurypygus* sp. n.).

- Abdominal sternites substantially shorter in the middle than laterally in males, only slightly shorter in the middle than laterally in females. Sixth sternite along the midline slightly shorter than the 5th in males, except in *eurypygus* sp. n. (Fig. 13) where, as already pointed out above, the 4th and 5th sternites wither away before reaching the midline; in females 6th sternite almost as long as 4th and 5th sternites together, except in *eurypygus* sp. n. (Fig. 14) where it is almost as long as 3rd, 4th and 5th sternites together.

DIAGNOSTIC FEATURES:

The features enabling the separation of the species of *Tinioceillus* from each other are the following:

a) Shape of the head:

- Genae (Fig. 3, 8) not protruding from sides of clypeus at clypeo-genal junction: *spinipes* and *eurypygus* sp. n. (rarely in *spinipes* the sides of the head are slightly notched or sinuate at the clypeo-genal junction).

- Genae (Fig. 4-7) protruding from sides of clypeus at the clypeo-genal junction: *imbellis*, *setifer*, *dolosus* sp. n., and *praetermissus* sp. n.

b) Punctuation and sculpture of integument on frons and vertex (x 100):

- Punctuation (Fig. 3-4) dense, double, the large punctures setiferous, the small ones distinct, the integument between the punctures weakly microreticulate: *spinipes*, and *imbellis*.

- Punctuation (Fig. 5-7) sparse, nearly uniform, all punctures setiferous, the integument between the punctures strongly shagreened: *setifer*, *dolosus* sp. n., and *praetermissus* sp. n.

- Punctuation (Fig. 8) sparse, nearly uniform, all punctures setiferous, the integument between the punctures weakly shagreened: *eurypygus* sp. n.

c) Colour pattern of pronotum:

- Disc always with two distinct testaceous patches on either side of the midline; sometimes dark areas reduced, the testaceous patches joined together and joined by the testaceous border of the pronotum only anteriorly or both anteriorly and posteriorly: *spinipes* and *eurypygus* sp. n.

- Testaceous patches on the disc of pronotum varying from very distinct to virtually indistinct: *dolosus* sp. n.

- Disc always without testaceous patches, more or less extensively dark; sometimes dark area small, sometimes pronotum almost entirely dark: *imbellis*, *setifer*, and *praetermissus* sp. n.

d) Third elytral interstria:

- Without any long erect setae other than the tuft on apical declivity: *spinipes*, *setifer*, *praetermissus* sp. n., and most specimens of *eurypygus* sp. n.

- Always with long erect setae (one to four) besides the tuft on apical declivity: *dolosus* sp. n.

- In *imbellis* the 3rd interstria may or may not present long erect setae (one to four) besides the tuft on apical declivity; in *eurypygus* sp. n. there is very rarely one such setae on the 3rd interstria on one of the elytra or, even more rarely, on both elytra.

e) Seventh elytral interstria:

- Without any long erect setae other than the tuft on apical declivity: *imbellis*, *praetermissus* sp. n., and *eurypygus* sp. n.
- Always with long erect setae (one or two) besides the tuft on apical declivity: *dolosus* sp. n.
- In *spinipes* and *setifer* the 7th interstria may or may not present long erect setae (one or two) besides the tuft on apical declivity.

f) Width of elytral striae:

- Striae relatively narrow, the width of 3rd stria basally, taken as a reference, approximately one fifth of the width of 4th interstria: *spinipes*, and *eurypygus* sp. n.
- Striae relatively wide, the width of 3rd stria basally, taken as a reference, approximately one third of the width of 4th interstria: *imbellis*, *setifer*, *dolosus* sp. n., and *praetermissus* sp. n.

g) Granulation on elytral interstriae:

- Most granules nearly hemispheric: *spinipes*, *setifer*, *dolosus* sp. n., *praetermissus* sp. n., and *eurypygus* sp. n.
- Most granules somewhat elongate and flattened: *imbellis*.

h) Metasternum:

- Disc flat in both sexes, at most with a small and very shallow, almost indistinct depression at the end of the impunctate and shining midline, and somewhat anterior to the base: *spinipes*, *setifer*, and *dolosus* sp. n.
- Disc with a glabrous and impunctate spoon-shaped concavity, larger and deeper in males than in females, adjoining the base in males, slightly anterior to the base in females: *imbellis*, and *praetermissus* sp. n.
- Disc of metasternum in males with two abutting concavities, the anterior elongate and deep, punctate and setose laterally, the posterior adjoining the base, transverse and shallow, sparsely punctate and setose all over; in females with a small to very small, often hardly distinct, round to slightly elongate, impunctate and glabrous concavity somewhat anterior to the base: *eurypygus* sp. n.

i) Abdomen:

- Pygidium (Fig. 9-10) not very large, not wider basally than elytral interstriae 1st to 5th of both elytra together at apical declivity in both sexes; all abdominal sternites reaching the abdominal midline in both sexes: *spinipes*, *imbellis*, *setifer*, *dolosus* sp. n., and *praetermissus* sp. n.
- Pygidium (Fig. 11-12) very large, as wide at base as elytral interstriae 1st to 6th of both elytra together at apical declivity in both sexes; in males pygidium (Fig. 13) very long, strongly turned inwardly, almost reaching to the hind coxae, the 4th and 5th abdominal sternites withered away before reaching the abdominal midline: *eurypygus* sp. n.

j) Hind femurs:

- Postero-inferior edge without any setae: *spinipes*, *imbellis*, *setifer*, and *dolosus* sp. n.
- Postero-inferior edge basally with one to three long setae: *praetermissus* sp. n., and *eurypygus* sp. n.

k) Aedeagus:

- Phallobase (Fig. 15-17) three to four times longer than wide; parameres weakly sclerified, the lateral sclerification not ending at the tip in a hook-like process, their basal apophysis small: *spinipes*, *imbellis*, and *setifer*. The differences between the aedeagi of these three species are too subtle to be of help for their separation.

- Phallobase (Fig. 18) approximately two and half times longer than wide; parameres weakly sclerified, the lateral sclerification not ending at the tip in a hook-like process, their basal apophysis large: *dolosus* sp. n.

- Phallobase (Fig. 19) approximately two and half times longer than wide; parameres weakly sclerified, the lateral sclerification ending at the tip in a hook-like process facing outwardly: *praetermissus* sp. n.

- Phallobase (Fig. 20) approximately twice longer than wide; parameres strongly sclerified, relatively long, approximately 1.7 times longer than their width at base (lateral view): *eurypygus* sp. n. nominotypical subspecies.

- Phallobase (Fig. 21) approximately twice longer than wide; parameres strongly sclerified, relatively short, approximately 1.3 times longer than their width at base (lateral view): *eurypygus transdrakensbergensis* ssp. n.

IMMATURE STAGES: Cambefort & Lumaret (1983) described a first instar larva issued from the nesting of specimens collected in Lamto, Ivory Coast, and reared in laboratory at Montpellier, France. They identified those specimens as “*T. spinipes*” but, most probably they were either *setifer* or *praetermissus* sp. n., the only two species known to occur in Ivory Coast.

ETHOLOGY AND PHENOLOGY: According to the information provided in the labels of the examined specimens, the adults of most species are active throughout the year. They were collected in a wide range of excrements: baboon, buffalo, cow, dog, elephant, hippopotamus, horse, human, pig, rhinoceros, roan antelope, wart hog, and zebra.

Cambefort (1982b) suggested that the nest of *Tinioceillus* is of the onthophagan type: «My limited observations of *T. spinipes* (Roth), a common tropical African species, suggest that it nests in the onthophagan manner». This was confirmed by Cambefort & Lumaret (1983) who, on specimens from Lamto, Ivory Coast, that they identified as “*T. spinipes*” (see above), wrote: «Une série d'exemplaires, envoyés à Montpellier, ont montré un début de nidification apparemment du type onthophagien.» {A series of specimens sent to Montpellier, started making a nest apparently of the onthophagan type}. According to Davis *et al.* (2008) «*T. spinipes* constructs typical compound Type 1 nests with separate brood ovoids at the branched tips of the tunnel», and described (page 25) the compound Type 1 nests as «Various structured subterranean nests constructed under droppings characteristic of some, mostly slow-burying Dichotomiini, Coprini, Oniticellini, and all Onthophagini and Onitini, which may be: ... (b) Compound, comprising several brood ovoids, either in linear series along a tunnel, each separated by earth or each packed into the end of a branch in the tunnel, sometimes with two or more in the same branch separated by earth.»

KEY TO THE SPECIES OF *TINIOCELLUS*

1. Genae (Fig. 4-7) protruding from sides of clypeus at clypeo-genal junction. Pronotum with or without two longitudinally aligned testaceous patches on each side of the midline. Pygidium not very large, not wider at base than elytral interstriae 1st to 5th of the two elytra together at apical declivity..... **4**
- Genae (Fig. 3, 8) not protruding from sides of clypeus at clypeo-genal junction. Pronotum with two longitudinally

- aligned testaceous patches on each side of the midline; in light coloured individuals these patches may be joined together and may join the testaceous border of the pronotum anteriorly and posteriorly..... 2
2. Pygidium (Fig. 9-10) not very large, not wider at base than elytral interstriae 1st to 5th of the two elytra together at apical declivity, longer than wide in males but not strongly curved inwards; the 4th and 5th abdominal sternites reaching abdominal midline in both sexes. Head (Fig. 3) with integument weakly microreticulate, the punctation on frons and vertex double, the large punctures setiferous, the small non-setiferous punctures distinct. Third elytral interstria without long erect setae, other than the tuft on apical declivity; 7th elytral interstria with or without long erect setae, other than the tuft on apical declivity. Metasternum without discal concavity, at most with a very shallow, almost indistinct depression. Hind femurs without any setae on postero-inferior edge. Length 4.8 - 7.7 mm. (= *Oniticellus variegatus* Fåhraeus, 1857; *Oniticellus humilis* Gerstaecker, 1871; *Tiniocellus asmarensis* Balthasar, 1968). Eastern, central and southern Africa: Angola, Botswana, DRC, Eritrea, Ethiopia, Kenya, Malawi, Mozambique, Namibia, RSA, Somalia, Tanzania, Zambia, and Zimbabwe. A single record from western Africa, Burkina Faso, requiring confirmation
.....*spinipes* (Roth, 1851)
 - Pygidium (Fig. 11-12) very large, as wide at base as elytral interstriae 1st to 6th of the two elytra together at apical declivity; wider than long in females; longer than wide in males and strongly curved inwards, the 4th and 5th abdominal sternites withered away before reaching the abdominal midline (Fig. 13). Metasternum with a small discal concavity in females, with a large concavity split in two in males. Hind femurs with one or two long setae basally on the postero-inferior edge: *eurypygus* sp. n., containing two subspecies: 3
 3. Males: parameres of aedeagus long, approximately 1.7 times longer than their width at base (lateral view) (Fig. 20). Females virtually undistinguishable from those of next subspecies. Length 6.0 - 8.3 mm. RSA: uplands west of the Drakensberg mountain range
.....*nominotypical subspecies*
 - Males: parameres of aedeagus short, approximately 1.3 times longer than their width at base (lateral view) (Fig. 21). Females virtually undistinguishable from those of previous subspecies. Length 5.8 - 8.3 mm. RSA: lowlands east of the Drakensberg mountain range.....
.....*eurypygus transdrakensbergensis* ssp. n.
 4. Metasternum with a discal, spoon-shaped concavity, larger and deeper in males than in females. Pronotum without testaceous patches on each side of midline, the disc more or less extensively darkened. Hind femurs with or without setae on postero-inferior edge 5
 - Metasternum without discal concavity, at most with a very shallow, almost indistinct depression. Integument of head (Fig. 5, 7) strongly shagreened, frons and vertex with sparse setiferous punctures, without any non-setiferous punctures. Pronotum with or without testaceous patches on each side of midline. Hind femurs without any setae on postero-inferior edge..... 6
 5. Integument of head (Fig. 4) weakly shagreened, punctation on frons and vertex double, the small non-setiferous punctures distinct. Third elytral interstria with or without long erect setae, other than the tuft on apical declivity. Hind femurs without any setae on postero-inferior edge. Length 4.7 - 7.1 mm. (= *Oniticellus modestus* Arrow, 1908). Indian subcontinent: India, Nepal, Pakistan.....
.....*imbellis* (Bates, 1891)
 - Integument of head (Fig. 6) strongly shagreened, frons and vertex with sparse setiferous punctures, without any non-setiferous punctures. Third elytral interstria without long erect setae, other than the tuft on apical declivity. Hind femurs with one to three, most commonly two long setae basally on the postero-inferior edge. Length 5.0 - 7.4 mm. Western Africa: Benin, Burkina Faso, CAR, Ghana, Guinea-Bissau, Ivory Coast, Nigeria, Senegal, Togo
.....*praetermissus* sp. n.
 6. Pronotum without yellow patches on each side of midline, the disc more or less extensively darkened. Third elytral interstria without long erect setae, other than the tuft on apical declivity; 7th elytral interstria most frequently without long erect setae, other than the tuft on apical declivity, rarely with one long erect seta. Length 4.7 - 7.4 mm. Eastern, central and western Africa: Benin, Burundi, Cameroon, CAR, Chad, DRC, Equatorial Guinea, Nigeria, Eritrea, Ethiopia, Gabon, Ghana, Guinea-Bissau, Guinea-Conakry, Ivory Coast, Kenya, PRC, Ruanda, Senegal, Sierra Leone, Sudan, Tanzania, Togo, Uganda.....
.....*setifer* (Kratz, 1895)
 - Pronotum with two symmetrical, longitudinally aligned yellow patches on each side of midline, sometimes indistinct or only the posterior pair distinct. Third and 7th elytral interstriae always with long erect setae, other than the tuft on apical declivity, one to four on the 3rd interstria, one or two on the 7th. Length 6.0 - 8.0 mm. Eastern, central and southern Africa: Angola, DRC, Tanzania, Zambia, and Zimbabwe.....*dolosus* sp. n.
- ### 5. *Tiniocellus spinipes* (Roth, 1851)
- Oniticellus spinipes* Roth, 1851: 128.
= *Oniticellus variegatus* Fåhraeus, 1857: 320. Synonymy: Péringuey, 1901: 116.
= *Oniticellus humilis* Gerstaecker, 1871: 52. Synonymy: Harold, 1871: 17.
= *Tiniocellus asmarensis* Balthasar, 1968: 955, **syn. n.**
- Oniticellus spinipes*: Harold: 1869: 1041; 1871: 16. Gerstaecker, 1873: 138. Bates, 1891: 13. Gestro, 1895: 324. Arrow: 1908: 183; 1931: 375, 378. Gillet & d'Orbigny, 1908: 61. Boucomont: 1921: 211, 231; 1923: 54. Boucomont & Gillet, 1927: 109. Balthasar, 1935: 102. Paulian, 1937: 11. Janssens, 1939a: 12. Müller, 1940: 97. Chandra & Ahirwar, 2005: 1961, 1963. Krajčik, 2006: 79.
- Euoniticellus spinipes*: Botes *et al.*, 2006: 580.
- Tiniocellus spinipes*: Péringuey, 1901: 116. Kolbe, 1914: 304. d'Orbigny, 1916: 29. Janssens, 1953: 58, 60; 1956: 346. Ferreira: 1955: 99; 1958: 493; 1962a: 34; 1962b: 159; 1967a: XLI; 1967b: 1149; 1968: 17; 1972: 401. Balthasar: 1960: 66; 1963a: 107, 108; 1963b: 134; 1967: 68; 1968: 956; 1969: 63. Cambefort: 1971: 422; 1980: 64, 67, 69, 70, 76; 1982a: 456; 1982b: 142; 1984: 101; 1986: 339 (tableau 1); 1991: 168 (fig. 9.2). Durand, 1972: 83. Endrödi: 1973: 197; 1976: 156. Halffter & Edmonds, 1982: 142. Cambefort & Lumaret, 1983: 542, 549. Car-

paneto & Piattella, 1990: 270. Nel & Scholtz, 1990: 62. Cambefort & Walter, 1991: 201. Hanski & Cambefort, 1991a: 387, 390. Davis & Dewhurst, 1993: 296, 305. Davis: 1994: 389, 397; 1996a: 274; 1996b: 299, 306; 1996c: 269, 275; 1996d: 39, 42; 1997: 17, 29. Ochi & Kon, 1996: 29. Barbero *et al.*, 1998: 239. Philips *et al.*, 2004: 70. Davis & Philips, 2005: 1083. Davis *et al.*, 2005: 14. Bezděk & Krell, 2006: 157. Emlen & Philips, 2006: 50, 52 (fig. 1). Davis *et al.*, 2008: 239. (*)

(*) Monaghan *et al.* (2007: 681, 689) included in their analysis a “*Tiniocellus inipes*”, possibly a lapsus for *Tiniocellus spinipes*.

Oniticellus variegatus: Harold, 1869: 1041. Gerstaecker, 1873: 138. *O. variegatus* as synonym of *spinipes*: Péringuey, 1901: 116. Kolbe, 1914: 304. d’Orbigny, 1916: 30. Boucomont, 1921: 231. Boucomont & Gillet, 1927: 109. Balthasar: 1935: 102; 1963a: 108. Janssens: 1939a: 16; 1953: 60; Ferreira, 1955: 99; 1962b: 159; 1967b: 1149; Krajčič, 2006: 79.

Oniticellus humilis: Gerstaecker, 1873: 138 (re-description).

O. humilis as synonym of *spinipes*: Harold, 1871: 17. Gestro, 1895: 324. Péringuey, 1901: 116. Kolbe, 1914: 304. d’Orbigny, 1916: 30. Boucomont, 1921: 232. Boucomont & Gillet, 1927: 109. Balthasar: 1935: 102; 1963a: 108. Janssens: 1939a: 16; 1953: 60. Ferreira, 1955: 99; 1962b: 159; 1967b: 1149. Krajčič, 2006: 79.

Oniticellus asmarensis: Krajčič, 2006: 78.

Tiniocellus asmarensis: Ferreira, 1972: 400. Davis *et al.*, 2008: 239.

TYPE LOCALITIES:

***Oniticellus spinipes* Roth, 1851**: “Tigré in N. Abyssinien” (= Tigray, Ehtiopia).

***Oniticellus variegatus* Fähræus, 1857**: “justa fluvium Limpopo” (next to river Limpopo).

***Oniticellus humilis* Gerstaecker, 1871**: “Mbaramu” (= Mbalamu, near Mnazi, at Usambara foothills, Tanzania).

***Tiniocellus asmarensis* Balthasar, 1968**: “Umgebung von Asmara” (neighbourhood of Asmara, Eritrea).

NAME-BEARING TYPES:

***Oniticellus spinipes* Roth, 1851**. Holotype male, in ZSM, pinned, length 6.2 mm, width 3.3 mm, lacking four last segments of right fore tarsus, and spurs of right middle and hind tibiae. It bears five labels (Fig. 29) as follows, slashes separating lines of text: 1) small, circular, blue, blank; 2) red, printed and handwritten: Holotypus / Oniticellus / spinipes Roth / 1851 / Staatssmmml.München; 3) white, with blue border, handwritten: Abyssinia / O. / spinipes / :Typus: Roth; 4) white, printed: A. Janssens det. 1953 / TINIOCELLUS / spinipes (Roth); 5) white, printed: *Oniticellus spinipes* / Roth, 1851 - Holotypus / currently *Tiniocellus spinipes* / T.Branco det. 2008.

***Oniticellus variegatus* Fähræus, 1857**. Holotype female, in NHRS, pinned, length 6.2 mm, width 3.2 mm, lacking femur, tibia and tarsus of left middle leg, last two segments of right hind tarsus, and last three segments of left hind tarsus. It bears seven labels (Fig. 30) as follows, the first six labels glued to a rectangle of white light cardboard, slashes separating lines of text: 1) dirty white, handwritten: variegatus Bhn / (illegible); 2) dirty white, printed: Caffra- / ria.; 3) dirty white, printed: *J. Wahlb*; 4) dirty white, printed: Type; 5) light blue, printed: 7236 / E92 +; 6) red with black border, printed: Typus; 7) white, printed: *Oniticellus variegatus* / Fähræus, 1857 - Holotypus / = *Tiniocellus spinipes* (Roth, 1851) / T.Branco det. 2008.

***Oniticellus humilis* Gerstaecker, 1871**. Two syntypes, 1 female and 1 male, both in ZMHU:

Syntype female, pinned, length 6.0 mm, width 3.0 mm, lacking the last two segments of the right fore tarsus. It bears

five labels (Fig. 31) as follows, slashes separating lines of text: 1) white, printed: 56419; 2) white, handwritten: spinipes Roth / sec. Harold; 3) blue handwritten: humilis / Gerst.* / Mbaramu v. d. Deck; 4) red, printed: SYNTYPUS / Oniticellus / humilis Gerstaecker, 1871 / labelled by MNHUB 2008; 5) white, printed: *Oniticellus humilis* / Gerstaecker, 1871 - Syntypus ♀ / = *Tiniocellus spinipes* (Roth, 1851) / T.Branco det. 2008.

Syntype male, pinned, length 5.2 mm, width 2.8 mm, lacking the right fore tibia and tarsus, the right middle tibial spurs and tarsus, last three segments of left middle tarsus, the right hind femur, tibia and tarsus, the tibial spur and last three tarsal segments of left hind leg; metathoracic wings spread out, the right wing torn off to a mere stub. It bears three labels (Fig. 31) as follows, slashes separating lines of text: 1) blue with black border, printed: Hist. Coll. (Coleoptera) / Nr. 56419 / Oniticellus / humilis Gerst. / Mbaramu, v. d. Decken / Zool. Mus. Berlin; 2) red, printed: SYNTYPUS / Oniticellus / humilis Gerstaecker, 1871 / labelled by MNHUB 2008; 3) white, printed: *Oniticellus humilis* / Gerstaecker, 1871 - Syntypus ♂ / = *Tiniocellus spinipes* (Roth, 1851) / T.Branco det. 2008.

Both syntypes were collected on the same locality and do not show any significant differences except those related to sexual dimorphism. Therefore, the designation of a lectotype is superfluous.

***Tiniocellus asmarensis* Balthasar, 1968**. Holotype male, in NMPC, glued to a mounting card, length 5.4 mm, width 2.9 mm, lacks the left middle tarsus and the right hind tarsus. It bears four labels (Fig. 36) as follows, slashes separating lines of text: 1) white, printed: Eritrea / Asmara; 2) white with red border, printed in red and handwritten in black: Holotypus 1965 / Tiniocellus / asmarensis / Balth.; 3) light pink, handwritten and printed: Tiniocellus / asmarensis / n. sp. Balth. / 65 Holotypus; 4) white, printed: *Tiniocellus asmarensis* / Balthasar, 1968 - Holotypus / = *Tiniocellus spinipes* (Roth, 1851) / T.Branco det. 2008.

NON-NAME-BEARING specimens examined, including three paratypes of *T. asmarensis*: 266 males and 302 females from **eastern Africa**: Eritrea, Ethiopia, Kenya, Somalia and Tanzania, **central Africa**: DRC, and **southern Africa**: Angola, Botswana, Malawi, Mozambique, Namibia, RSA, Zambia and Zimbabwe, plus a single female from **western Africa**: Burkina Faso, and a female presumably mislabeled “Bengale”. Detailed list in Appendix 1.

DISTRIBUTION CHART: Fig. 41 (the single record from western Africa is indicated by a question mark).

ORIGINAL DESCRIPTIONS:

Oniticellus spinipes. Roth (1851): «77. *Oniticellus spinipes*. § *O. depressus*, luteus, fusco-nebulosus, hispidus; clypeo integro, inermi, plano; thorace granuloso; elytris sulcatis; tibiis posticis per totam longitudinem spinosis. § Long. corp. lin. 2¾; lat. lin. 1½.»

{77. *Oniticellus spinipes*. § *O. depressus*, yellow, dimly dark, hairy; clypeus entire, inermis, flat; thorax granulose; elytra striated; hind tibiae thorny all over their length. § Body length 2¾ lines [= 5.8 mm]; width 1½ lines [= 3.2 mm]}

Oniticellus variegatus. Fähræus (1857): «1005. ONITICELLUS *variegatus* (BHN): testaceus, opacus, griseo-setulosus; capite aeneo, parce punctato; thorace rugoso, fusco-variegato; elytris

striatis, dorso fusco-maculatis; pectore pedibusque posterioribus flavis, aeneo-variegatis; antennis testaceis. - Long. 6, lat. 3 millim. § Habitat juxta fluvium Limpopo. § Caput longitudine dimidio latius, juxta oculos subangulatum, non vero lobatum, antice obtuse rotundatum, margine reflexo, apice leviter sinuato, supra depressum, aeneum, griseo-setulosum, fronte laevi, limbo parce punctato. Antennae totae testacea. Thorax longitudine vix latior, subaequaliter modice rotundato-ampliatum, apice distincte emarginatus, postice obtuse subrotundatus, supra perparum convexus, ruguloso-punctatus, ad latera granulatus, basi medio breviter canaliculatus, rufo-testaceus, opacus, sat dense griseo-setulosus, dorso variegatum infuscatus, in medio laterum utrinque macula parva aenea, glabra, nitida. Scutellum oblongo-triangulare, acuminatum, fusco-testaceum. Elytra basi pro thorax emarginata, ad humeros, nonnihil ampliatos thorace vix angustiora, versus apicem dein angustata, apice conjunctim rotundata, thorace dimidio fere longiora, supra fere plana, evidenter striata, striis sublineato-marginatis, laevibus, interstitiis postice subconvexis, exterioribus subgranulatis, extimo carinato; testacea, opaca, setulis griseis, ad apicem longioribus, obsita, dorso antice et intra apicem fasciis e maculis alternatim fuscis et pallidis obsolete picta. Pygidium parvum, triangulare, testaceum, griseo-setulosum. Corpus subtus convexus, abdomine ferrugineo, opaco, piloso, pectore parce ruguloso-punctato, ad latera sublaevi, undique griseo-setuloso, flavescens, viridivariegato, subnitido. Pedes validi, antici breviusculi, dilatati, omnes nitidi, griseo-pubescentes et setosi, femoribus flavis, posterioribus viridi-plagiatis et marginatis, anticis antice violaceis, tibiis fusco-ferrugineis, posterioribus viridi-variis, anticis superne fusco-violaceis, 4-dentatis, basi serrulatis; tarsis ejusdem paris rufis, reliquis piceis. § FHS.»

{1005. *ONITICELLUS variegatus* (BHN): testaceous, dull, with gray pubescence; head bronzy, sparsely punctate; thorax rugose, variegated with black; elytra striated, dorsally with dark spots; breast and hind legs yellow, variegated with bronze; antennae testaceous. - Length 6 mm, width 3 mm. § Inhabits next to the river Limpopo. § Head half as long as wide, subangulate next to the eyes, not truly lobate, anteriorly obtusely round, margin reflexed, apex slightly emarginate, above depressed, bronzy, with gray pubescence, frons smooth, border sparsely punctate. Antennae entirely testaceous. Thorax hardly wider than long, sub-regularly moderately roundly enlarged, apex distinctly emarginate, posteriorly obtusely subrounded, above very slightly convex, ruguloso-punctate, granulose laterally, shortly canaliculate in the middle of the base, reddish testaceous, dull, with fairly dense gray pubescence, above variegated with black, in the middle of sides, on each side, a small bronzy speckle glabrous and smooth. Scutellum elongate triangular, acuminate, dark testaceous. Base of elytra emarginate in front of the thorax, not at all widened at shoulders, hardly narrower than the thorax, then tapering towards the apex, the apices round together, the thorax approximately half as long as them, above almost flat, clearly striated, striae thinly margined, smooth, interstriae subconvex posteriorly, externally subgranulose, carinate externally; testaceous, dull, covered with gray pubescence longer towards the apex, dorsally before and between the apices indistinctly coloured with stripes and spots alternately dark and pale. Pygidium small, triangular, testaceous, with gray pubescence. Body convex ventrally, the abdomen rust-coloured, dull, setose, the breast sparsely ruguloso-punctate, almost smooth

laterally, with gray pubescence everywhere, yellowish variegated with green, subshining. Legs robust, the anterior somewhat short, dilated, all shining, with gray pubescence and setose, femurs yellow, the hind femurs with a green blot and margined, the fore femurs anteriorly violet, tibiae dark rust-coloured, the hind tibiae varied with green, the fore tibiae dark violet above, quadridentate, the base serrulate; tarsi similarly reddish, the rest pitch-black. § Fhs.}

Oniticellus humilis. Gerstaecker (1871): «170. *Oniticellus humilis*, n. sp. *Oblongus, depressus, subtus testaceus, supra fuscus, opacus, ferrugineo-variis, setulosus, capite prothoraceque confertim cicatricoso-punctatis, illius clypeo simplice, aeneo-micante, hoc basin versus sulcato: elytris subtilissime aciculatis, rufo limbatis, apice setulis bacilliformis obsitis*. Long. $5\frac{1}{3}$ – $6\frac{1}{3}$ mill. - Von Mbaramu.»

{170. *Oniticellus humilis*, n. sp. Elongate, depressed, underside testaceous, upperside dark, dull, with rust-colour speckles, setose, head and prothorax densely punctato-cicatricose, the clypeus simple, with bronze sheen, sulcate towards the base: elytra very finely aciculate, bordered in red, apex covered with fusiform setae. Length $5\frac{1}{3}$ – $6\frac{1}{3}$ mm. - From Mbaramu.} Subsequently Gerstaecker (1783: 138) repeated the original Latin description and added a more detailed description in German: «Mit *Onitic. spinipes*, Roth (Archiv f. Naturgesch. XVII. 1. p. 128. No. 77) und *Onitic. variegatus*, Bohem. (Insect. Caffrar. II. p. 320. No. 1005) durch den flachgedrückten Körper, die eigenthümliche Skulptur des Prothorax und den der Querleisten ganz entbehrenden Kopf nahe verwandt. Taster und Fühler licht rostroth, letztere mit gelber Keule. Kopf pechbraun, in Bereich des Clypeus grünlich metallschimmernd, beiderseits vor den Augen mit einem scharf abgegrenzten rothgelben Wangenfleck. Der von the Stirn durch keine Leiste abgeschiedene Clypeus schmal aufgebogen gerandet, in der Mitte leicht ausgebuchtet, beträchtlich feiner und weitläufiger als die Stirn punktirt, eine mittlere Schwiele sogar fast glatt. Der beiderseits lang gewimperte Prothorax lässt den grünen Metallglanz nur noch am Vordersaum und auf den beiden glatten Seitenschwielen erkennen, ist im Uebrigen fast matt, pechbraun mit rostbraun Rändern und drei Paar aufeinander folgenden Scheibenflecken; die Punktirung ziemlich grob und dicht, aufgestochen und daher von narbigem Ansehn, jeder Punkt ein niederliegendes hellgelbes Borstenhaar führend; die mittlere Längsfurche an der Basis ziemlich tief, aber schon bei der Mitte der Länge endigend. Schildchen länglich dreieckig, metallisch grün. Flügeldecken matt schwarz mit rostrothem Naht- und Endsaum und lichter rothgelber Fleckung der äussersten Basis und des Seitenrandes; die flachen Längsfurchen beiderseits scharf contourirt, die Zwischenräume sehr fein nadelrissig und mit borstentragenden Punkten bedeckt. Die Spitze der Flügeldecken mit längeren, der scharfe Seitenrand des Hinterleibes mit kürzeren, dicken, stabförmigen weissen Borsten besetzt. Pygidium gleich dem übrigen Hinterleib matt ledergelb, schwarzschekig, dicht beborstet. Brust gleich den Mittel- und Hinterschenkeln licht scherbengelb, metallglänzend, stark punktirt, erstere mit grünen Flecken geziert. Vorderbeine so wie Mittel- und Hinterhüften metallisch grün, ebenso an Mittel- und Hinterbeinen die Innenseite, die Spitze und die langen Endsporen der Schienen, endlich auch die drei ersten Tarsenglieder. Hinterschenkel unterhalb mit einer Reihe dicker weisser Borsten. Erstes Glied der Mittel- und Hintertarsen lang und

dünn, gleich den Schienen dicht und stark bedornt. § Zwischen Mbaramu und Kisuani, Mitte Oktobers 1862 gefunden.» {Closely related to *Onitic. spinipes*, Roth (Archiv f. Naturgesch. XVII. 1. p. 128. No. 77) and *Onitic. variegatus*, Bohem. (Insect. Caffrar. II. p. 320. No. 1005) by the depressed body, the peculiar sculpture of the prothorax, and the head entirely without carinae. Palpi and antennae light rust-red, the latter with yellowish club. Head pitch-brown, with greenish metallic sheen on the clypeus, with on each side of the eyes a sharply delimited reddish yellow genal blotch. Clypeus narrowly reflexed, slightly emarginate in the middle, considerably more finely and sparsely punctate than the frons, plus a central callosity almost smooth. The prothorax, lengthy ciliated on each side, without green metallic sheen except on the fore edge and on both lateral smooth callosities, is for the rest nearly dull, pitch-brown with reddish brown borders and three pairs of discal speckles disposed on top of each other; the punctation fairly coarse and dense, prickled and thence with a cicatricose aspect, each puncture bearing a recumbent light yellow seta; the longitudinal furrow fairly deep on the base, but ending just by the middle of the length. Scutellum triangularly elongate, metallic green. Elytra dull black with rust-red sutural and apical borders and lighter reddish yellow speckles on the extreme base and sides; the shallow striae sharply margined on both sides, the interstriae very finely wrinkled and covered with setiferous punctures. The apex of the elytra covered with thick stick-like white long bristles, the sharp lateral edge of the abdomen with shorter ones. Pygidium like the rest of the abdomen dull leather-yellow, spotted black, densely setose. Breast like middle and hind femurs light dirty yellow, with metallic sheen, strongly punctate, the first with green speckles. Fore legs as well as middle and hind coxae metallic green, like also the inner side of the middle and hind legs, the apex and the longer spur of the tibiae, finally also like the first three tarsal segments. Hind femurs underneath with a row of thicker white bristles. First segment of middle and hind tarsi long and thin, like the tibiae densely and strongly thorny. § Found in mid-October 1862, between Mbaramu and Kisuani. }

***Tiniocellus asmarensis*.** Balthasar (1968): «*Tiniocellus asmarensis* spec. nov. § Von stark abgeflachter Gestalt, matt, die ganze Oberseite anliegend, sehr hell behaart und teilweise stark abstehend, fast weißlich beborstet. Die Färbung ist ziemlich veränderlich, dunkel schokoladenbraun, mehr oder weniger hell gelbbraun gefleckt. Die typische Färbung ist wohl folgende: Kopf gelbbraun, hinten dunkelbraun, Halsschild braun mit breiten gelben Seiten und der ganzen Vorderwinkelgegend; zuweilen auf der Scheibe jederseits helle, unscharf begrenzte Flecken oder noch ein fünfter Fleck, der die ganze Basis hell säumt, vorhanden. Flügeldecken gelbbraun, mit länglichen, dunklen, unscharf begrenzten, symmetrisch gestellten Flecken; zuweilen ist die dunkle Färbung vermehrt und die helle Grundfärbung nur makelartig anwesend. Unterseite teilweise gelbbraun, teilweise dunkel gefärbt. Pygidium überwiegend dunkel. Schenkel hell, Schienen dunkler oder heller gefärbt. Fühlerfahne braun. § ♂ - Kopf: Dicht, aber sehr ungleich groß punktiert, die feine Punktur überwiegt. Die groben Punkte tragen vorn aufgerichtete, hinten anliegende Behaarung. Vorderrand des Clypeus breit, aber seicht ausgerandet, leicht aufgebogen, hinter dem Vorderrand befindet sich eine schmale, glänzendere Zone. Seitenrand des Kopfes gelb be-

wimpert. § Halsschild: Sehr groß, aber sehr seicht punktiert; die Punkte haben verschiedene Form, sie sind sehr fein raselig, am Grunde chagriniert und daher matt, aber nie rundlich oder kreisförmig. Die schmalen Zwischenräume sind glänzender, hier und da durch feine Punkte zerstoßen. In der hinteren Hälfte macht sich ein äußerst seichter Mittellängseindruck bemerkbar. Die Behaarung ist dicht, nicht sehr kurz, anliegend, auf dem hellen Untergrund hell, auf dem dunkeln dunkel gefärbt. Seitenränder lang, gelb, etwas steif bewimpert, einige lange, abstehende Haare befinden sich auch in den Vorderwinkeln. Schildchen sehr klein, matt. § Flügeldecken: Etwas uneben, besonders längs der Seiten eingedrückt, gänzlich chagriniert, sehr seicht, wenig deutlich gestreift und in den Streifen nur undeutlich punktiert. Zwischenräume fast flach, nur stellenweise etwas deutlicher gewölbt, sehr fein, nicht sehr dicht, körnig punktiert, jeder Punkt trägt ein helles oder dunkles (je nach der Farbe des Untergrundes), anliegendes Härchen. Auf dem Nahtzwischenraum befindet sich eine lose Reihe langer, aufgerichteter, dicker, sehr hell gefärbter Borsten. Einige solche Borsten befinden sich auch im hinteren Teil des fünften Zwischenraumes. Die Spitze der ungradzahligen Zwischenräume trägt eine Gruppe von drei bis vier ebensolcher Borsten, die aber noch etwas länger und steifer sind. Pygidium uneben, kurz und dazwischen viel länger, fast schmalschuppig beborstet. Auch die Sternite sind neben der kurzen, aber steifen, anliegenden Behaarung mit einer Querreihe steifer, breiter Borsten versehen. § Vorderschienen: Vorn breit, fast gerade abgestutzt, mit vier Außenzähnen. Mittel- und Hinterschienen lang, sehr steif beborstet, Tarsen schlank, Metatarsus der Hinterfüße etwas länger als die drei folgenden, verhältnismäßig langen Tarsenglieder zusammen. § Das Weibchen unterscheidet sich vom Männchen nur durch den etwas tiefer ausgerandeten Vorderrand des Clypeus und durch die stark schräg nach vorn gerichteten, zugespitzten Außenzähne der Vorderschienen. § Länge ♂♀: 5,3 - 6,2 mm. § Verbreitung: Ost-Afrika: Aethiopien, Erythraea, Umgebung von Asmara. § Holotypus und ein Paratypus befinden sich in den Sammlungen des Ungarischen Naturwissenschaftlichen Museums in Budapest, zwei Paratypen in meiner Sammlung. § Derder neuen Art am nächsten stehender [sic!] *Tiniocellus spinipes* Roth unterscheidet sich durch eine viel kleinere und viel spärlichere Punktur des Kopfes und des Halsschildes; die Zwischenräume der Punkte am Halsschild sind breit, und eben diese sind chagriniert, so daß die Oberseite des ganzen Vorderkörpers viel matter erscheint. Die körneligen Punkte der Zwischenräume der Flügeldecken sind ebenfalls spärlich, teilweise einreihig gestellt, die Streifen und deren Punkte sind etwas deutlicher. Ich neige zu der Ansicht, daß die neue Art bisher von verschiedenen Autoren unrichtig als abweichende Form im Rahmen der individuellen Variabilität von *T. spinipes* Roth aufgefaßt wurde.»

{Of strongly depressed form, dull, the whole upperside clothed with mostly light coloured pilosity and in places with stout isolated almost whitish bristles. The colour is fairly variable, dark chocolate-brown, more or less light yellowish brown spotted. The typical colour is as follows: head yellowish brown, posteriorly dark brown, pronotum brown with the sides extensively and the whole area of the anterior angles yellow; sometimes with on each side of the disc unsharply delimited light coloured spots or still a fifth spot, the whole base with a light coloured border. Elytra yellowish brown, dark, with unsharply delimited, symmetrical speckles; some-

times the dark colour is extended and the light colour is only present spotwise. Underside partially yellowish brown, partially darkly coloured. Pygidium predominantly dark. Femurs lightly, tibiae darkly or lightly coloured. Antennal club brown. § ♂ - Head: with dense but of unequal size punctation, the fine punctures predominant. The large punctures bearing erect setae anteriorly, recumbent setae posteriorly. Fore edge of clypeus widely but shallowly emarginate, slightly reflexed, behind the fore edge with a narrow shiny area. Sides of head fimbriate with yellow setae. § Pronotum: with very large but very shallow punctation; the punctures have diverse forms, are very finely rasp-like, on a shagreened, thence, dull integument, but are neither roundish nor circular. The narrow interstriae are shiny, here and there covered with fine punctures. On the posterior half is noticeable an extremely shallow median longitudinal furrow. The pilosity is dense, not very short, recumbent, lightly coloured over the light colour integument, dark over the dark integument. Sides fimbriate, the setae long, yellow, somewhat stiff, a few erect setae are also found on the anterior angles. Scutellum very small, dull. § Elytra: somewhat uneven, particularly impressed alongside the sides, wholly shagreened, very shallowly poorly distinctly striated and only indistinctly punctated on the striae. Interstriae almost flat, only here and there somewhat more distinctly convex, very finely not very densely punctato-granulose, each puncture bearing a light or dark coloured (depending on the colour of the integument) recumbent setae. On the juxtapositional interstria there is a sparse row of long, erect, thick, very brightly coloured bristles. A few such bristles are also found on the posterior portion of the 5th interstria. The apex of the odd interstriae bear a group of three to four such bristles that, however, are somewhat longer and stiffer. Pygidium uneven, with short bristles and, between them, very long, almost scale-like bristles. The sternites have also, besides the short but stiff recumbent setae, a transverse row of stiffer, wider bristles. § Fore tibiae: anteriorly widely, almost squarely truncated, with four outer teeth. Middle and hind tibiae long, with very stiff bristles, tarsi slender, first segment of hind tarsi somewhat longer than the following three relatively long segments together. § The females are distinguished from the males only by the somewhat deeper emargination of the clypeus fore edge, and by the strongly slanting forward apical outer tooth of the fore tibiae. § Length ♂♀: 5.3 - 6.2 mm. § Distribution: East Africa: Ethiopia, Eritrea, neighbourhood of Asmara. § Holotype and one paratype in the collection of the Hungarian Museum of Natural History in Budapest, two paratypes in my collection. § *Tiniocellus spinipes* Roth, the closest to the new species, differs by the much finer and much sparser punctation of the head and pronotum; the intervals between the punctures on the pronotum are larger and shagreened like them, such that the upperside of the whole anterior part of the body is much duller. The granulose punctures of the elytral interstriae are also sparser, partially aligned, the striae and their punctation are somewhat more distinct. I am inclined to the view that the new species has hereto been erroneously regarded by several authors as an aberrant form within the range of individual variation of *T. spinipes* Roth. }

DIAGNOSTIC FEATURES AND VARIATION

Body size: length 4.8 - 7.8 mm, width 2.4 - 3.7 mm.

Head (Fig. 3) with genae not protruding from sides of clypeus at clypeo-genal junction, the sides of clypeus and genae forming a continuous line, very rarely slightly notched or

sinuate at the clypeo-genal junction. Genae at least partially testaceous. Frons and vertex with double punctation, the large punctures setiferous, the small ones not; integument between punctures weakly shagreened, shining. The integument may be more or less weakly shagreened and shining, and the punctation more or less dense, but the small non-setiferous punctures are always distinct.

Disc of pronotum with two longitudinally aligned testaceous patches on either side of the midline; in light-coloured specimens the patches of each pair may be joined together and join the testaceous border of the pronotum anteriorly and sometimes also posteriorly.

Elytra with relatively narrow striae, basally the width of 3rd stria, taken as a reference, approximately one fifth of the width of 4th interstria. Most granules on the interstriae nearly hemispheric. The long, dirty white, spatulate, erect setae arranged as follows: three to seven, most frequently four or five on the 1st interstria, none on the 3rd interstria, one to three, most frequently one or two on the 5th interstria, and none to two, most frequently none on the 7th interstria.

Disc of metasternum flat in both sexes, at most with a small and very shallow depression at the end of the impunctate and shining midline, never with a concavity; a smooth patch on each side of the midline, just behind the level of posterior tip of middle coxae, usually but not always present.

Pygidium in both sexes (Fig. 9, 10) not unusually large, not wider basally than elytral interstriae 1st to 5th of both elytra together at apical declivity; all abdominal sternites reaching the abdominal midline in both sexes.

Hind femurs without any setae on the postero-inferior edge. Aedeagus (Fig. 15) with phallobase long, three and half to four times longer than wide; parameres weakly sclerified, the lateral sclerification not ending at the tip in a hook-like process, their basal apophysis small.

COLOUR PATTERN

Specimens from eastern Africa tend to be paler than those from southern Africa, and males tend to be paler than females.

Head with genae always at least partially testaceous externally, more or less narrowly dark internally; clypeus dark bronze in the middle and narrowly along the clypeo-genal sutures, shining black with metallic hue narrowly along the fore edge, testaceous on either side; frons and vertex of the same colour as the middle of clypeus. In pale specimens the clypeus in the middle, the frons and the vertex are light brown with the clypeo-genal sutures darkened. In dark specimens the clypeus is entirely dark bronze.

Pronotum narrowly testaceous all around; the testaceous border widened on the fore edge behind the postero-lateral angles of the head, on the sides at the lateral callosity which it encircles, and on the base on either side in front of the 5th elytral interstria, and in the middle along the median longitudinal furrow; the lateral callosity is shining black with metallic green hue; elsewhere the pronotum is dark brown except for a small testaceous spot on either side, behind the antero-lateral angles, and two longitudinally aligned testaceous patches on either side of the midline; the testaceous areas are duller than the dark ones, the latter sometimes with a coppery to greenish metallic hue. In pale specimens the testaceous patches may be more or

less extensively joined together leaving only on each side of the midline a light brown area in the shape of an 8 open at the top. In dark specimens all the testaceous areas mentioned above are still present though smaller.

Scutellum shining, varying from light brown in pale specimens to black with metallic hue in dark ones.

Elytra with the striae testaceous to brown; 1st interstria light brown with three to seven, most frequently four or five large, setiferous, black punctures, bearing long, spatulate, erect setae distributed fairly regularly along its length but not always symmetrically arranged on the two elytra; 2nd to 8th interstriae dark brown with the following testaceous patches: one at the base of the 2nd to 4th interstriae, shorter on the 3rd interstria than on the other two, one at the base of 6th and 7th interstriae, one at a third of the 4th and 5th interstriae, the patch on the 4th interstria sometimes joining the basal patch, one towards the middle of the 2nd and 3rd interstriae, sometimes joining the preceding one across the 3rd stria, one across the apical declivity of the elytron, shorter on the 2nd and 3rd than on the other interstriae; epipleura light brown with a testaceous spot behind the level of the umbone. The dark brown areas are shinier than the testaceous ones. In dark specimens the same testaceous areas are present and very distinct in contrast with the pitch black surrounding areas, whereas in pale specimens they tend to be blurred by lack of contrast with the surrounding areas. On the other hand, two brown to black spots, one on the 3rd interstria the other on the 5th interstria, just before the apical declivity, indistinct in dark specimens, are very distinct in pale ones. On the epipleura the testaceous spot mentioned above is almost indistinct in pale specimens, whereas it makes a sharp contrast with the black colour of the rest of the epipleura in dark specimens. Most frequently the colour of the recumbent setae matches the colour of the integument on which they lie. The long spatulate erect setae are always dirty white.

Pygidium dark brown basally between the base and the transverse row of long spatulate setae, narrowly dark along the edges and on the median longitudinal furrow, elsewhere testaceous. Light brown and testaceous, respectively, in pale specimens, dark brown and light brown, respectively, in dark specimens.

Mouthparts and antennae testaceous, ventral face of head testaceous, the sides dark brown behind the eyes. Proepisterna testaceous laterally, black and glabrous on the area in touch with the fore femurs; proepimera with the inner half dark brown, the outer half testaceous with a dark brown patch posteriorly. Mesosternum dark brown laterally, testaceous in the middle. Metepisterna and metepimera testaceous with a dark brown patch in the centre; metasternum testaceous with a dark brown patch on each side of midline on anterior declivity, variegated in dark brown on disc, the two smooth patches when present (see above) dark brown, sides with several dark brown patches. Abdominal sternites brown. Fore tibiae and tarsi brown, fore femurs testaceous with dark brown edges, fore coxae dark brown; middle and hind tarsi brown, middle and hind tibiae dark brown on the upperside, testaceous with dark brown edges on the underside; middle and hind femurs testaceous with dark brown edges; middle coxae testaceous with dark brown inner face; hind coxae testaceous with dark brown edges.

In pale specimens the dark patches are reduced, the metasternum is entirely testaceous except for the two dark brown patches on anterior declivity and, if present, the two smooth patches on disc are also brown; the abdominal sternites are reddish brown. In dark specimens the testaceous areas are reduced to the periphery of the sclerites, the 1st elytral interstria is often black, the abdominal sclerites are dark brown, and the fore, middle and hind femurs present a dark patch on the disc.

ETHOLOGY AND PHENOLOGY: According to the data on labels, the specimens examined were collected throughout the year, in baboon, buffalo, cow, elephant, human, rhinoceros, wart hog, and zebra excrements; besides, a specimen was collected in a pitfall trap baited with carrion, and five were collected on a freshly killed wart hog.

REMARKS

Tiniocellus spinipes (Roth, 1851) and *Oniticellus variegatus* Fåhræus, 1857 were described on pale specimens, *Oniticellus humilis* Gerstaecker, 1871 and *Tiniocellus asmarensis* Balthasar, 1968 on somewhat less pale ones.

Until now the Asiatic *imbellis*, and the African *setifer*, as well as the three new African species described below, have all been confounded under the name “*spinipes* (Roth, 1851)”. As a consequence, *spinipes* has often been considered widespread in the Indian subcontinent and over the entire Afrotropical region. However, Balthasar (1967) (see below, under *imbellis*) asserted that all records of *spinipes* from the Indian subcontinent do actually refer to *modestus*, a junior synonym of *imbellis*. Also Davis & Philips (2005) and Davis *et al.* (2008) suspected that more than one African species have been confounded under the name *spinipes*. Davis & Philips (2005) wrote: «Currently considered a pan-African savanna species, but there are subtle differences between the smaller-bodied populations of the finer-grained soils in moist West and East African savannas compared with those of sandier soils in dryer southern African savannas». Davis *et al.* (2008) ascribed to the genus *Tiniocellus* four species, *panthera*, *collarti*, *asmarensis*, and *spinipes*. About the latter they wrote: «The fourth species, *T. spinipes* (Roth), is extremely widespread with a distribution centred on wooded savannas from southern to East to West Africa (Fig. 94) and also in the Oriental region (India). However, in view of this vast range, it may comprise a species complex.». It does, indeed.

6. *Tiniocellus imbellis* (Bates, 1891)

Oniticellus imbellis Bates, 1891: 13.

= *Oniticellus modestus* Arrow, 1908: 182, **syn. n.**

Oniticellus imbellis: Arrow, 1908: 183.

O. imbellis as synonym of *spinipes* (Roth, 1851): Boucomont, 1921: 232. Boucomont & Gillet, 1927: 109. Arrow, 1931: 378. Balthasar: 1935: 102; 1963a: 108. Janssens: 1939a: 17; 1953: 60; Ferreira: 1955: 99; 1962b: 159; 1967a: XLI; 1967b: 1149. Bezděk & Krell, 2006: 157. Krajčik, 2006: 79.

Oniticellus modestus: Bacchus, 1978: 105 (lectotype designation). Krajčik, 2006: 79.

Tiniocellus modestus: d'Orbigny, 1916: 30. Balthasar: 1963a: 108, 109; 1967: 68. Ochi & Kon, 1996: 29.

O. modestus as synonym of *spinipes* (Roth, 1851): Boucomont, 1923: 54. Boucomont & Gillet, 1927: 109. Arrow, 1931: 378. Balthasar, 1935: 102. Janssens: 1939a: 17; 1953: 60. Ferreira, 1962b: 159.

TYPE LOCALITIES:

Oniticellus imbellis Bates, 1891: "Hill region of Kulu, in North-western India" (= Kullu, Himachal Pradesh, India).

Oniticellus modestus Arrow, 1908: "Calicut, S. India" (label on lectotype).

NAME-BEARING TYPES:

Oniticellus imbellis Bates, 1891. As it is clear from the original description, Bates described the species on at least a male and a female, and did not designate a holotype. According to Janssens (1953) the syntypes should be in the collection R. Oberthür, in MNHN, but could not be found. There is only one species of *Tiniocellus* in the Indian subcontinent, well characterized, whose separation from the other species of the genus does not pose any ambiguity. Therefore, the designation of a neotype is not necessary.

Oniticellus modestus Arrow, 1908. Lectotype male, designated by Bacchus (1978), in BMNH, pinned, length 5.8 mm (measured from tip of head to extremity of elytra, in its actual position), width 3.2 mm, lacking claws of right middle tarsus, left middle tarsus, spur of left hind tibia, and last segment of left hind tarsus. With seven labels (Fig. 33) as follows, slashes separating lines of text: 1) circular, with broad violet border, printed: LECTO / TYPE; 2) white, printed: ♂; 3) white, with yellow line underneath first line of text, handwritten: Calicut / S. India / 1907.402; 4) white, handwritten: Calicut; 5) white, handwritten: Oniticellus / modestus Arrow / Type ♂; 6) white, handwritten and printed: Oniticellus ♂ / modestus Arr. / M.E. Bacchus det 1975 / LECTOTYPE; 7) white, printed: *Oniticellus / modestus* Arrow, 1908 - Lectotypus / = *Tiniocellus imbellis* (Bates, 1891) / T.Branco det. 2008.

NON-NAME-BEARING specimens examined, including 12 paralectotypes of *O. modestus*: 302 males and 316 females from the Indian subcontinent: India (Bihar, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Sikkim, Tamil Nadu, Uttar Pradesh, and West Bengal), Nepal, and Pakistan (Islamabad, N.W. Frontier, and Punjab), plus 1 male and 1 female presumably mislabeled "Algérie, Bogghari", and 1 female presumably mislabeled "Natal, coll. Ancey". Detailed list in Appendix 2.

DISTRIBUTION CHART: Fig. 45.

ORIGINAL DESCRIPTIONS:

Oniticellus imbellis. Bates (1891): «ONITICELLUS IMBELLIS, n. sp. § Very near the Abyssinian *O. spinipes* (Roth.), from which it differs almost solely in the narrower, more elongate form, and the close confluent punctuation of the thorax; oblong, narrow, plane above, dull coppery or greenish-brassy brown; elytra variably lineated and spotted with dull red. The upper surface is clothed with stiff laid pubescence, and the elytra have, in addition, numerous very long and rigid tawny bristles towards the apex, those on the apical declivity being more or less approximated in fascicles. The head is unarmed in both sexes, but the surface forms a kind of shield, which terminates behind the eyes and above the occipital depression in a sinuated edge; the punctuation is irregular, and there are some conspicuous large points on the clypeus, which latter is rather broadly rounded and sinuated in the middle of front margin. The thorax is elongate-quadrate, slightly convex, and densely confluent punctate, in some parts granulated. The elytra are striated, with the interstices granulated. The legs are

longer and more slender than in the typical *Oniticellini*, the straight tibiae have a few long and distant bristles, without ridges, on their outer edge, and very long apical spur. § ♂. Anterior tibiae with apex broadly truncated, apical tooth short and scarcely oblique. § ♀. Anterior tibiae with long and oblique apical tooth. Long. 7 millim.»

Oniticellus modestus. Arrow (1908): «*Oniticellus modestus*, sp. n. § Fusco-ferrugineus, opacus, metasterni medio pedibusque sat nitidis; capite cupreo-nigro prothoracisque medio fusco, nonnunquam vage cupreo: sat elongatus, depressus, toto inermis; capite emarginato, irregulariter punctato; prothorace densissime punctato, postice leviter sulcato; elytris striatis, minute granulatis, apicibus pygidioque setiferis. § ♀. Clypeo paulo magis producto, tibiis anticis fortius dentatis. § Long. 5.5–7.5 mm.; lat. max. 3–4 mm. § *Hab.* S. India, Belgium, Calicut. § Dull opaque ferruginous brown, with the legs and the middle of the metasternum shining, the head slightly coppery, and the prothorax vaguely darker at the middle and sometimes feebly metallic. The body is elongate and very flat above, and there is no armature of any kind in either sex. The head has intermixed coarse and fine punctures and the clypeus is gently emarginate in front. The pronotum is densely, and at the side rugosely, punctured, and there is a lightly impressed longitudinal line at the middle of the basal half. The sides and base are gently and continuously rounded and the front angles very blunt. The elytra are finely striated and the interstices flat and minutely granulated. The elytra near the extremities and the pygidium are furnished with short stiff bristles, and the metasternum is strongly punctured. The front tibiae are armed with four strong teeth. § The female has the clypeus a little produced and the front tibiae rather broader and more strongly toothed. § In some of the species of *Oniticellus* the more pronounced sexual characters, contrary to the general rule, are those of the female sex, and certain authors have therefore described the females as males. I have proved by dissection that the sexes of the present species are correctly discriminated. § This species seems to be the southern representative of the North Indian *Oniticellus imbellis*, Bates, and was named by Reiche *O. fuscopunctatus*, F.; but by the kindness of Dr. Adam Bóving [sic!], of Copenhagen, who has made for me an excellent drawing of the Fabrician type specimen, I am able to state that that is a species of *Onthophagus*, very much smaller and entirely unlike the insect here described. Reiche is responsible also for the manuscript name "*modestus*, Dej.", which I have adopted. § *Oniticellus modestus* is closely related to the African *O. spinipes*, Roth, for which Mr. Péringuey has formed a new genus *Tiniocellus*, which he has widely separated from *Oniticellus* by reason of his counting only eight joints in the antenna. This is an error, for there are nine joints, and these species cannot be separated from *O. cinctus*, F., *planatus*, Lap., *formosus*, Chev., &c. § I may take this opportunity of noting that Mr. Péringuey has incorrectly given the last-named species as a synonym of the S.-African *O. pictus*, Hausm. *O. formosus*, Chev., is a West-African insect, larger than *O. pictus* and differing in the form of the clypeus and other respects.»

DIAGNOSTIC FEATURES AND VARIATION

Body size: length 4.7 - 7.1 mm, width 2.5 - 3.6 mm.

Head (Fig. 4) with genae protruding from sides of clypeus at the clypeo-genal junction; frons and vertex with double punctation, the large punctures setiferous, the small non-

setiferous punctures distinct on the weakly shagreened integument.

Disc of pronotum without testaceous patches, more or less extensively dark; sometimes dark area small, sometimes pronotum almost entirely dark.

Elytra with relatively wide striae, basally the width of 3rd stria, taken as a reference, approximately one third of the width of 4th interstria. Most granules on the interstriae flattened and slightly elongate. The long, dirty white, spatulate, erect setae arranged as follows: three to seven, most frequently four or five on the 1st interstria, none to four, most frequently one on the 3rd interstria, one to five, most frequently three on the 5th interstria, and none on the 7th interstria.

Disc of metasternum with a glabrous, impunctate, shagreened spoon-shaped concavity, larger and deeper in males than in females, adjoining the base and occupying approximately one third of metasternum length along the midline in males, slightly anterior to the base and occupying approximately one fourth of metasternum length along the midline in females.

Pygidium in both sexes not unusually large, not wider basally than elytral interstriae 1st to 5th of both elytra together at apical declivity; all abdominal sternites reaching the abdominal midline in both sexes.

Hind femurs without any setae on the postero-inferior edge.

Aedeagus (Fig. 16) with phallobase approximately three times longer than wide; parameres weakly sclerified, the lateral sclerification not ending at the tip in a hook-like process, their basal apophysis small.

COLOUR PATTERN

Specimens from low altitudes tend to be paler than those from high altitudes, and females tend to be darker than males.

Head entirely bronze with a metallic coppery hue, except narrowly along the fore edge and the clypeo-genal sutures where it is black with a metallic greenish hue.

Pronotum dark bronze, narrowly bordered reddish brown all around, the border encircling on either side the lateral callosity which is shallow and shining bronze.

Elytra brown, 1st and 5th interstriae towards the apex before the apical declivity shinier than the rest of the elytral surface; granules on the interstriae shinier and darker than the surrounding integument; with the following testaceous patches: one at the base of the 1st to 4th interstriae, almost twice longer on the 2nd than on the 4th interstria, shorter on the 3rd than on the 4th interstria; one at the base of the 6th and 7th interstriae; one on the 5th interstria at a quarter of its length; one on the 4th interstria immediately behind the preceding one; one on the 2nd and 3rd interstriae at a third of their length; one across the apical declivity from the 2nd to 6th interstriae; epipleura brown on median third, testaceous anteriorly and posteriorly. The short, recumbent setae as well as the long, spatulate, erect setae are all dirty white.

Pygidium with the median longitudinal furrow dark brown, elsewhere yellowish brown.

In pale specimens the head is brown with the genae testaceous; the pronotum is reddish brown with the disc darkened over a more or less small area, sometimes no more than one third of the pronotum width; the elytra are yellowish brown to reddish brown, with the patches mentioned above

hardly distinct, sometimes only the 5th interstria distinctly darkened, and the granules on the interstriae are not darker than the surrounding integument.

In dark specimens the pronotum is entirely black; the elytra are black with brown striae and patches, the epipleura black with a brown spot behind the level of the umbone.

Mouthparts and antennae brown, ventral face of head dark brown. Proepisterna reddish brown laterally, dark brown elsewhere; proepimera brown. Mesosternum dark brown on either side, brown in the middle. Metasternum dark brown with a reddish brown border all around; metepisterna and metepimera reddish brown with a dark brown patch in the middle. Abdomen with the 1st and 5th sternites, and the sides of the other sternites reddish brown, elsewhere dark brown. Legs brown. In pale specimens the metasternum is brown with a broad yellowish brown border, the abdominal sternites are reddish brown with the sutures darkened laterally, the tibiae and tarsi are brown, the femurs are yellowish brown with a brown patch on the middle. In dark specimens the underside is almost entirely black, the metasternum with only a narrow reddish brown border, the abdominal sternites with only the sides reddish brown next to the lateral edge, and the legs are dark brown.

ETHOLOGY AND PHENOLOGY: According to the data on labels, the specimens examined were collected throughout the year, except December and January. They were found in cow and horse excrements, but this kind of information is absent from the labels of most specimens.

REMARKS

The lectotype of *Oniticellus modestus* Arrow, 1908 is a pale specimen, with the pronotum largely reddish brown, the dark area on the disc occupying approximately half the width of the pronotum. Judging from the original description and the region from where they came, Bates must have described *imbellis* on dark specimens.

As pointed out by Arrow (1908), Reiche, who is also responsible for the manuscript name "*modestus*, Dej.", had wrongly identified this species as "*O. fuscopunctatus*, F.". In fact, there are in the historical collections of Oxford (OUMNH), London (BMNH) and Paris (MNHN) several specimens with handwritten labels of which the following are examples: "*Oniticellus fuscopunctatus* fab. Pondicherry"; "*Oniticellus Fuscopunctatus Fabr., Modestus Dej. collect., Coromandel*"; "*Oniticellus fuscopunctatus Fab. modestus Sandieti Dej.*"; "*Oniticellus Fuscopunctatus Fabr., Modestus Dej. collect., Coromandel*"; "*Oniticellus fuscopunctatus India F*"; "*Oniticellus fuscopunctatus India F*". Besides, there is a female in Paris (MNHN), from Marseul's collection, with a round, yellow, handwritten label "*Oniticellus fuscomaculatus modestus Dj. ... (illegible)*". The identity of *Copris fuscopunctatus* Fabricius, 1798 (currently *Onthophagus fuscopunctatus*) was elucidated by Arrow (1908). The name "*fuscumaculatus*" has remained *in litteris*.

The synonymy between *modestus* and *imbellis* seems to have been suspected by Arrow (1908) who, referring to his *modestus*, wrote: «This species seems to be the southern representative of the North Indian *Oniticellus imbellis*, Bates, ...».

As noted by Balthasar (1967), albeit overlooking Bates' name and adopting its junior synonym, all records of *spinipes* from India actually refer to *imbellis*: «*Tiniocellus spinipes*

(Roth, 1851). § In der ganzen aethiopischen Region verbreitet, dagegen die Angaben über das Vorkommen in Indien falsch sind und beziehen sich auf *T. modestus* Arrow, 1908.» {*Tiniocellus spinipes* (Roth, 1851). § Distributed over the whole Ethiopian region, on the other hand the statements on its occurrence in India are false and refer to *T. modestus* Arrow, 1908.}

7. *Tiniocellus setifer* (Kraatz, 1895)

Oniticellus setifer Kraatz, 1895: 143.

Oniticellus setifer: Müller, 1940: 97.

Tiniocellus setifer: d'Orbigny, 1916: 29.

As synonym of *spinipes* (Roth, 1851): Boucomont: 1921: 232; 1923: 54. Boucomont & Gillet, 1927: 109. Balthasar, 1935: 102; 1963a: 108. Janssens: 1939a: 16; 1953: 60. Ferreira: 1955: 99; 1962b: 159; 1967a: XLI; 1967b: 1149. Bezděk & Krell, 2006: 157. Krajčik, 2006: 79.

TYPE LOCALITY: “bei Bismarckburg” (near Bismarckburg, Togo), from the original description, the syntypes being labelled only “Togo / Conradt” (Fig. 32).

NAME-BEARING TYPES: Five syntypes, three males and two females, all in **DEI**, as follows:

Syntype male, pinned, length 6.1 mm, width 3.2 mm, aedeagus glued to a mounting card, lacking four last segments of left antenna, left fore tarsus, and last four segments of right hind tarsus.

Syntype male, pinned, length 5.7 mm, width 2.9 mm, no part missing.

Syntype male, pinned, length 5.3 mm, width 2.8 mm, lacking claws of left middle and hind tarsi.

Each male bears six labels (Fig. 32) as follows, slashes separating lines of text: 1) small, light blue, handwritten: ♀ (as pointed out below, it is evident from the original description that Kraatz mistook the male for the female); 2) white, printed: Togo / Conradt; 3) red, printed: Syntypus; 4) white, printed: Coll. Kraatz; 5) white, printed: Coll. DEI / Müncheberg; 6) white, printed: *Oniticellus setifer* / Kraatz, 1895 - Syntypus ♂ / (currently *Tiniocellus setifer*) / T.Branco det. 2008.

Syntype female, pinned, length 5.8 mm, width 3.1 mm, no part missing, bearing five labels (Fig. 32) as follows, slashes separating lines of text: 1) white, printed: Togo / Conradt; 2) red, printed: Syntypus; 3) white, printed: Coll. Kraatz; 4) white, printed: Coll. DEI / Müncheberg; 5) white, printed: *Oniticellus setifer* / Kraatz, 1895 - Syntypus ♀ / (currently *Tiniocellus setifer*) / T.Branco det. 2008.

Syntype female, pinned, length 5.8 mm, width 3.0 mm, no part missing, bearing seven labels (Fig. 32) as follows, slashes separating lines of text: 1) white, printed: Togo / Conradt; 2) red, printed: Syntypus; 3) light blue, handwritten: *Oniticellus* / pilifer / Kraatz 95 / Togo; 4) white, printed: Coll. Kraatz; 5) white, printed: Coll. DEI / Müncheberg; 6) white, handwritten: *Oniticellus* / setifer Kr.; 7) white, printed: *Oniticellus setifer* Kraatz, 1895 / Syntypus ♀ / (currently *Tiniocellus setifer*) / T.Branco det. 2008.

All syntypes were collected in the same locality and do not show any significant individual variation other than sexual dimorphism. In these circumstances, the designation of a lectotype is superfluous.

Kraatz (1895) described *setifer* on an unspecified number of specimens: «In einigen Ex. bei Bismarckburg von

Herrn Conradt gesammelt.» {A few specimens collected by Mr. Conradt in the neighbourhood of Bismarckburg}. Amongst the many specimens collected by Leopold Conradt in Bismarckburg, between November 1892 and October 1893 (see Appendix 3), the five specimens in DEI, listed above as syntypes, are the only ones bearing evidence, namely the label “Coll. Kraatz”, of having been used by Kraatz for the species description. There are also in DEI two females collected by Conradt, and bearing the label “Coll. Kraatz”. They are, however, from “Kamerun” (= Cameroon), an origin not mentioned by Kraatz in the original description, thus they cannot be considered part of the type series.

The third label on the second female syntype, in Kraatz's handwriting, suggests that he intended to name the species “pilifer”. Yet, that name remained *in litteris*, hence it is not available.

NON-NAME-BEARING specimens examined: 839 males and 867 females from **eastern Africa**: Eritrea, Ethiopia, Kenya, Sudan, Tanzania and Uganda, **central Africa**: Burundi, CAR, PRC, DRC, Gabon, and Rwanda, **western Africa**: Benin, Burkina Faso, Cameroon, Chad, Equatorial Guinea, Ghana, Guinea-Bissau, Guinea-Conakry, Ivory Coast, Nigeria, Senegal, Sierra Leone and Togo, plus 1 female presumably mislabeled “Cap bon. Esp.”. Detailed list in Appendix 3.

DISTRIBUTION CHART: Fig. 42.

ORIGINAL DESCRIPTION. Kraatz (1895): «1. *Oniticellus setifer*: *Fusco-piceus, opacus, supra deplanatus, capite parce thorace crebre minus subtiliter punctato et pilosulo, elytris basi maculis longitudinalibus et nonnullis discoidalibus fusco-translucidis, lateribus carinatis disco et apice pilis longis validiusculis distantibus vestitis, pectore crebre minus subtiliter sed haud profunde punctato, linea media subtili, apice evanescenti, laevigata, femoribus posticis pilorum serie (circiter 8–9) munitis.* – Long. 5½–6 mill. § Mas: *Capite laevi, clypeo medio producto, triangulariter exciso.* § Fem. *Capite laevi, clypeo medio subtruncato, vix emarginato.* § Von dem abyssinischen *inaequalis* und dem westafrikanischen *On. nasicornis* Reiche durch viel geringere Grösse, dunkelpechbraune Färbung und in beiden Geschlechtern ebenen Kopf, sowie durch die an den Seiten von einem scharfen Kiele begrenzten Fld. unterschieden, welche längs der Naht eine Reihe von 5–6 abstehenden längeren weissen Börstchen und am Hinterrande 3–4 ziemlich weit auseinanderliegende abstehende längere Borstenhaare zeigen, von denen die zwei inneren in der Regel doppelt sind; auch der untere Rand der Pleuren der Fld. zeigt einzelstehende Borsten, ebenso sind die Hinterschenkel mit einer Reihe von 8–9 längeren Borsten bekleidet. Die Fühler sind pechbraun, der Kopf ist eben, weitläufig punkulirt, die Stirn in der Mitte beim ♀ sehr schwach gerundet, kaum ausgeschnitten, beim ♂ leicht vorgezogen, tief dreieckig ausgeschnitten, so dass in der Mitte zwei Zipfelchen hervorragen; die Oberseite des Kopfes ist mit ziemlich anliegenden Börstchen bekleidet, am Seitenrande vor den spaltförmigen Augen, mit einzelnen längeren. Der ganze Käfer ist oben viel flacher als die bisher bekannten Arten, das Halsschild kaum breiter als die Fld., an den Seiten kaum ausgeschweift, die Hinterecken abgerundet, hinten in der Mitte kaum vorgezogen, oben auf der hinteren Hälfte mit einem kräftigen Längseindruck, wenig dicht punkulirt und mit anliegenden, an den Seiten mit längeren abstehenden Börstchen bekleidet. Das Schildchen ist deutlich sichtbar. Die

Fld. sind oben gerade abgeflacht, am Seitenrande von einer scharfen Kante eingefasst, and der Basis der Längsfurchen mit schwach durchschimmernden bräunlichen Längsflecken, von denen auch bisweilen ein Paar auf dem Discus sichtbar werden. Die Hinterbrust ist grob, aber nicht tief punktiert, eine hinten abgekürzte schmale Mittellinie glatt. Die Beine sind pechbraun, die Vorderschienen mit 4 starken Zähnen, von denen die hinteren die schwächeren sind; die Schienen sind merklich schwächer nach der Spitze verstärkt als bei den echten *Oniticellus*, die Tarsen viel schlanker, so dass die vorletzten Glieder an den hintersten mehr als doppelt so lang als breit sind; daher sind die Hintertarsen bei *nasicornis* Reiche und Verwandten kürzer als die Schienen, bei *setifer* länger als dieselben; die Schenkel sind weniger verdickt, die hintersten mit einer Reihe von 8–9 längeren Borsten besetzt. § In einigen Ex. bei Bismarckburg von Herrn Conradt gesammelt.»

{1. *Oniticellus setifer*: Pitch-black, dull, upperside depressed, the head sparsely the thorax densely but less finely punctate and setose, elytra with longitudinal shining dark speckles on the base and some on the disc, carinated laterally the disc and apex with somewhat strong long scattered setae, breast densely less finely but not deeply punctate, midline thin, evanescent apically, smooth, hind femurs with a row of bristles (circa 8 - 9). - Length 5½–6 mm. § Male: Head inermis, clypeus produced in the middle, emarginate triangularly. § Female. Head inermis, clypeus subtruncate in the middle, hardly emarginate [clearly, Kraatz mistook the female for the male; see also above, on the label with the symbol “♀” on all three male syntypes]. § Distinct from the Abyssinian *inaequalis* and the West-African *On. nasicornis* Reiche by a much smaller size, dark pitch-brown colour and plain head in both sexes, as well as by the elytra limited on the sides by a sharp carina, presenting alongside the suture a row of 5–6 erect long white bristles and on the hind edge 3–4 fairly broad, widely separated from each other, erect, long bristles, of which the inner two are usually double; also the lower edge of the elytral pleura presents isolated bristles, equally the hind femurs are dressed with a row of 8–9 long bristles. The antennae are pitch-brown, the head is flat, sparsely punctulated, the frons in the middle in the ♀ very weakly rounded, hardly emarginate, in the ♂ slightly produced, deeply triangularly emarginate, such that in the middle two small corners protrude [clearly, Kraatz mistook the female for the male; see also above]; the upperside of the head is overlaid with fairly recumbent bristles, the lateral edge of the slit-like eyes with a few longer ones. The entire beetle is much flatter above than the known species, the pronotum hardly wider than the elytra, hardly curved laterally, the posterior angles rounded off, posteriorly in the middle hardly produced, above on the posterior half with a strong longitudinal impression, little densely punctulated and coated with recumbent bristles, on the sides with longer, erect ones. The scutellum is clearly visible. The elytra above are flattened straight, on the sides bordered by a sharp edge, on the base of the striae with weakly gleaming brownish elongate speckles, a pair of which is also sometimes on the disc. The metasternum is coarsely but not deeply punctate, with a narrow smooth median line shortened posteriorly. The legs are pitch-brown, the fore tibiae with 4 strong teeth of which the more posterior is the weakest; the tibiae are distinctly more weakly dilated towards the apex than in the typical *Oniticellus*, the tarsi much slender, such that the last segments of the hindmost are more than twice longer than wide; thence

whereas the hind tarsi of *nasicornis* Reiche and relatives are shorter than the tibiae, in *setifer* they are as long as them: the femurs are less thickened, the hind femurs ornate with a row of 8–9 long bristles. § A few specimens collected by Mr. Conradt in the neighbourhood of Bismarckburg. }

DIAGNOSTIC FEATURES AND VARIATION

Body size: length 4.5 - 7.4 mm, width 2.4 - 3.6 mm.

Head (Fig. 5) with genae protruding from sides of clypeus at clypeo-genal junction. Punctuation on frons and vertex sparse, nearly uniform, all punctures setiferous, the integument between the punctures strongly shagreened and dull.

Disc of pronotum without testaceous patches, more or less extensively dark to almost entirely dark.

Elytra with relatively wide striae, basally the width of 3rd stria, taken as a reference, approximately one third of the width of 4th interstria. Most granules on the interstriae nearly hemispheric. The long dirty white spatulate erect setae arranged as follows: two to seven, most frequently four or five on the 1st interstria, none on the 3rd, none to four, most frequently one or two on the 5th, and none or rarely one on the 7th interstria.

Disc of metasternum flat in both sexes, at most with a small and very shallow depression at the end of the impunctate and shining midline, and somewhat anterior to the base.

Pygidium in both sexes not unusually large, not wider basally than elytral interstriae 1st to 5th of both elytra together at apical declivity; all abdominal sternites reaching the abdominal midline in both sexes.

Hind femurs without any setae on the postero-inferior edge.

Aedeagus (Fig. 17) with phallobase approximately three times longer than wide; parameres weakly sclerified, the lateral sclerification not ending at the tip in a hook-like process; their basal apophysis small.

COLOUR PATTERN:

Specimens from western Africa tend to be darker than those from eastern Africa, and females tend to be darker than males.

Head bronze with a coppery hue except along the fore edge of clypeus where it is shining black; genae most frequently of the same colour as the rest of the head, rarely slightly paler.

Pronotum black with a narrow brown border all around, the border encircling on either side the lateral shallow callosity which is shining bronze.

Elytra with brown striae, the interstriae dark brown, the 1st, 3rd and 5th interstriae darker than the others, with the following testaceous patches: one at the base of the 2nd to 4th interstriae, shorter on the 3rd interstria than on the other two, one at the base of the 6th and 7th interstriae, one at a quarter of the 5th interstria, one at a third of the 4th interstria, one towards the middle of the 2nd and 3rd interstriae, and one across the apical declivity from the 2nd to 7th interstriae. In pale specimens those patches are more or less indistinct but the difference in colour between the 1st, 3rd and 5th interstriae and the others is accentuated. In moderately dark specimens these patches are all distinct but the difference in colour between the 1st, 3rd and 5th interstriae and the others is toned down. In very dark specimens the elytra are almost entirely black with only a brown spot at the base of interstriae 2nd, 4th and 6th, and the apex also brown. Epipleura dark brown with a testaceous patch behind the level of the umbone, very distinct in moderately dark specimens, this patch is almost indistinct from the

light brown colour of the epipleura in pale specimens, as well as in very dark specimens with the epipleura entirely black. The short, recumbent setae are brown, the long spatulate erect setae are dirty white.

Mouthparts and antennae brown, underside of head dark brown with a black patch behind the eyes. Prosternum dark brown with a yellowish brown patch on the posterior half of the proepisterna and along their fore edge. Mesosternum black. Metasternum dark brown with a yellowish brown border all around except on the anterior declivity which is dark brown on the middle. Abdominal sternites brown, somewhat paler patch next to the lateral edges. Tibiae and tarsi brown. Fore femurs reddish brown with a dark brown patch on the middle. Middle and hind femurs dark brown with a yellowish brown border along the fore edge.

Not much difference is observed between dark and pale specimens other than the tone of the colours.

ETHOLOGY AND PHENOLOGY: According to their labels, the specimens examined were collected throughout the year, in baboon, buffalo, cow, dog, elephant, and human excrements.

REMARKS: The presence of two species in eastern Africa was correctly recognized by d'Orbigny (1916), who, with reference to the genus *Tiniocellus*, wrote: «Deux espèces africaines seulement appartiennent à ce genre: le *spinipes* Roth (1851, apud Wiegmann, Arch. f. Naturg., XVII, 1, p. 128), décrit du Tigré, et le *setifer* Kraatz (in Deutsche ent. Zeitschr., 1895, p. 143), décrit du Togo. Ces deux espèces se ressemblent beaucoup et elles étaient confondues dans toutes les collections que j'ai vues; elles habitent toutes deux la majeure partie de l'est de l'Afrique, mais le *setifer* est également très répandu dans l'ouest; il ne diffère guère du *spinipes* que par sa coloration générale ordinairement plus foncée, la ponctuation de la tête uniformément composée de très gros points simples et écartés (au lieu d'être composée, sur la moitié postérieure, de gros points légèrement râpeux et assez serrés)» {Two African species only belong to this genus: *spinipes* Roth (1851, apud Wiegmann, Arch. f. Naturg., XVII, 1, p. 128), described from Tigré, and *setifer* Kraatz (in Deutsche ent. Zeitschr., 1895, p. 143), described from Togo. These two species are very similar and they were confounded in all the collections that I have seen; they both occur in the major part of eastern Africa, but *setifer* is also widespread in the west; it differs from *spinipes* only by its colour usually darker, the head punctation uniformly composed of very large simple punctures sparsely set (instead of composed, on the posterior half, by large punctures slightly roughed and densely set)}.

Subsequently, Boucomont (1921) failed to notice the differences between the two species, and synonymised *setifer* with *spinipes*, without presenting, however, any arguments in support of his action. Later Boucomont (1923) confirmed his previous opinion, writing: «*O. spinipes* Roth n'est pas, à mon avis, distinct d'*O. setifer* Kraatz; je l'avais cru tout d'abord, comme d'Orbigny, mais j'ai observé tous les passages. L'espèce est très variable dans sa coloration et sa ponctuation.» {*O. spinipes* Roth is not, in my opinion, distinct from *O. setifer* Kraatz; at first I believed so, like d'Orbigny, but I have observed every intermediate. The species is very variable in its colour and punctation.}

Boucomont's opinion was upheld by all subsequent authors, until Balthasar (1968). Like d'Orbigny (1916), Balthasar (1968), when describing *asmarensis*, did also recognize

the presence of two species in eastern Africa: «Der der neuen Art am nächsten stehender *Tiniocellus spinipes* Roth unterscheidet sich durch eine viel kleinere und viel spärlichere Punktation des Kopfes und des Halsschildes; die Zwischenräume der Punkte am Halsschild sind breit, und eben diese sind chagrinirt, so daß die Oberseite des ganzen Vorderkörpers viel matter erscheint. Die körneligen Punkte der Zwischenräume der Flügeldecken sind ebenfalls spärlich, teilweise einreihig gestellt, die Streifen und deren Punkte sind etwas deutlicher. Ich neige zu der Ansicht, daß die neue Art bisher von verschiedenen Autoren unrichtig als abweichende Form im Rahmen der individuellen Variabilität von *T. spinipes* Roth aufgefaßt wurde.» {*Tiniocellus spinipes* Roth, the closest to the new species, differs by the much finer and much sparser punctation of the head and pronotum; the intervals between the punctures on the pronotum are larger and shagreened like them, such that the upperside of the whole anterior part of the body is much duller. The granulose punctures of the elytral interstriae are also sparser, partially aligned, the striae and their punctation are somewhat more distinct. I am inclined to the view that the new species has hereto been erroneously regarded by several authors as an aberrant form within the range of individual variation of *T. spinipes* Roth.}

Unfortunately, Balthasar (1968) overlooked d'Orbigny's 1916 work, mistook *setifer* for *spinipes*, and re-described the latter as *Tiniocellus asmarensis* (see above, under *spinipes*).

Judging from the specimens that I could borrow, *setifer* although absent from southern Africa is the most common and widespread species in Africa, ranging from east to west between, roughly, 15° N and 8° S.

8. *Tiniocellus praetermissus* sp. n.

TYPE LOCALITY: Ghana, Northern region, Nakpanduri, 430 m, 10°38'N-0°32'W.

NAME-BEARING TYPE: **Holotype** male, in **HNHM**, glued to a mounting card, the aedeagus glued to the same card, length 5.5 mm, width 2.8 mm, bearing three labels (Fig. 37) as follows, slashes separating lines of text: 1) white, printed: GHANA: Northern region / Nakpanduri / 430 m, N 10 38 - W 0 32 / Dr. S. ENDRÖDY-YOUNGA; 2) white, printed: Nr. 248 / faeces trap / 7.VIII.1967; 3) red, printed: *Tiniocellus praetermissus* / HOLOTYPUS / T. Branco 2008.

Paratypes: 566 males and 538 females, from **western Africa:** Benin, Burkina Faso, CAR, Ghana, Guinea-Bissau, Ivory Coast, Nigeria, Senegal, and Togo. Detailed list in Appendix 4.

DISTRIBUTION CHART: Fig. 43.

DESCRIPTION: To avoid unnecessary repetition, features shared by all species, already reported under the re-description of the genus, are not included.

Body size: length 4.6 - 7.4 mm, width 2.4 - 3.5 mm.

Head (Fig. 6) with the genae protruding from the sides of the clypeus at clypeo-genal junction, dark brown to black with sides of clypeus and genae brown, and a metallic coppery hue narrowly along the fore edge of clypeus; frons and vertex sparsely punctate, all punctures setiferous, the integument between the punctures moderately to strongly shagreened.

Pronotum brown to black, the edge of the punctures often darker than the surrounding surface, with a testaceous border all around which in pale specimens encircles both

the lateral callosity and a black spot behind the anterolateral angles, anteriorly the testaceous border more or less expanded backwards in front of the postero-lateral angles of the head, posteriorly extended forward along the median longitudinal furrow.

Scutellum brown with a coppery to bronze metallic hue.

Elytra with relatively wide striae, basally the width of 3rd stria, taken as a reference, approximately one third of the width of 4th interstria. Most granules on the interstriae small, nearly hemispheric. The dirty white long spatulate erect setae arranged as follows: 1st interstria with three to seven, most frequently four or five; 3rd interstria always without any; 5th interstria none to four, most frequently two; 7th interstriae most frequently without any, rarely with one on one of the elytra, even more rarely with one on both elytra. Striae brown, first interstria brown to dark brown, the other interstriae yellowish brown to dark brown with the following testaceous to reddish brown patches: one at the base of 2nd to 4th interstriae, twice longer on the 2nd and 4th interstriae than on the 3rd; one at the base of the 6th and 7th interstriae; one towards a quarter of the 4th and 5th interstriae, sometimes joined to the basal patch on the 4th interstria; one just before the middle on the 2nd and 3rd interstriae, sometimes joined to the basal patch on the 2nd interstria; one on the apical declivity from the 2nd to 7th interstriae, longer on the 2nd and 4th than on the other interstriae, sometimes extended all over the 2nd and 4th interstriae. Sometimes this pattern is blurred, the patches more or less ill-delimited; sometimes the 6th, 7th and 8th interstriae are entirely of a distinctly lighter brown than the dark areas on the other interstriae. Epipleura yellowish brown to dark brown.

Pygidium in both sexes not unusually large, not wider basally than elytral interstriae 1st to 5th of both elytra together at apical declivity; all abdominal sternites reaching the abdominal midline in both sexes; reddish brown to dark brown on the area above the transverse row of long setae usually hidden under the elytra, often with a metallic coppery hue in darker specimens; elsewhere yellowish brown to brown with most setiferous punctures distinctly darker than the surrounding integument.

Mouthparts and antennae yellowish brown to brown; underside of head brown to dark brown with a dark patch behind the eyes.

Prosternum with the presternum and sternellum smooth, yellowish brown to dark brown; proepisterna smooth, yellowish brown with a dark patch anteriorly; proepimera granulose on the posterior half, the granules darker than the surrounding integument, yellowish brown with a brown patch anteriorly and another posteriorly, to dark brown narrowly yellowish brown along the sides. Fore coxae dark brown to black. Fore femurs yellowish brown to reddish brown, with a dark patch in the center, the setiferous punctures darker than the surrounding integument.

Mesosternum yellowish brown to dark brown.

Disc of metasternum with a spoon-shaped concavity, occupying approximately half the length of the disc along the midline and abutting the hind edge of metasternum in the male; in the female the concavity is smaller and shallower, situated somewhat before the hind edge of the metasternum and occupies roughly one quarter the length of the

disc along the midline; in large males the concavity is glabrous, impunctate and micro-reticulate all over, with the edges well marked; in small males it is punctate posteriorly and its edges are less well marked; in females the edges are not well marked, its anterior half is glabrous, impunctate and micro-reticulate, and its posterior half is punctate. Metasternum brown to black with a light brown to reddish brown border all around, the border wider in pale specimens than in dark ones, encircling a dark patch on either side of the midline on the anterior declivity, and another one in front of the inner edge of the middle coxae; the concavity often of a lighter colour than the disc.

Tibiae and tarsi light brown in pale specimens to dark brown in dark ones; middle coxae yellowish brown to brown; hind coxae black on the anterior half, light brown to brown on the posterior half; middle and hind femurs entirely reddish brown in pale specimens, dark brown with a light brown border along the fore edge in dark specimens.

Abdominal sternites reddish brown in pale individuals, dark brown with an almost triangular brown patch close to the upper edge.

Middle femurs sometimes with a seta basally on the hind face, most frequently either on the right or on the left femur, rarely on both femurs.

Hind femurs with one to three, most frequently two long setae, basally on the postero-inferior edge; these setae are born out of punctures that notch the postero-inferior edge of the femur; when the setae have been lost, the notches can still be easily spotted; such setae and the punctures that bear them are not present in any other species except the South African *eurypygus* sp. n.

Aedeagus (Fig. 19) with phallobase approximately two and half times longer than wide; parameres weakly sclerified, the lateral sclerification ending at the tip in a hook-like process facing outwardly.

DIAGNOSTIC FEATURES

Head (Fig. 6) with the genae protruding from the sides of the clypeus at clypeo-genal junction. Frons and vertex sparsely punctate, all punctures setiferous, the integument between the punctures moderately to strongly shagreened.

Pronotum without testaceous patches on disc.

Elytra with relatively wide striae, basally the width of 3rd stria, taken as a reference, approximately one third of the width of 4th interstria; most granules on the interstriae small, nearly hemispheric; 3rd interstria without dirty white long erect setae other than the tuft on apical declivity.

Pygidium not unusually large, not wider basally than elytral interstriae 1st to 5th of both elytra together at apical declivity.

Disc of metasternum with a spoon-shaped concavity larger and deeper in males than in females.

Hind femurs with one to three, most frequently two long setae, basally on the postero-inferior edge.

Aedeagus (Fig. 19) with phallobase approximately two and half times longer than wide; parameres weakly sclerified, the lateral sclerification ending at the tip in a hook-like process facing outwardly.

ETYMOLOGY: Latin, meaning the overlooked *Tiniocellus*.

ETHOLOGY AND PHENOLOGY: According to the data on labels, the specimens examined were collected throughout the year, except October and November, in baboon, cow, ele-

phant, hippopotamus, human, rhinoceros, roan antelope, and wart hog excrements.

REMARKS

The only other species with a spoon-shaped concavity on the metasternum is the Asiatic *imbellis*, and the only other species with long setae on the postero-inferior edge of the hind femurs is the South African *eurypygus* sp. n. How could *praetermissus* sp. n. be mistaken for either *spinipes* or *setifer* is difficult to understand. However:

a) Most probably Janssens had scarcely any material of this species available for his 1953 revision. As may be seen in Appendix 4, there are in the collections examined only five males and six females of *praetermissus* sp. n. collected before 1953. Of those specimens, only two females, both in IRSNB, one labelled "Cazamanca, coll. J.Thomson" the other "Côte d'Or", bear evidence of having been seen by Janssens, as they are both labelled "A.Janssens det., 1953, *Tiniocellus spinipes* (Roth)".

b) Moretto (2007) distinguished *praetermissus* from *setifer*, writing: «*Tiniocellus cf. spinipes* (Roth, 1851) n° 1 § Niokolo (!), Piste du Mont Assirik (!). Je connais cette espèce de Côte d'Ivoire (!) et du Cameroun (Adamaoua, M. Desfontaine leg.). § *Tiniocellus cf. spinipes* (Roth, 1851) n° 2 § Niokolo (!), Siminti (!), Piste du Mont Assiriki. Je connais cette espèce de Côte d'Ivoire (!).» {*Tiniocellus cf. spinipes* (Roth, 1851) n° 1 § Niokolo (!), Piste du Mont Assirik (!). I know this species from Ivory Coast (!) and from Cameroon (Adamaoua, M. Desfontaine leg.). § *Tiniocellus cf. spinipes* (Roth, 1851) n° 2 § Niokolo (!), Siminti (!), Piste du Mont Assiriki. I know this species from Ivory Coast (!)}. I have studied Moretto's material and can assert that his species n° 1 is *setifer* and his species n° 2 is *praetermissus* sp. n.

9. *Tiniocellus dolosus* sp. n.

TYPE LOCALITY: DRC, Shaba, Parc National de l'Upemba, Lupiala, 850 m.

NAME-BEARING TYPE: **Holotype** male, in IRSNB, glued to a mounting card, the aedeagus glued to the same card, length 7.0 mm, width 3.4 mm; bearing five labels (Fig. 38) as follows, slashes separating lines of text: 1) white, printed: ♂; 2) white, printed: Congo Belge: P.N.U. / Lupiala (850 m.) / 24 x-1947 / Mis. G.F.de Witte. 907a; 3) white, printed: R.I.Sc.N.B. / I.G. 19.200; 4) white, printed: A Janssens det., 1952 / TINIOCELLUS / spinipes Roth; 5) red, printed: *Tiniocellus / dolosus / HOLOTYPUS / T. Branco 2008.*

Paratypes: 52 males and 57 females from **eastern Africa:** Malawi and Tanzania, **central Africa:** DRC, and **southern Africa:** Angola, Zambia, and Zimbabwe. Detailed list in Appendix 5.

DISTRIBUTION CHART: Fig. 43.

DESCRIPTION: To avoid unnecessary repetition, features shared by all species, already reported under the re-description of the genus, are not included.

Body size: length 5.6 - 8.0 mm, width 2.9 - 3.9 mm.

Head (Fig. 7) with genae protruding slightly from the sides of clypeus at clypeo-genal junction; dark bronze with a coppery metallic hue, narrowly black with a metallic green hue behind the fore edge of clypeus, the genae sometimes narrowly brown externally; punctuation double and dense

on clypeus, which is slightly raised medially in a longitudinal bump in both sexes, the largest punctures bearing erect setae; genae with two or three setiferous punctures, the setae erect; frons and vertex with sparse, irregularly spaced setiferous punctures separated by one to three diameters, the setae recumbent, the integument between the punctures strongly shagreened.

Pronotum black with a pair of longitudinally aligned testaceous patches on either side of the midline, and a testaceous border all around that encircles both the shining bronze lateral callosity and a black spot behind the antero-lateral angles; anteriorly the testaceous border widens behind the postero-lateral angles of the head joining, in light coloured specimens, the anterior discal testaceous patches; posteriorly the testaceous border widens in front of the 5th elytral stria and along either side of the median longitudinal furrow; in dark specimens all four testaceous patches may be indistinct, or only the posterior are distinct; on testaceous areas the raised fore edge of the punctures is often black; setae dark brown to black.

Scutellum reddish brown to dark brown with a coppery to bronze hue.

Elytra with relatively wide striae, basally the width of 3rd stria, taken as a reference, approximately one third of the width of 4th interstria. Granules on the interstriae small and nearly hemispheric. The dirty white long spatulate erect seta are arranged as follows: four to seven, most frequently five or six on the 1st interstria; one to four, most frequently two or three on both the 3rd and 5th interstriae; one or two on the 7th interstria. The striae vary from testaceous to brown. In dark specimens the interstriae are entirely black except for a brown patch at the base of the 2nd, 4th and 6th interstriae; the 2nd and 3rd interstriae have a brown patch towards a third of their length; another brown patch on the 4th interstria whose posterior limit coincides with the anterior limit of that on the 3rd interstria; another on the 5th interstria whose posterior limit coincides with the anterior limit of that on the 4th interstria; a testaceous patch on the apical declivity of the 2nd to 7th interstriae. The epipleura have a brown spot behind the level of the umbone and are brown also around the apical declivity of the elytra. In pale specimens the 1st interstria is darkened alongside the scutellum and on the distal half, the punctures bearing long, spatulate, erect setae are distinctly darker than the surrounding integument, the 2nd to 7th interstriae are testaceous on the base, the 5th and 7th very shortly, the 3rd and 6th roughly as long as their width, on the 2nd and 4th approximately twice longer than their width, the 2nd and 5th interstriae have the same patches as described above with the difference that they are testaceous instead of brown, as well as the apical declivity and the epipleura. The colour pattern of the elytra may be more or less blurred in either pale specimens with light brown elytra or in very dark specimens which have the elytra almost entirely black.

Pygidium in both sexes not unusually large, not wider basally than elytral interstriae 1st to 5th of both elytra together at apical declivity; all abdominal sternites reaching the abdominal midline in both sexes; brown to black above the basal transverse row of long spatulate setae, an area normally covered by the elytra, and on the median longitudinal furrow; elsewhere testaceous to brown.

Mouthparts brown, antennae testaceous, ventral face of head dark brown to black with the gula testaceous.

Prosternum with the proepisterna testaceous with a dark spot on the anterior declivity; proepimera with the inner half dark brown to black, the outer half testaceous with a darkened patch posteriorly and a black spot next to the suture separating them from the proepisterna; fore coxae black.

Mesosternum dark brown to black laterally, testaceous in the middle.

Metasternum testaceous with a dark brown to black patch on either side of the midline on the anterior declivity, more or less extensively darkened on disc and laterally; sparsely and shallowly punctate on the anterior part of disc, more densely posteriorly; with a smooth shallowly impressed midline that ends posteriorly in a small and very shallow depression vaguely shaped as an inverted V; metepisterna and metepimera testaceous with a darkened patch in the centre.

Abdominal sternites brown on the posterior half, dark brown to black anteriorly.

Tibiae and tarsi brown; fore and middle femurs brown with a dark brown patch in the centre; hind femurs brown with a few black punctures, including those that bear long, spatulate, erect setae.

Hind femurs without any setae on the postero-inferior edge.

Aedeagus (Fig. 18) with the phallobase approximately two and half times longer than wide; parameres weakly sclerified, the lateral sclerification not ending at the tip in a hook-like process, their basal apophysis large.

DIAGNOSTIC FEATURES

Head (Fig. 7) with the genae protruding from the sides of the clypeus at clypeo-genal junction. Frons and vertex sparsely punctate, all punctures setiferous, the integument between the punctures strongly shagreened.

Pronotum with a pair of longitudinally aligned testaceous patches on either side of the midline but, sometimes, mostly in dark specimens all four testaceous patches are indistinct, or only the posterior are distinct.

Elytra with relatively wide striae, basally the width of 3rd stria, taken as a reference, approximately one third of the width of 4th interstria; granules on the interstriae small and nearly hemispheric; 3rd interstria with one to four, most frequently two or three dirty white long erect setae other than the tuft on apical declivity.

Pygidium not unusually large, not wider basally than elytral interstriae 1st to 5th of both elytra together at apical declivity.

Disc of metasternum without concavity in either sex, with a small and very shallow depression vaguely shaped as an inverted V at the end of the midline.

Hind femurs without any setae on the postero-inferior edge.

Aedeagus (Fig. 18) with the phallobase approximately two and half times longer than wide; parameres weakly sclerified, the lateral sclerification not ending at the tip in a hook-like process, their basal apophysis large, distinctly larger than in either *spinipes* or *setifer*.

ETYMOLOGY: Latin, meaning the deceitful *Tiniocellus*.

ETHOLOGY AND PHENOLOGY: According to the data on labels, the specimens examined were collected throughout the year, except June and July. The only 19 specimens whose labels contain that kind of information were collected in elephant and human excrements.

REMARKS: As described above, the testaceous patches on the disc of pronotum vary from very distinct to virtually indistinct. Specimens with all four testaceous patches distinct may be mistaken for *spinipes*, and those with all four testaceous patches indistinct may be easily mistaken for *setifer*. In fact, all specimens in IRSNB that I have examined are labelled "A.Janssens det., 1952, *Tiniocellus spinipes* Roth" despite that in most of them the testaceous patches on the disc of pronotum are indistinct or hardly distinct. But it should be noted that Janssens (1953) considered *setifer* synonym of *spinipes*. However, *dolosus* sp. n. can be easily distinguished from *spinipes* and *setifer* by the presence on the 3rd elytral interstria of one to four, most frequently two or three dirty white long erect setae, other than the tuft on the apical declivity. The only other species with long spatulate erect setae on the 3rd interstria other than the tuft on the apical declivity are the Asiatic *imbellis*, and very rarely the South African *eury-pygus* sp. n. Males of *dolosus* sp. n. can be distinguished from all other species by the shape of the parameres, particularly the shape and size of their basal apophysis.

10. *Tiniocellus eurypygus* sp. n.

TYPE LOCALITY: RSA, Limpopo, Potgietersus.

NAME-BEARING TYPE: **Holotype** male, in CMN, pinned, aedeagus glued to a mounting card, length 6.8 mm, width 3.3 mm; bearing two labels (Fig. 39) as follows, slashes separating lines of text: 1) white, printed: SOUTH AFRICA: TVL. / Potgietersus / 1-3.XII.1992 / J. Klimaszewski / ex sifted dung; 2) red, printed: *Tiniocellus* / *eurypygus* / HOLOTYPUS / T. Branco 2009.

Paratypes: see below under nominotypical subspecies.

DISTRIBUTION CHART: Fig. 42 and 44.

NOTE: This species contains two subspecies, geographically separated by the steep scarps of the Drakensberg mountain range. I was unable to find any features of the external morphology allowing the separation of the subspecies. However, all males collected on the uplands west of the Drakensberg mountain range, above an altitude of 1,000 m, have an aedeagus (Fig. 20) with long parameres, whereas all the males collected on the lowlands east of the same mountain range, below an altitude of 750 m, have an aedeagus (Fig. 21) with short parameres, without any significant variation amongst the 73 males of the nominotypical subspecies and the 172 males of *eurypygus transdrakensbergensis* ssp. n. that I have examined, and with no intermediates between the two forms.

DESCRIPTION: To avoid unnecessary repetition, features shared by all species, already reported under the re-description of the genus, are not included.

Body size: length 5.8 - 8.3 mm, width 2.9 - 3.9 mm.

Head (Fig. 8) with genae not protruding from the sides of clypeus at clypeo-genal junction; clypeus, in both sexes, with a median longitudinal shallow bump glabrous with a few scattered small punctures; clypeal punctation on either side of the bump simple in males, more or less strongly rugose in females; frons and vertex with irregularly spaced large setiferous punctures, the integument micro-reticulate; colour of head varying from black with the clypeus and genae narrowly brown along outer edge in dark specimens, to clypeus on either side of the bump and ge-

nae testaceous; clypeal bump, clypeo-genal sutures, frons and vertex dark brown often with a metallic coppery hue, sometimes in pale specimens vertex with a testaceous spot on either side of the midline close to the hind edge. Mouth parts and antennae light brown, underside of head brown with a dark brown to black area behind the eyes.

Disc of pronotum always with two distinct testaceous patches on either side of the midline; sometimes dark areas reduced, the testaceous patches joined together and joined by the testaceous border of the pronotum only anteriorly or both anteriorly and posteriorly; sometimes the dark area breaks up towards the sides, such that laterally the pronotum is mottled. Prosternum testaceous with the following black patches: the proepimera black on the area adjacent to fore femurs, a black patch behind the proepimeron-proepisternum suture, and the centre of the sides darkened; proepisternum with a black spot over both sides of the proepisternal carina; presternum and sternelum darkened along the edges, the sternelum sometimes entirely darkened. Fore coxae dark brown.

Elytra with striae relatively narrow, basally the width of 3rd stria, taken as a reference, approximately one fifth of the width of 4th interstria; granules on the interstriae very small, nearly hemispheric; dirty white long spatulate erect setae arranged as follows: three to eight, most frequently five or six on the 1st interstria; most frequently none, very rarely one on the 3rd interstria; one to three, most frequently one or two on the 5th interstria; 7th interstria always without any. Elytra testaceous to brown, the 1st interstria darkened alongside the scutellum and on the suture, with the following patches: dark brown to black patches at the base of the 5th interstria and on the umbone, and at a quarter of the 2nd, 3rd and 4th interstriae, the patch on the 2nd interstria twice longer than wide, three times longer than wide on the 3rd and as long as wide on the 4th interstria; a testaceous patch on the 2nd, 3rd, 4th and 5th interstriae immediately behind the dark brown patches just mentioned, the fore edge of the testaceous patch on 4th interstria at the level of the hind edge of the patch on 3rd, and the hind edge of the patch on the 5th at the level of the middle of the patch on the 4th interstria, the interstriae often slightly darker behind these testaceous patches; a black spot before the apical declivity on the 3rd and 5th interstriae; the 6th and 7th interstriae somewhat darker a little behind the base and before the apical declivity, the latter testaceous all across the elytron; epipleura entirely testaceous to brown. In dark individuals the dark patches are more or less extended, in pale ones they are more or less abridged, sometimes they are almost entirely blurred except the testaceous patches on the 2nd, 3rd, 4th and 5th interstriae which are always more or less distinct; the testaceous patch across the apical declivity is always very distinct in either pale or dark specimens.

Pygidium (Fig. 11, 12) very large, as wide at base as elytral interstriae 1st to 6th of both elytra together at apical declivity in both sexes; in males pygidium very long, strongly turned inwardly, the 4th and 5th abdominal sternites (Fig. 13) withered away before reaching the abdominal midline; in females (Fig. 14) pygidium not abnormally long, the 6th abdominal sternite almost as long as the 3rd, 4th and 5th together along the midline. Pygidium dark brown with a metallic coppery to bronze hue above the basal transverse

row of long setae, elsewhere brown to testaceous with the longitudinal furrow slightly darker; the latter sometimes so shallow as to be nearly indistinct, particularly in females.

Mesosternum dark brown to black with a testaceous to brown patch in the middle and another on either side along the fore edge of the middle coxae.

Metasternum testaceous to brown, mottled with black spots, with a dark brown to black patch on either side of the midline on the anterior declivity, and narrowly darkened alongside the middle coxae and on the posterior edge; with sparse long erect setae born by small punctures on the anterior declivity and around the middle coxae; elsewhere with fairly dense recumbent setae born by large shallow punctures. Disc of metasternum in males with two abutting concavities occupying approximately three quarters of its length along the midline; the anterior concavity elongate and deep, punctate and setose laterally, its sides mottled with black spots, its bottom shining with a metallic coppery to green hue; the posterior concavity adjoining the posterior edge, transverse and shallow, sparsely punctate and setose, brown to testaceous all over. Disc of metasternum in females with a smooth and shining midline, often thinly engraved, terminating in a small and shallow, round to slightly elongate, impunctate and glabrous concavity somewhat anterior to the posterior edge; often with a smooth, dark brown to black patch on either side, at the level of the hind edges of the middle coxae. Middle coxae testaceous to brown on the underside, dark brown to black laterally. Hind coxae dark brown to black on the anterior half, testaceous to brown on the posterior half.

Abdominal sternites testaceous to brown, darkened along the hind edge of the 5th sternite; the 6th sternite in females darkened on the anterior half, the transverse row of setiferous punctures bearing long, erect setae situated on, or close to the transition from the darker to the lighter colour.

Tarsi and tibiae brown to dark brown, usually darker on the upperside and on the edges, the latter sometimes with a greenish metallic hue.

Femurs testaceous to brown, sometimes darkened in the middle, the setiferous punctures usually darker than the surrounding integument.

Hind femurs proximally with one or two, most frequently one, long setae on the postero-inferior edge; like in *praetermissus* sp. n., these setae are born out of punctures that notch the postero-inferior edge of the femur; when the setae have been lost, the notches can still be easily spotted; such setae and the punctures that bear them are not present in any other species except the West African *praetermissus* sp. n.

Aedeagus (Fig. 20-21) with the phallobase short in comparison with the other species, only approximately twice longer than wide; parameres strongly sclerified, with an auriculate basal apophysis, long or short depending on the subspecies (see below).

DIAGNOSTIC FEATURES

Head (Fig. 8) with genae not protruding from sides of clypeus at clypeo-genal junction, the sides of clypeus and genae forming a continuous line.

Disc of pronotum always with two distinct testaceous patches on either side of the midline; sometimes dark areas reduced, the testaceous patches joined together and joined by

the testaceous border of the pronotum only anteriorly or both anteriorly and posteriorly.

Third elytral interstria only very rarely with one long dirty white erect setae other than the tuft on the apical declivity. Pygidium very broad, as wide at base as elytral interstriae 1st to 6th of both elytra together at apical declivity in both sexes. In males pygidium very long, strongly turned inwardly, the 4th and 5th abdominal sternites withered away before reaching the abdominal midline.

Hind femurs proximally with one or two, most frequently one, long setae on the postero-inferior edge.

Aedeagus with the phallobase short in comparison with the other species, only approximately twice longer than wide.

ETYMOLOGY: From Greek ευρύς = broad, plus πυγή = rump, meaning the broad-rump *Tiniocellus*.

REMARKS: Specimens of *eurypygus* sp. n. of both sexes can be distinguished at first sight from the other five species of *Tiniocellus* by the broad pygidium, much broader than in the other species. Males, in addition, can be easily distinguished by the pygidium not only broad but also very long, its tip reaching almost to the hind coxae, the 4th and 5th abdominal sternites withered away before reaching the midline, and the large metasternal double concavity. However, the dorsal aspect of head, pronotum and elytra is, in both sexes, deceptively similar to that of *T. spinipes*, and that may account for this species being so far mistaken for the latter. Judging from the fairly deep emargination of the clypeus, the apex of fore tibiae slanting forward, and the broad pygidium, I would dare say that photo c of Plate 34 in Davis *et al.* (2008) is that of a female of *T. eurypygus* sp. n.

11. *Tiniocellus eurypygus* sp. n., nominotypical subspecies

PARATYPES: 72 males and 79 females from the uplands west of the Drakensberg mountain range (RSA). Detailed list in Appendix 6.

DISTRIBUTION CHART: Fig. 44.

DESCRIPTION: See above the description of the species. As stated, its external morphology is virtually identical to that of *eurypygus transdrakensbergensis* ssp. n. The aedeagi of the two subspecies are of the same type, but the parameres are consistently and significantly different.

Aedeagus (Fig. 20) with the parameres long, approximately 1.7 times longer than their width at base (lateral view).

ETHOLOGY AND PHENOLOGY: According to the data on labels, the specimens examined were collected from October through to March and in August, in cow dung, at altitudes above 1,000 m.

12. *Tiniocellus eurypygus transdrakensbergensis* ssp. n.

TYPE LOCALITY: RSA, KwaZulu-Natal, Itala Reserve, 27°30'S - 31°14'E.

NAME-BEARING TYPE: **Holotype** male, in BMNH, glued to a mounting card, the aedeagus glued to the same card, length 7.3 mm, width 3.5 mm; bearing three labels (Fig. 40) as follows, slashes separating lines of text: 1) white, printed: S.

AFRICA: Kwazulu / Natal Prov: Itala Res. / 27°30' S - 31°14' E / 13-14.i.1999; 2) white, printed: A.L.V.Davis: Traps / baited with pig dung / BMNH (e) 2001-96; 3) red, printed: *Tiniocellus eurypygus* / ssp. *transdrakensbergensis* / HOLOTYPUS / T. Branco 2009. **Paratypes:** 175 males and 155 females from the lowlands east of the Drakensberg mountain range (RSA). Detailed list in Appendix 7.

DISTRIBUTION CHART: Fig. 44.

DESCRIPTION: See above the description of the species. As stated, its external morphology is virtually identical to that of the nominotypical subspecies. The aedeagus is of the same type as in the nominotypical subspecies; the parameres, however, are consistently and significantly shorter.

Aedeagus (Fig. 21) with the parameres short, approximately 1.3 times longer than their width at base (lateral view).

ETYMOLOGY: Latin, meaning the *Tiniocellus eurypygus* from beyond the Drakensberg.

ETHOLOGY AND PHENOLOGY: According to the data on labels, the specimens examined were collected from October through to April and in August, in buffalo, cow, elephant, human, pig, rhinoceros, and zebra excrements, at altitudes below 750 m.

REMARKS: Although virtually identical in the external morphology, all the 73 males from the uplands west of the Drakensberg mountain range, collected at altitudes above 1,000 m, that I have examined have long parameres, whereas all the 176 males from the lowlands east of the Drakensberg mountain range, collected at altitudes below 750 m, have short parameres, without any intermediates. Therefore, I consider these two forms to be subspecies. Apparently, they are isolated from each other by the steep scarps of the Drakensberg mountain range.

13. Genus *Nitiocellus* gen. n.

TYPE SPECIES: *Oniticellus panthera* Boucomont, 1921, present designation.

ETYMOLOGY AND GENDER: an anagram of *Oniticellus*, gender masculine.

DESCRIPTION:

Body testaceous with dark spots, fairly convex, moderately elongate, approximately twice longer than wide, its length varying, in the few specimens that I could examine, from a minimum of 5.9 mm in *collarti* to a maximum of 11.7 mm in *panthera*, its width measured across the prothorax, which is somewhat wider than the elytra, varying from a minimum of 2.7 mm in *collarti* to a maximum of 5.4 mm in *panthera*; densely setose dorsally, less densely ventrally, the dorsal setae erect on the clypeus, recumbent elsewhere, aciculate everywhere except on the apical declivity of elytra which presents thicker setae of which a few are also longer than elsewhere.

Head (Fig. 22-23) mutic, clypeo-genal sutures thinly cariniform, prolonged posteriorly behind the genae into the frons; without any visible separation of clypeus from frons, and of frons from vertex; clypeus with fore edge very shallowly to deeply emarginate, weakly to strongly reflexed on either side of the emargination, slightly to fairly deeply depressed behind the emargination; genae protru-

ding from eyes, round to obtusely angulate externally; inner sides of eyes slightly elevated, cariniform; vertex terminating posteriorly in a horizontal crest over the occiput; occiput without a median longitudinal carina between the crest of the vertex to the transverse carina of the occiput, finely punctured and setose, the setae thin and short; labial palpi with 1st segment produced inwardly, 2nd segment longer and wider than the 1st, the 3rd segment tiny; antennae 8-segmented, scape as long as the four following segments together, 2nd segment globular, 3rd segment elongate, as long as or slightly longer than the two following segments together; contour of the head with a fringe of short setae on clypeus, long on genae; clypeus with erect setae, the rest of the head with recumbent setae.

Pronotum mutic, regularly convex except for a short and shallow basal median furrow occupying roughly one quarter of its length; fore edge margined only laterally up to the level of the eyes, the sides thinly margined, the base not margined; fore edge shaped as a widely open, concave, regular curve, the sides in dorsal view shaped as a regular curve only very slightly sinuate before the posterolateral angles; the latter widely obtuse, blunt; base shallowly convex, regularly curved, narrower than the elytra, approximately as wide as the distance between the 6th elytral striae; pronotum widest around half its length, wider at that point than the elytra; fore edge with a fringe of short, erect setae, the rest of the surface covered with fairly dense recumbent setae except for four glabrous dark spots, two close together on the midline, and two laterally; the latter sometimes very small, almost indistinct in *collarti*.

Scutellum small, triangular, longer than wide, glabrous.

Elytra with eight interstriae and eight striae including the one that runs alongside the epipleural carina; striae shallow, narrow, indistinctly punctate, not carinate on either side, the integument of striae and interstriae similarly shagreened; 8th interstria contouring the apex of elytra and joining the 2nd interstria; 3rd stria joined to the 4th, and 5th joined to the 6th at the apical declivity; 7th stria slightly abridged anteriorly and posteriorly; 1st interstria flat basally, becoming progressively more convex towards the apex, with a tuft of dirty white long and thick erect setae on the apical declivity; 5th interstria moderately convex from base to apex; 3rd and 5th interstriae with a shallow apical callosity, often shinier than the rest of the elytron, preceded by a black spot, and bearing a tuft of dirty white long and thick erect setae; interstriae fairly densely covered by short aciculate recumbent setae loosely arranged in two to four rows per interstria, born by small, almost indistinct punctures; apical declivity of elytra with setae shorter and of lighter colour than elsewhere.

Pygidium (Fig. 24-25) without basal transverse carina, longer than wide, parabolic, identical in shape and size in both sexes; edges moderately elevate, conferring to the pygidium the aspect of being slightly concave; in the middle with two elongate oblique shallow protuberances converging posteriorly; with short spatulate setae, sparse in *panthera*, densely set on the protuberances but sparse elsewhere in *collarti*.

Prosternum (Fig. 2) produced behind the fore coxae in a small pyramidal setose process, identical in both sexes; anterior half of the sides with a row of closely set punctu-

res bearing long stiff setae whose tips are visible from above as a fringe, this row converging to the lateral edge and joining it at the antero-lateral angle; suture separating proepimeron from proespisternum cariniform joining the row of punctures somewhat behind the antero-lateral angle, curved forward at that point and converging to the latter.

Mesosternum short, shortly covered in the middle by the prosternum posterior process, not carinate longitudinally in the middle, almost impunctate and glabrous medially, densely punctate and setose laterally.

Metasternum sparsely punctate and setose laterally, fairly densely punctate and setose between the middle coxae and on the disc, the setae short thin and recumbent everywhere; disc with a thin engraved median longitudinal line that terminates posteriorly in a small and shallow depression somewhat anterior to the posterior edge, identical in both sexes; metepisterna and metepimera sparsely granulate and setose on a shagreened integument, the setae recumbent; metepisterna with a row of long, erect setae on the fore edge.

Abdominal sternites with shagreened integument, first five sternites with a transverse row of sparsely set short clavate setae, the 6th sternite with two or three such rows. Sixth sternite as long as the 5th along the midline in males, longer than the 5th in females.

Fore coxae with a few very long filiform setae on the inner tip.

Fore femurs with closely set stiff, alternating short and long setae on the upper fore edge, the lower fore edge margined; underside with closely set very large shallow punctures, each puncture bearing an aciculate recumbent seta; hind edge with sparsely set erect aciculate setae.

Fore tibiae with the apex slanting forward in both sexes; outer edge with four teeth, and with two or three crenations before the basal tooth, one or two crenations between the basal and 2nd teeth and between the 2nd and 3rd teeth; upperside with a median row of setiferous punctures, this row going around the inner corner of the apex and ending ventrally in front the insertion of the spur with a denticle in males, without denticle in females; besides, the upperside is more or less clearly sulcate over the outer edge, the sulcus with setiferous punctures; underside with two longitudinal carinae convergent both basally and distally, the outer carina slightly indented but impunctate and glabrous, the inner one with setiferous punctures, the two carinae ending together anteriorly in a denticle facing the insertion of the tarsus, the denticle bearing a tuft of long setae; besides, on the underside, at the base of each outer tooth a short, oblique carina topped with closely set long erect setae; inner edge with sparsely set aciculate short setae.

Fore tarsi thin, fairly long, the 1st segment orbiculate in males, elongate in females, the 5th segment slightly longer than the preceding two segments together in both sexes.

Middle femurs with moderately sparse short, aciculate, recumbent setae; trochanters with a few similar setae.

Middle tibiae with a basal puncture and four oblique to transverse carinae on the outer edge, the puncture bearing a single, the carinae several strong spiniform setae.

Middle tarsi longer than the tibia, the 1st segment slightly shorter than the three following segments together.

Hind coxae with the inner edge covered with moderately dense, short, aciculate, recumbent setae.

Hind femurs as well as trochanters with moderately dense short aciculate recumbent setae; postero-inferior edge in males sometimes with a strong tooth at approximately one third of the length of the femur (Fig. 26).

Hind tibiae with on the upper, outer and lower edges three to four dentiform punctures, each bearing one or two strong spiniform setae.

Hind tarsi longer than the tibia, the 1st segment slightly shorter than the three following segments together.

SECONDARY SEXUAL DIMORPHISM:

- Clypeus with emargination of fore edge very shallow in males, deep in females, only in *panthera*; deeply emarginate in both sexes in *collarti*.

- Fore tarsi with 1st segment globular, shorter than the 2nd in males, elongate, longer than the 2nd segment in females. As already pointed out above, this characteristic is shared by all Oniticellini, and most of the genera currently ranged in the Onthophagini.

- Fore tibiae with a denticle on the underside, in front of the insertion of the spur in males, without denticle in females.

- Six abdominal sternite along the midline slightly shorter than the 5th in males, longer than the 5th in females.

The two species can be easily separated by the shape of the head, the colour of dorsal setae, the shape of the lower corner of the tibial plate of the hind tibiae, and the body size. Judging for the number of specimens that I could borrow and the number of records in the literature, they must be rare as already pointed out by Walter (1987) who wrote: «*T. panthera* est une espèce sylvicole rare. Décrite du Zaïre en 1921, ce n'est que plus récemment qu'elle a été retrouvée: au Cameroun en 1950 (Dahl, 1957), au Gabon en 1981 (région de Makokou, notre collection, *leg. Emmoms*) et en 1982 (région de Libreville, voir plus loin), et enfin en Côte-d'Ivoire dans le Parc national de Taï (Cambefort, 1984). Ces captures récentes montrent que *T. panthera* est inféodé au crotin d'Éléphant de forêt. Mais si cette inféodation permet bien d'expliquer la discontinuité de son aire de distribution connue (Zaïre, Gabon, Côte-d'Ivoire), elle n'explique pas pourquoi, là où l'espèce est présente, la densité de population reste toujours très faible.» {*T. panthera* is a rare forest species. Described from Zaire in 1921, it was only recently that it has been found again: in Cameroon in 1950 (Dahl, 1957), in Gabon in 1981 (Makokou region, our collection, *leg. Emmoms*), and in 1982 (Libreville region, see below), and lastly in Ivory Coast in the Parc national de Taï (Cambefort, 1984). These recent findings show that *T. panthera* depends on forest elephant dung. However, even if that dependency explains the discontinuity of its known distribution (Zaire, Gabon, Ivory Coast), it does not explain why there, where the species is present, the population density remains always low.}

Records of *collarti* are even fewer than those of *panthera*; it has only been recorded from northeastern and southeastern DRC: Lake Albert: Kawa forest (holotype), Parc National de l'Upemba: Ganza, Lukoka river (Janssens, 1953), and Parc National de la Garamba (Balthasar, 1963b).

IMMATURE STAGES: Walter (1987) described the third instar larva and the nymph of *panthera*. Nothing has yet been reported on the immature stages of *collarti*.

ETHOLOGY AND PHENOLOGY: Due to their apparent rarity, little more is known except that they are forest dwellers, seemingly dependent on elephant dung. According to their labels, the few specimens examined were collected in March, April, June, July and September. Walter (1987) observations in Gabon suggest that nesting takes place in December.

Walter (1987) described a nest of *panthera* of the endocoprid type, i.e., brood balls in a cavity inside the dung pad. Because Cambefort & Lumaret (1983) had reported a nest of the paracoprid type for *T. spinipes* (see above), Walter (1987) tried to find an explanation for this discrepancy in nesting behaviour between two species that were then ranged in the same genus.

KEY TO THE SPECIES OF *NITIOCELLUS* GEN. N.

1. Sides of head (Fig. 22) straight at clypeo-genal junction. Lateral face of genae vertical, not visible from above. Setae of pronotum and elytra yellow to yellowish brown. Lower tip of the tibial plate hardly produced; setae on the lower edge of the tibial plate short. Length 9.2 - 11.7 mm. Cameroon, CAR, DRC, Gabon, Ivory Coast *panthera* (Boucomont, 1921)
- Sides of head (Fig. 23) angulate at clypeo-genal junction. Lateral face of genae sloping outwards, visible from above. Setae on pronotum and elytra mostly dark brown to black. Lower tip of the tibial plate produced in a fairly long, digitiform process; setae on the lower edge of the tibial plate long. Length 5.9 - 7.8 mm. Northeastern and southeastern DRC *collarti* (Janssens, 1939)

14. *Nitiocellus panthera* (Boucomont, 1921), comb. n.

Oniticellus panthera Boucomont, 1921: 211.

Oniticellus panthera: Gillet, 1926: 358. Boucomont & Gillet, 1927: 108. Janssens, 1939b: 2. Dahl, 1957: 779, 789. Krajčik, 2006: 79.

Tiniocellus panthera: Janssens, 1953: 59, 61. Ferreira: 1962a: 34; 1972: 400. Cambefort, 1984: 101. Walter, 1987: 309. Hanski & Cambefort, 1991a: 405, 408. Davis *et al.*, 2008: 239.

TYPE LOCALITY: “Congo: Moero” (= Lake Mweru, DRC).

NAME-BEARING TYPES: Two male syntypes as follows.

Syntype male, in **IRSNB**, pinned, length 10.8 mm, width 5.1 mm (measured across the prothorax), it lacks the last seven segments of left antenna, the last two segments of right fore tarsus, last three segments of left fore tarsus, right middle tarsus, and last four segments of left hind tarsus. It bears five labels (Fig. 34) as follows, slashes separating lines of text on labels: 1) white, handwritten: Moero / Congo b.; 2) white, printed and handwritten: J.J.Gillet, vend.: / Oniticellus / panthera Boucom. / R.M.H.N. Belg. 10.640; 3) red, with black frame, printed: TYPE; 4) white, printed and handwritten: Boucomont det. 1921 / Oniticellus / panthera n. sp.; 5) white, printed: *Oniticellus panthera* / Boucomont, 1921 - Syntypus ♂ / (currently *Nitiocellus panthera*) / T. Branco det. 2008.

Syntype male, in **MNHN**, pinned, length 10.7, width 5.4 mm (measured across the prothorax), it lacks the last six segments of left antenna, the right middle and hind tarsi, and the last two segments of the left hind tarsus. It bears five labels (Fig. 34) as follows, slashes separating lines of text on labels: 1) white, handwritten: Moero / Congo; 2) red, with

black double frame, printed: Typus; 3) blue, printed: MUSÉUM PARIS / 1938 / COLL. A. BOUCOMONT; 4) white, printed and handwritten: Boucomont det. 1921 / *Oniticellus* / *panthera* n. sp.; 5) white, printed: *Oniticellus panthera* / Boucomont, 1921 - Syntypus ♂ / (currently *Nitiocellus panthera*) / T. Branco det. 2009.

Both syntypes were collected in the same locality, and do not show any significant differences. Therefore, the designation of a lectotype is unnecessary.

Other material examined: 4 males and 7 females:

- CAR: Sangha, Bayanga, primary forest path, elephant dung, 16.iii-6.iv.1996, Ph.Moretto legit, 2 ♀, **CPhM**.

- Gabon: Estuaire, at the confluence of the rivers Abanga and Nkan, mountain forest path, 400 m, elephant dung, 2.vi.1989, Pageiz legit, 1 ♂, **CPhM**.

- Gabon: Nindo/Dilo, 500 m, elephant dung, 20-25.iii.1992, Pageiz legit, 1 ♂, 1 ♀, **CPhM**.

- Gabon: Haut Ogooué, Leconi (= Lékoni), 8.ix.2008, A.Susini legit, 1 ♂, **CFT**.

- Ivory Coast: Parc National de Taï, station MATA-SEBSO, iv.1981, Y.Cambefort legit, 1 ♂, 3 ♀, **MHHN**.

- Ivory Coast: Parc National de Taï, station MATA-SEBSO, 29-30.vii.1981, Y.Cambefort legit, 1 ♀, **MHHN**.

DISTRIBUTION CHART: Fig. 46.

ORIGINAL DESCRIPTION. Boucomont (1921), in the key to species of *Oniticellus*, pages 208-211: «2 (1). Premier article des tarses postérieurs plus court que les suivants réunis, les autres articles cylindriques. § 3 (16). Tibias postérieurs sans carènes transverses, mais avec des épines diversement disposées, côtés du thorax non sinués en arrière. Très peu convexe, dessus presque plat, prothorax simple, inerme, sans carènes ni tubercules, exceptionnellement (*O. triacanthus* ♂) thorax avec deux cornes; base arrondie. § 9 (4). Dessus mat et pubescent. § 11 (10). Taille 5-11 mm. § 12 (13) Coloration jaunâtre avec des taches noires symétriques. Allongé, peu convexe, mat, couvert d'une fine pubescence couchée rousse. Thorax marqué de petites taches ponctiformes, deux au milieu du disque sur la ligne médiane, deux autres latérales, et deux à la base, plus effacées; une tache entourant l'écusson, deux sur le deuxième intervalle des élytres, la première au quart antérieur, la seconde avant le milieu, une au sommet du cinquième intervalle; flancs du métasternum et abdomen tigrés de petites taches noires, pattes jaunes, fémurs antérieurs rembrunis. Épistome ogival à sommet un peu échancré, joues assez saillantes, arrondies, sans aucune sinuosité; tête plane inerme, ponctuation sétigère, grosse et écartée sur l'épistome, serrée sur le vertex, pubescence dressée sur l'épistome, couchée sur le vertex. Thorax large, transverse, peu convexe, formant une courbe à peu près régulière de la base aux angles antérieurs, angles postérieurs insensibles, sans sinuosité, sillon médian marqué à la base seulement, ponctuation très fine, masquée par la pubescence. Élytres plus étroits que le thorax, à côtés subparallèles, stries bien marquées non ponctuées, intervalles dorsaux presque plats, le cinquième costiforme, ponctuation imperceptible, sommet avec des poils jaunes disposés en trois pinceaux sur les intervalles 1, 3, 5. Abdomen visible de haut, marqué de taches noires à l'intersection des anneaux. Pygidium allongé, concave avec un tubercule longitudinal à la base et deux tubercules obliques au milieu. Tibias intermédiaires avec quatre rangées transverses d'épines, tibias postérieurs avec quatre rangées longitudinales de cinq épines soit

isolées soit géminées; les uns et les autres coniques, sans carène. Tarses postérieurs long. 10-11 mm. – Congo: Moero (Coll. Gillet) **O. panthera** n. sp.» {2 (1)}.

First segment of hind tarsi shorter than the following together, the other segments cylindrical. § 3 (16). Hind tibiae without transverse carinae but with spines variously arranged, sides of thorax not sinuate posteriorly. Very weakly convex, upperside nearly flat, prothorax simple, inermis, without carinae or tubercles, exceptionally (*O. triacanthus* ♂) thorax with two horns; base round. § 9 (4). Upperside dull and pubescent. § 11 (10). Body size 5 - 11 mm. § 12 (13). Colour yellowish with symmetrical black speckles. Elongate, weakly convex, dull, covered with a fine recumbent brownish red pubescence. Thorax marked with small punctiform spots, two on the middle of disc on the midline, another two lateral, and two less distinct on the base; a speckle encircling the scutellum, two on the second elytral interstria, the first on the anterior quarter, the second before the middle, one at the top of the 5th interstria; sides of metasternum and abdomen spotted with small black spots, legs yellow, fore femurs dark. Epistome ogival with the tip slightly emarginate, genae fairly prominent, round, without any sinuosity; head flat, inermis, punctuation setiferous, large and sparse on the epistome, dense on the vertex, pubescence erect on the epistome, recumbent on the vertex. Thorax broad, transverse, weakly convex, forming a curve nearly regular from the base to the anterior angles, posterior angles indistinct, without sinuosity, median furrow marked only basally, punctuation very fine, concealed by the pubescence. Elytra narrower than the thorax, with sub-parallel sides, striae well engraved not punctate, dorsal interstriae almost flat, the 5th one costiform, punctuation imperceptible, apex with yellow setae arranged in three brushes on interstriae 1, 3, 5. Abdomen visible from above, marked with black speckles on the rings intersection. Pygidium elongate, concave with a longitudinal tubercle on the base and two oblique tubercles on the middle. Middle tibiae with four transverse rows of spines, hind tibiae with four longitudinal rows of five spines either isolated or geminate; both conical, without carina. Hind tarsi long. 10 - 11 mm. – Congo: Moero (Coll. Gillet) **O. panthera** n. sp. }

DIAGNOSTIC FEATURES

Body size: length 9.2 - 11.7 mm, width (measured across the prothorax, which is somewhat wider than the elytra) 4.2 - 5.4 mm. Habitus: Janssens, 1939b, fig. 2.

Sides of the head (Fig. 22) neither angulate nor sinuate at the clypeo-genal junction. Fore edge of clypeus shallowly emarginate and weakly reflexed in males, deeply emarginate and with an upturned tooth on either side of the emargination in females.

Hind femurs with the posterior edge mutic in both sexes.

Lower tip of the hind tibial plate hardly produced; setae on the lower edge of the tibial plate short.

Aedeagus: Fig. 27.

COLOUR PATTERN AND VARIATION

Upperside entirely dull. The testaceous base colour of the integument may be more or less dark, sometimes tending towards brown, but the pattern of dark spots does not show much variation in the 13 specimens examined; the dark areas vary from brown to black.

Head with the clypeo-genal sutures dark; clypeal teeth and border of the emargination dark in females.

Pronotum with four black glabrous spots, two on the midline, the anterior droplet-shaped and situated a little before the middle, the posterior round and situated a little behind the middle; an almost round to irregular in shape spot on each side, longitudinally aligned with the elytral umbone, and at the level of the interval between the two former spots; the diameter of these spots is approximately equal to the width of the 4th elytral interstria. Usually the testaceous colour of the integument is paler alongside the midline, with a small dark spot on each side of the median longitudinal furrow, next to the base. Lateral foveolae darkened or not. Elytra with 1st interstria dark alongside the scutellum; 2nd interstria with an elongate dark patch starting approximately at the level of the tip of the scutellum and three to four times longer than the width of the interstria, followed by a circular black spot separated by a distance equal to the width of the interstria; 3rd and 5th interstriae sometimes darkened basally; apical callosities on 3rd and 5th interstriae of a paler colour than the surrounding integument, each preceded by a nearly round dark spot, and bearing a tuft of long setae.

Pygidium either uniformly testaceous or slightly darkened around the protuberances.

Prosternum more or less extensively dark on the inner part of the proepimera; the sternellum either entirely dark, or only laterally or not at all.

Mesosternum with a dark area on each side of the middle.

Metasternum with a dark patch basally on each side of the midline, aligned with the dark areas of the mesosternum; the disc slightly darkened alongside the midline; with a dozen or so dark spots laterally between the middle and hind coxae.

Abdominal sternites more or less extensively darkened; the upper part of their sides, visible from above, with a dark patch covering either side of the sutural lines.

Fore femurs with many dark spots. Middle and hind femurs sometimes darkened medially.

15. *Nitiocellus collarti* (Janssens, 1939), comb. n.

Oniticellus collarti Janssens, 1939b: 1.

Oniticellus collarti: Krajčik, 2006: 78.

Tiniocellus collarti: Janssens, 1953: 59, 61. Ferreira, 1962a: 34; 1972: 400. Balthasar, 1963b: 134. Davis *et al.*, 2008: 239.

TYPE LOCALITY: "Congo Belge: Forêt de Kawa, Lac Albert" (DRC).

NAME-BEARING TYPE: **Holotype** female, in **IRSNB**, glued on the left side to a mounting card, length 6.3 mm, width (measured across the prothorax) 3.1 mm; it lacks the right hind tarsus. It bears five labels (Fig. 35) as follows, slashes separating lines of text on labels: 1) white, printed: FORET DE KAWA / LAC ALBERT / 25-IV-29 / A. COLLART; 2) white, handwritten: *Oniticellus* / sp. ?; 3) red, with black frame, printed: TYPE; 4) white, printed and handwritten: A. Janssens det., 1939: / *Oniticellus* / *Collarti* n. sp.; 5) white, printed: *Oniticellus collarti* / Janssens, 1939 - Holotypus / (currently *Nitiocellus collarti*) / T. Branco det. 2008.

Other material examined: 4 males and 3 females:

- DRC: Parc National de la Garamba, Morubia, mission H. de Saeger, 11.vi.1951, J. Vershuren legit, 2 ♂ and 1 ♀ in **NMPC**, 1 ♀ in **MRAC**, and 1 ♂ in **IRSNB**.

- DRC: Parc National de la Garamba, mission H. de Saeger, 23.iii.1951, H. de Saeger legit, 1 ♂, **MRAC**.

- DRC: Parc National de l'Upemba, Ganza, 860 m, river Lukoka, mission G.F. de Witte, 3.vi.1949, 1 ♀, **IRSNB**.

DISTRIBUTION CHART: Fig. 46.

ORIGINAL DESCRIPTION. Janssens (1939b): «*Oniticellus Collarti* n. sp. § Tête inerme, sans carènes ni tubercules; clypeus échancré en avant, cette échancrure limitée par deux courtes dents dirigées légèrement en dehors; joues non saillantes; dessus de la tête semé de soies jaunâtres, assez longues, prenant naissance dans des points assez nombreux mais non serrés, plus gros vers l'avant; sutures génales fines, noires. Pronotum semé de nombreuses soies, brunes sur les places rembrunies et jaunâtres ailleurs, couchées, non serrées; ses côtés non sinués en arrière; ses bords antérieur et latéraux plus clairs, sa ligne médiane plus claire mais offrant deux petites taches noires, l'antérieure plus petite; le milieu de la base offre une dépression très accusée. Ecusson très petit. Elytres peu profondément striés, les interstries garnis de soies obscures, raides, plus ou moins alignées; le second interstrie offrant deux taches obscures, allongées, vers le milieu; les 3^e, 5^e et 7^e interstries offrant une tache obscure, près de l'apex; ce dernier frangé de soies jaunes. Sternites abdominaux carénés et dépassant les élytres latéralement, marqués d'une petite tache noire à chaque angle latéral. Pygidium offrant deux renflements en V en son milieu, sa surface assez irrégulière et semée de soies jaunes assez courtes. Femurs et tibias jaunes, rembrunis à l'extrémité. Tarses rembrunis. Mésternum jaune, plus ou moins tacheté d'obscur. Tibias postérieurs garnis d'épines, sans carènes. Dessus du corps testacé ou fauve, mat. § Long.: 6,5 mm; larg.: 2,5 mm. § Congo Belge: Forêt de Kawa, Lac Albert. (A. Collart, 25-IV-1929.) § Type (♀): Collection A. Collart > Musée royal d'Histoire naturelle de Belgique. § Cette espèce est très voisine, mais fort distincte, de l'*O. panthera* Boucomont, dont nous avons le type sous les yeux; elle est beaucoup plus petite et plus grisâtre que cette dernière, qui ne possède d'ailleurs pas de soies obscures au-dessus.»

{*Oniticellus Collarti* n. sp. § Head inermis, without carinae or tubercles; clypeus emarginate anteriorly, the emargination flanked by two short teeth slightly turned outwards; genae not prominent; head with the upperside spread over with fairly long yellowish setae, born by fairly numerous but not very closely set punctures larger anteriorly than elsewhere; genal sutures thin, black. Pronotum spread over with numerous setae brown on the dark areas, yellowish elsewhere, recumbent, not very closely set; sides not sinuate posteriorly; fore edge and sides lighter in colour, the midline lighter in colour but with two small black spots, the anterior smaller than the posterior; middle of base with a well marked depression. Scutellum very small. Elytra not profoundly striated, the interstriae covered with dark stiff setae more or less aligned; 2nd interstria with two dark elongate speckles near the middle; 3rd, 5th and 7th interstriae with a dark speckle near the apex; the latter with a fringe of yellow setae. Abdominal sternites carinate and protruding from the elytra laterally, marked with a small black spot on each lateral angle. Pygidium in the middle with two protuberances forming a V, its surface fairly irregular and spread with fairly short, yellow setae. Femurs and tibiae yellow, darkened apically. Tarsi dark. Metasternum yellow, more or less dark speckled. Hind tibiae with spines,

without carinae. Underside testaceous or reddish brown, dull. § Length: 6.5 mm; width: 2.5 mm. § Belgian Congo: Kawa Forest, Lake Albert (A. Collart, 25-IV-1929). § Type (♀): Collection A. Collart > Musée royal d'Histoire naturelle de Belgique. § This species is closely related to, albeit very distinct from, *O. panthera* Boucomont of which we have the type in front of us; it is much smaller and greyish than the latter which moreover does not have dark setae on the upper-side.}

DIAGNOSTIC FEATURES

Body size: length 5.9 - 7.8 mm, width (measured across the prothorax, which is somewhat wider than the elytra) 2.7 - 3.8 mm. Habitus: Janssens, 1939b, fig. 1.

Head (Fig. 23): sides angulate at the clypeo-genal junction; fore edge of the clypeus deeply emarginate and bidentate in both sexes; sides of clypeus straight to slightly concave.

Hind femurs: posterior edge simple in females, sometimes with a strong tooth at approximately the basal third in males (Fig. 26). The two smallest males examined, 5.9 and 6.5 mm long, have the hind femurs mutic, whereas the two largest males, both 6.9 mm long, have them toothed; this suggests that the tooth is present only in large males.

Lower tip of the hind tibial plate produced in a fairly long, digitiform process; setae on the lower edge of the tibial plate long.

Aedeagus: Fig. 28.

COLOUR PATTERN AND VARIATION

The testaceous base colour of the integument may be more or less dark, sometimes tending towards reddish brown; judging from the eight individuals examined, the pattern of dark spots seems to be more variable than in *panthera*; the dark areas vary from brown to black.

Upperside dull except on the clypeal depression, behind the emargination of fore edge, which is shining with a metallic sheen varying from golden to green or coppery, rarely black.

Head with the contour of clypeus, anterior half of the sides of genae, and clypeo-genal sutures dark; with a dark patch on either side of the midline on the vertex and, sometimes, with a dark spot on the middle of the head; in dark specimens the area on either side of the midline between the black spot on the middle of the head and the dark patch on the vertex is darkened, forming together an inverted V.

Pronotum with four black glabrous spots, as follows: two elongate on the midline, the anterior almost linear and situated a little before the middle, the posterior elliptic and situated a little behind the middle; laterally, on either side a spot irregular in shape, longitudinally aligned with the elytral umbone, and at the level of the interval between the two former spots; the width of the spots on the median line is approximately equal to the width of the 4th elytral interstria; the lateral ones are sometimes so small as to become almost indistinct. Disc more or less extensively darkened, the dark areas forming various shapes and reaching anteriorly close to the fore edge, posteriorly to the base, and laterally close to the foveolae; the latter darkened.

Elytra with the suture dark; 1st interstria more or less narrowly darkened alongside the scutellum; 2nd interstria with a dark strip occupying roughly the second sixth, sometimes the distal half also darkened; 3rd interstria with a dark spot before the apical callosity, sometimes also more or less

extensively darkened anteriorly and posteriorly leaving only a short testaceous stripe behind the middle; 4th interstria either entirely testaceous or darkened on the second eighth and on the distal half; 5th interstria either with only a dark spot before the apical callosity or darkened also on the basal fifth and on the distal two thirds; 6th interstria either entirely testaceous or slightly darkened throughout; 7th interstria either with only a dark spot on the apical declivity or also slightly darkened throughout; 8th interstria entirely testaceous; epipleural carina dark, epipleura either testaceous or slightly darkened.

Prosternum with posterior half of proepimera dark, the sternellum darkened laterally.

Mesosternum with a dark spot on either side of the midline. Metasternum with a basal dark stripe on either side of the midline, followed by a row of dark spots close to the inner edge of middle coxae; with a row of dark spots alongside the midline, expanding posteriorly to the area between the middle and hind coxae.

Abdominal sternites with dark speckles throughout, the upper part of their sides, visible from above, dark on either side of the sutures.

Pygidium entirely testaceous or with the areas between the edge and the protuberances more or less extensively darkened.

Fore femurs with many dark speckles; middle and hind femurs testaceous.

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| APPENDIX 1. <i>Tiniocellus spinipes</i> (Roth, 1851). List of material examined other than name-bearing types (Dep.: depository) | | | | | |
|--|---|---|----|--------|-------|
| Country | Collecting data | ♂ | ♀ | Dep. | |
| Angola | Bruco, cow dung, 26.ii-2.iii.1972, Southern African Exp. B.M. 1972-1. [15°07'S-13°11'E] | 2 | 4 | BMNH | |
| Botswana | Chobe Game Lodge, exc. phacochères, 17.xi.1996, J.-F.Josso legit. [17°46'S-25°11'E] | 2 | 1 | CJFJ | |
| | Gaberones [= Gaborone], ii.1915, R.Ellenberger legit.[24°39'S-25°54'E] | 2 | 4 | MNHN | |
| | Okavango. [24°38'S-25°55'E] | – | 1 | TMSA | |
| | Omega, SE22 18Cd, 7-8.i.1985, University of Pretoria, Dept. Entomology Tour '85 | 6 | 6 | NHMLAC | |
| | Omega, SE22 18Cd, 12.i.1985, University of Pretoria, Dept. Entomology Tour '85 | 4 | 3 | NHMLAC | |
| Burkina Faso | Loroum: Touffé, 300 m, 13°53'43"N-1°52'25"O, zone sahélienne, steppe arborée, piège contenu rumen, 16.vii.2006, F. & S.Génier legit | – | 1 | CFG | |
| DCR | Shaba: Parc Nat. de l'Upemba, Kaswabilenga, 700 m, 16.x.1947, mission G.F. de Witte. [8°59'S-26°41'E] | 1 | – | IRSNB | |
| | Shaba: Parc. Nat. de l'Upemba, Kaswabilenga, 700 m, 14-25.x.1947, mission G.F. de Witte. [8°59'S-26°41'E] | – | 2 | IRSNB | |
| | Shaba: Parc Nat. de l'Upemba, Kilwezi, 750 m, 23.viii-4.ix.1948, mission G.F. de Witte | 3 | 1 | IRSNB | |
| Eritrea | Asmara (paratypes of <i>Tiniocellus asmarensis</i> Balthasar, 1968). [15°20'N-38°55'E] | – | 1 | HNHM | |
| | | 1 | 1 | NMPC | |
| | Asmara. [15°20'N-38°55'E] | – | 1 | NMPC | |
| | | 11 | 7 | ZMHU | |
| | Asmara, Dubarwa, vi-vii.2008, L.Falleti legit | 6 | 3 | CFT | |
| | Bogos, 2000 m | – | 2 | ZMHU | |
| | Bogos, 2000 m, Hildebrandt legit | – | 1 | ZMHU | |
| | Plaine de Danakil, Maro, vi.1903, Dr. J.Roger legit | 1 | 1 | MNHN | |
| | Érythrée | – | 1 | IRSNB | |
| | Colonie Érytrée [sic!] | 2 | – | MNHN | |
| | Ethiopia | Arussi Galla, A. Ganale Gudda, iii-v.93, V.Bottego legit | 6 | 1 | MNHN |
| | | Gemu Gofa: near Arba Minch, iv-v.(19)92, Werner legit.[6°01'N-37°34'E] | 1 | 1 | CPHM |
| | | Häregêg: Harrar [= Härer] [9°18'N-42°08'E] | 1 | – | IRSNB |
| | | – | 1 | MNHN | |
| Lac-Daka. [3°55'N-39°58'E] | | 9 | 4 | IRSNB | |
| Lac Zonay | | 1 | – | IRSNB | |
| Sidamo: piste de Shakiso à Agere Maryam, 17.iv.2002, Josso, Juhel & Legrand legit. [5°38'N-38°14'E] | | 2 | – | CJFJ | |
| Sidamo: Teltele, 19.iv.2002, Josso, Juhel & Legrand legit. [5°04'N-37°22'E] | | 1 | 2 | CJFJ | |
| Sidamo: Yavello, 18.iv.2002, Josso, Juhel & Legrand legit. [4°53'N-38°05'E] | | 1 | 3 | CJFJ | |
| S. Galla, ...(illegible), 22.iv.01, B. v. Erlanger legit | | – | 2 | ZMHU | |
| S. Galla, ...(illegible), 23.iv.01, B. v. Erlanger legit | | 1 | – | ZMHU | |
| Éthiopie mérid., Haut-Aouache, Endessa, ix.1905, M. de Rothschild legit | | 1 | 1 | MNHN | |
| Éthiopie mérid., Haut-Aouache, Endessa, 1905, M. de Rothschild legit | | 4 | 5 | MNHN | |
| Éthiopie mérid., Haut-Aouache, de Yaba à Endessa, viii-ix.1905, M. de Rothschild legit | | – | 1 | MNHN | |
| Kenya | Kanziko, ix.36, MacArthur legit. [1°59'S-38°20'E] | 1 | 3 | BMNH | |
| | Kibwezi, ii.1929, van Someren legit. [2°25'S-37°58'E] | – | 1 | BMNH | |
| | Kibwezi, v.1929, van Someren legit. [2°25'S-37°58'E] | – | 1 | BMNH | |
| | Kibwezi, xii.1929, van Someren legit. [2°25'S-37°58'E] | 2 | 5 | BMNH | |
| | Kibwezi, ii.37, MacArthur legit. [2°25'S-37°58'E] | – | 1 | BMNH | |
| | Kurungu, 1000 m, acacia bush, cow dung pitfall trap, night, 16.xi.1997, L.Borghesio legit. [0°50'S-34°09'E] | 6 | 2 | CEB | |
| | Makindu, xii.36, MacArthur legit. [2°17'S-37°49'E] | – | 1 | BMNH | |
| | Meru dist.: Meru Park, savana, 6.ii.(19)83, Mourglia legit. [0°11'S-38°12'E] | 2 | – | CEB | |
| | Nkurnit, 1°44'N-37°17'E, 800 m, woodland acacia, st. Bovino, 23.iii.(19)99, L.Borghesio legit | 1 | 4 | CEB | |
| | Sud du Lac Rodolphe [= Lake Turkana], entre le chemin de fer et le lac, 1905, M. de Rothschild legit. [2°22'N-36°37'E] | 3 | 2 | MNHN | |
| | Tsavo Nat. Park, elephant dung, 14.xi.1974, T.J.Kingston legit. [2°46'S-38°45'E] | 6 | 15 | OUMNH | |
| | Tsavo Nat. Park, elephant dung, 4.xii.1974, T.J.Kingston legit. [2°46'S-38°45'E] | 5 | 6 | OUMNH | |
| | Voï, i-iv.1904, Ch.Alluaud legit. [3°24'S-38°33'E] | 1 | – | MNHN | |
| | Watita Hill, Kedai, C.Montague Smyth legit. [3°16'S-38°22'E] | – | 1 | BMNH | |
| | Malawi | Lisungwe River, 1908, A.R.Andrew legit | 3 | – | BMNH |
| | | Liwonde Nat. Park, xi.1993, C.Dudley legit.[14°52'S-35°20'E] | 2 | 4 | CPHM |
| | | Vwaza Marsh Res., 15-16.xii.2006, Josso, Juhel & Monfort legit. [11°00'S-32°28'E] | 3 | 13 | CJFJ |
| | | 2 | 2 | CTB | |
| Mozambique | Manica: Vallée du Pungoué, Guenguère, 1906, G.Vasse legit | – | 1 | IRSNB | |
| | Manica: Vallée du Pungoué, Guenguère, xi.1906, G.Vasse legit | 1 | 1 | MNHN | |
| | Manica: Vallée du Pungoué, Guenguère, xii.1906, G.Vasse legit | – | 1 | MNHN | |

APPENDIX 1. *Tiniocellus spinipes* (Roth, 1851). List of material examined other than name-bearing types (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|---|---|----|--------|-------|
| Mozambique | Sofala: Caia, H.Swale legit.[17°49'S-35°21'E] | - | 1 | BMNH |
| | Sofala: Gorongosa Nat. Park, 15.xii.1978, C.Besnard legit. [18°45'S-34°23'E] | 10 | 8 | CPhM |
| Namibia | Andana Bagari, Okavango.[18°19'S-19°45'E] | - | 1 | CTB |
| | Caprivi: Katima Mulilo (= Ngweze), 15-24.i.(19)95, M.Snizek legit. [17°30'S-24°15'E] | 3 | - | CEB |
| | W. Caprivi Park, Nova, 5 Km N Okavango River, S18°09'56"-E21°44'31", 100 m, human faeces baited pitfall trap, 16-17.xii.1999, D.J.Mann & E.Marais legit | 7 | 5 | OUMNH |
| | W. Caprivi Park, Nova, 5 Km N, S18°09'56"-E21°44'31", elephant dung, 17.xii.1999, D.J.Mann & E.Marais legit | 1 | 1 | OUMNH |
| | W. Caprivi Park, Nova, 5 Km N, campsite, S18°09'56"-E21°44'31", elephant dung baited pitfall trap, 17.xii.1999, D.J.Mann & E.Marais legit | 3 | 4 | OUMNH |
| | W. Caprivi Park, Nova, 5 Km N, campsite, S18°09'56"-E21°44'31", elephant dung baited pitfall trap, 7.00am-11.00am, 17.xii.1999, D.J.Mann & E.Marais legit | - | 1 | OUMNH |
| | W. Caprivi Park, Nova, 5 Km N, S18°09'56"-E21°44'31", human faeces baited pitfall trap, 17.xii.1999, D.J.Mann & E.Marais legit | 2 | 3 | OUMNH |
| | Mahango Game Res., River Road, S18°10'20"-E21°42'38", buffalo dung, 18.xii.1999, D.J.Mann & E.Marais legit | 2 | 3 | OUMNH |
| | Mukwe Dist., West Caprivi Park, Divuju, S18°04'04"- E21°28'51", human faeces baited pitfall trap, 31.xii.1998, D.J.Mann & E.Marais legit | 33 | 17 | OUMNH |
| RSA | KwaZulu-Natal: Natal, A.Delegorgue legit | 1 | - | BMNH |
| | KwaZulu-Natal: Natal, coll. Ancey | 1 | - | MNHN |
| | Limpopo: Guernsey Farm, 15 Km NE Klaserie, woodland, dungtraps 10 days, 18-31.xii.1985, S. & J.Peck legit. [24°33'S-31°02'E] | 2 | 1 | CMN |
| | Limpopo: Guernsey Farm, 15 Km NE Klaserie, woodland, dungtrap, 18-31.xii.1985, S. & J.Peck legit. [24°33'S-31°02'E] | 3 | 1 | CMN |
| | Limpopo: Hoedspruit, Thornybush Lodge, rhinoceros dung, 7.xii.1992, Jansen & Klimaszewski legit. [24°13'S-30°48'E] | 2 | 3 | CMN |
| | Limpopo: Kruger Nat. Park, Magamba water hole, 22°46'S-31°11'E, buffalo dung, 23.ix.1990, J.Klimaszewski legit | 1 | - | TMSA |
| | Limpopo: Kruger Nat. Park, Magamba water hole, 22°46'S-31°11'E, elephant dung, 23.ix.1990, J.Klimaszewski legit | 10 | 10 | TMSA |
| | | 5 | 5 | CTB |
| | Limpopo: Kruger Nat. Park, Nwanedsi Firebreak, removed from Hornbill stomachs, A.C.Kemp legit | - | 1 | TMSA |
| | Limpopo: Kruger Nat. Park, Nwshitsumbe, 22°47'S-31°17'E, buffalo dung, 9.ii.1994, S.Endrödy-Younga legit | 1 | 1 | TMSA |
| | Limpopo: Kruger Nat. Park, Pafun Station, 22.ii.1993, Jansen & Klimaszewski legit | 1 | - | CMN |
| | Limpopo: Kruger Nat. Park, Pafuri, dry debris, 23.x.1990, J.Klimaszewski legit. [22°25'S-31°12'E] | 1 | - | TMSA |
| | Limpopo: Kruger Nat. Park, Pafuri, buffalo dung, 22.x.1990, J.Klimaszewski legit. [22°25'S-31°12'E] | 3 | - | TMSA |
| | Limpopo: Kruger Nat. Park, Pafuri res. camp, 22°25'S-31°12'E, baboon excrement, 31.i.1994, S.Endrödy-Younga legit | - | 1 | TMSA |
| | Limpopo: Kruger Nat. Park, Pafuri res. camp 2 km E, 22°25'S-31°13'E, buffalo dung, 1.ii.1994, S.Endrödy-Younga legit | 6 | 1 | TMSA |
| | | 2 | 1 | CTB |
| | Limpopo: Kruger Nat. Park, Pumbe sands, 24°13'S-31°56'E, groundtraps with faeces bait, 60 days, 22.xi.1994, S.Endrödy-Younga & Bellamy legit | 1 | 4 | TMSA |
| | Limpopo: Kruger Nat. Park, Pumbe sands, 24°13'S-31°56'E, groundtraps with faeces bait, 24.i.1995, S.Endrödy-Younga & Bellamy legit | 1 | 2 | TMSA |
| | | 1 | 2 | CTB |
| | Limpopo: Kruger Nat. Park, Punda Maria, xi.1932, H.Lang legit. [22°41'S-31°01'E] | 1 | - | TMSA |
| | | 1 | - | CTB |
| | Limpopo: Kruger Nat. Park, Punda Maria, 22°41'S-31°01'E, elephant dung, 3.ii.1994, S.Endrödy-Younga legit | 1 | 1 | TMSA |
| | | 1 | 1 | CTB |
| | Limpopo: Kruger Nat. Park, Punda Maria, 22°41'S-31°01'E, elephant dung, 7.ii.1994, S.Endrödy-Younga legit | - | 1 | TMSA |
| | Limpopo: Kruger Nat. Park, Punda Maria sands, 22°38'S-30°59'E, elephant dung, 11.ii.1994, S.Endrödy-Younga legit | 3 | 4 | TMSA |
| | | 2 | 3 | CTB |
| | Limpopo: Kruger Nat. Park, Punda Milia sands, 22°38'S-31°04'E, groundtraps with faeces bait, 3 days, 11.ii.1994, S.Endrödy-Younga legit | - | 1 | TMSA |
| | Limpopo: Kruger Nat. Park, Roodewal, 40 km NW Satara, zebra dung, 17.xii.1985, H. & A.Howden legit | - | 2 | CMN |
| | Limpopo: Kruger Nat. Park, Timbavati river, 24°05'S-31°40'E, Mopane woodland, pitfall baited with cattle dung, i.1999, D.Inward legit | 3 | 1 | BMNH |
| | Limpopo: Kruger Nat. Park, Timbavati river, 24°05'S-31°40'E, Mopane woodland, pitfall baited with elephant dung, i.1999, D.Inward legit | - | 1 | BMNH |
| | Limpopo: Manyeleti Game Res., 24°36'S-31°27'E, dung collection, 21.xi.1987, T. van Viegen legit | - | 4 | TMSA |
| | | 1 | 1 | CTB |
| Limpopo: Manyeleti Game Res. (Gazankulu), 18.xi.1986, T. van Viegen legit. [24°36'S-31°27'E] | - | 1 | TMSA | |
| Limpopo: Tzaneen, Woodbush For., sifted dung, 4-8.xii. J.Klimaszewski legit. [23°50'S-30°09'E] | 2 | - | CMN | |
| Mpumalanga: Hans Merensky Nat. Res., 23.i.1987, A.V.Evans legit | - | 1 | NHMLAC | |
| Mpumalanga: Kruger Nat. Park, Lower Sabie, 25°08'S-31°58'E, elephant dung, 14.i.1996, S.Endrödy-Younga legit | - | 2 | TMSA | |
| Mpumalanga: Kruger Nat. Park, Pretoriuskop, 200 m, rhinoceros dung, 13.xii.1985, H. & A.Howden legit. [25°10'S-31°16'E] | 1 | - | CMN | |
| Mpumalanga: Kruger Nat. Park, Skukuza, on human feces, 12-15.xii.1985, S. & J.Peck legit. [24°57'S-31°39'E] | 3 | 4 | CMN | |

| APPENDIX 1. <i>Tiniocellus spinipes</i> (Roth, 1851). List of material examined other than name-bearing types (Dep.: depository) | | | | |
|--|---|----------------------|----|--------|
| Country | Collecting data | ♂ | ♀ | Dep. |
| RSA | Mpumalanga: Kruger Nat. Park, Skukuza, 24°57'S-31°39'E, buffalo dung, 17.i.1996, S.Endrödy-Younga legit | 1 | – | TMSA |
| | Mpumalanga: Kruger Nat. Park, Skukuza, blacklight, 30.xi-3.xii.1984, H. & A.Howden legit. [24°57'S-31°39'E] | 3 | 1 | CMN |
| | Mpumalanga: Kruger Nat. Park, Skukuza, 24°50'S-31°35'E, mixed savanna forest, pitfall baited with cattle dung, i.1999, D.Inward legit | 1 | 2 | BMNH |
| | Mpumalanga: Pretoriuskop, S25°10'-E31°16', 3.xii.1984, C.H.Scholtz legit | 1 | 1 | NHMLAC |
| | Mpumalanga: Kruger Nat. Park, Skukuza, 24°50'S-31°35'E, mixed savanna forest, pitfall baited with elephant dung, i.1999, D.Inward legit | 1 | 2 | BMNH |
| | Mpumalanga: Kruger Nat. Park, Skukuza, 24°50'S-31°35'E, Acacia woodland, pitfall baited with cattle dung, i.1999, D.Inward legit | 1 | 2 | BMNH |
| | Mpumalanga: Kruger Nat. Park, Skukuza, 24°50'S-31°35'E, Acacia woodland, pitfall baited with carrion, i.1999, D.Inward legit | 1 | – | BMNH |
| Somalia | Pays Somali, Région de Daouenté, 1905, M. de Rothschild legit | 1 | – | MNHN |
| Tanzania | Gulwe b. Mwapua [= Mwapwa], 19.xii.12. [6°27'S-36°25'E] | 4 | 7 | ZMHU |
| | Iringa Reg., Iyahi Savanna, 30 Km Chalinze, 1403 m, 8°61'S-34°31'E, 3.xii.2006, R.Minetti legit | – | 1 | CJFJ |
| | Kigonsera, 1950, Hartl legit. [10°48'S-35°04'E] | – | 1 | IRSNB |
| | Morogoro Reg., Mikesse Hills, 6°40'S-37°57'E, 420 m, 28.xi.2005, R.Minetti legit | 1 | 2 | CPHM |
| | Mwapua [= Mwapwa], ii.13. [6°27'S-36°25'E] | 1 | – | ZMHU |
| | O. Victoria-Nyansa, Ngoroine u. Mukenge, Anf. II.94, O.Neumann legit | 1 | 1 | ZMHU |
| | Usangu Dist., foot of Kifulufulu Mts., 3,000 ft, 16-17.xii.1910, S.A.Neave legit | – | 1 | BMNH |
| Zambia | Makuyu, 9.i.2007, C.di Gennaro legit. [16°21'S-22°40'E] | 7 | 23 | CPHM |
| | Makuyu, 13.i.2007, C.di Gennaro legit. [16°21'S-22°40'E] | – | 1 | CPHM |
| | Solwezi District, Katuta, 26°20'E-12°10'S, at freshly killed wart-hog, 25.xi.1916, H.C.Dollman legit | 2 | 3 | BMNH |
| | South Luangwa Nat. Park, ... (illegible), 8.ii.(19)84, L...Itini (partially illegible) legit. [13°03'S-31°35'E] | – | 1 | CEB |
| Zimbabwe | Mpudzi R., 21.ix.1905, G.A.K.Marshall legit. [16°57'S-32°05'E] | – | 1 | BMNH |
| | Mushandike, W Masvingo, 9-12.xii.1998, A.Kudrna Jr. legit. [20°04'S-30°39'E] | 2 | – | CFT |
| | Near Umtali to 15 m. S., 20.ix.1905, G.A.K.Marshall legit. [18°58'S-32°39'E] | – | 1 | BMNH |
| Country unspecified or uncertain | Abyss ^a , Fry Coll., 1905-100 | 1 | 1 | BMNH |
| | Abyssinie, Maraco, 1914 | – | 1 | IRSNB |
| | Abyssinie, Maraco, Avril 1914 | 1 | – | IRSNB |
| | Abyssinia, Raffray, Nevinson Coll. 1918-14 | 1 | 3 | BMNH |
| | Abyssinie, collection Léon Fairmaire 1906 | 2 | 1 | MNHN |
| | Abyss., Raffray | – | 1 | MNHN |
| | Abyssinie, 1882, Raffray | – | 4 | MNHN |
| | Abyssinia, Coll. Raffray (ex museo N van de Poll) | 1 | 3 | MNHN |
| | Abyssinie, Coll. Ancey | – | 2 | MNHN |
| | Abyss. 24. | 1 | 1 | BMNH |
| | Senegalia | – | 1 | BMNH |
| | Zambèze, 1882, Durand legit | 1 | – | MNHN |
| | ...(illegible), x.02, Holtz legit | 1 | 2 | ZMHU |
| | van Someren / KA...JR (partially illegible), (illegible), 47 | – | 1 | BMNH |
| | Presumably mislabeled | Bengale, Coll. Ancey | – | 1 |

| APPENDIX 2. <i>Tiniocellus imbellis</i> (Bates, 1891). List of material examined other than name-bearing types (Dep.: depository) | | | | |
|---|---|---|---|-------|
| Country | Collecting data | ♂ | ♀ | Dep. |
| India | Bihar: Palakau Nat. Park, vii.1992, K.Werner legit | 1 | 1 | CPHM |
| | Himachal Pradesh: Kangra. [32°06'N-76°17'E] | 5 | 4 | ZMHU |
| | | 2 | 1 | CTB |
| | Himachal Pradesh: Kangra district, Bajaura, v.1914, G.Babault legit. [31°51'N-77°10'E] | 1 | 1 | IRSNB |
| | Himachal Pradesh: Kulu, 5000'. [31°58'N-77°07'E] | – | 1 | ZMHU |
| | Karnataka: Belgaum (paralectotypes of <i>Oniticellus modestus</i> Arrow, 1908). [15°55'N-74°35'E] | 1 | 2 | BMNH |
| | Karnataka: Bellary, 1896, De Morgan legit. [15°10'N-76°56'E] | – | 1 | MNHN |
| | Karnataka: Mysore, Shimoga, 1865 feet, 30.vi.1936, P.S.Nathan legit. [13°57'N-75°32'E] | 1 | 9 | IRSNB |
| | Karnataka: Mysore State, Shimoga, 2.vii.1936, P.S.Nathan legit. [13°57'N-75°32'E] | 1 | – | IRSNB |

APPENDIX 2. *Tiniocellus imbellis* (Bates, 1891). List of material examined other than name-bearing types (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|---------|---|----|----|--------|
| India | Karnataka: Mysore, Shimoga, 25.ii.1938, P.S.Nathan legit. [13°57'N-75°32'E] | 1 | - | IRSNB |
| | Karnataka: Mysore State, Shimoga Dist., Agumba Chat, 2000 ft, vi.1981, T.R.S.N. legit. [13°55'N-75°34'E] | 1 | - | CEB |
| | Karnataka: S. Coorg, Ammatti, 3.100 ft, xi.1952, P.S.Nathan legit. [12°14'N-75°51'E] | 1 | 2 | IRSNB |
| | Kerala: Calicut (paralectotypes of <i>Oniticellus modestus</i> Arrow, 1908). [11°15'N-75°43'E] | - | 5 | BMNH |
| | Kerala: Malabar (paralectotypes of <i>Oniticellus modestus</i> Arrow, 1908). [11°00'N-75°00'E] | 2 | 1 | BMNH |
| | Kerala: Malabar. [11°00'N-75°00'E] | 2 | 3 | IRSNB |
| | Kerala: Malabar, 9.ix.1938, P.S.Nathan legit. [11°00'N-75°00'E] | 4 | 1 | IRSNB |
| | Kerala: Malabar, 13.xi.1938, P.S.Nathan legit. [11°00'N-75°00'E] | 17 | 21 | IRSNB |
| | Kerala: Malabar, 17.ix.1938, P.S.Nathan legit. [11°00'N-75°00'E] | 1 | 1 | IRSNB |
| | Kerala: Malabar, Walayer [sic!] Forests, 1500 ft, xi.1938, P.S.Nathan legit. [10°50'N-76°51'E] | 1 | 1 | IRSNB |
| | Kerala: Malabar, Walayar Forests, ix.1952, P.S.Nathan legit. [10°50'N-76°51'E] | 4 | 8 | CMN |
| | Kerala: Malabar, Walayar Forests, 1000 ft, ix.1952, P.S.Nathan legit. [10°50'N-76°51'E] | 25 | 25 | IRSNB |
| | Kerala: Côte de Malabar, Mahé, vii.1901, M.Maindron legit. [11°42'N-75°34'E] | 1 | 1 | MNHN |
| | Kerala: Côte de Malabar, Mahé, viii.1901, chasses indigènes, M.Maindron legit. [11°42'N-75°34'E] | 10 | 9 | MNHN |
| | Kerala: Malabar, Mahé (coll. L.Bedel 1922). [11°42'N-75°34'E] | - | 1 | MNHN |
| | Kerala: Malabar, Mahé. [11°42'N-75°34'E] | 2 | 2 | MNHN |
| | Kerala: Malabar, Mahé, ex museo Duchaussoy. [11°42'N-75°34'E] | 1 | - | MNHN |
| | Kerala: S. Calabar, Walayar Forest, vii.1952. [10°50'N-76°51'E] | 1 | - | CMN |
| | Kerala, Walayar Forests, 700 ft, x.1976, T.P.S.Nathan legit. [10°50'N-76°51'E] | 1 | - | OUMNH |
| | Kerala: Nilambur, 13-18.viii.25, C.F.C.Beeson legit. [11°16'N-76°13'E] | - | 1 | BMNH |
| | Kerala: Poonmudi Range, v.1989. [8°31'N-77°00'E] | 1 | 3 | CIB |
| | Kerala: Trichur Dist., Peechi, T.R.S.Nathan legit. [10°30'N-76°18'E] | 3 | 2 | NHMLAC |
| | Kerala: Trivandrum dist., Poonmudi Range, 3000', v.1989, T.R.S.Nathan legit. [8°31'N-77°00'E] | 1 | - | CMN |
| | Kerala: Trivandrum dist., Poonmudi Range, 3000 ft, v.1992, T.R.S.Nathan legit. [8°31'N-77°00'E] | - | 4 | CFT |
| | Kerala/Tamil Nadu: Nilgiri Hills, Singara, 1500 m alt., v.1963, T.R.S.Nathan legit. [11°30'N-76°30'E] | 1 | - | OUMNH |
| | Madhya Pradesh: Jabalpur, iv.1914, G.Babault legit. [23°09'N-79°58'E] | 1 | - | IRSNB |
| | Madhya Pradesh: Jabalpur (south of), hilly area near town, 24.iii.1967, G.Topál legit | 1 | - | HNHM |
| | Madhya Pradesh: Jabalpur (south of), hilly area near town, 1.iv.1967, G.Topál legit | 1 | - | HNHM |
| | Madhya Pradesh: Rewa, Umaria, Jaithari Range, cattle dung, 18.xi.1927, C.F.C.Beeson legit. [24°33'N-81°25'E] | - | 1 | BMNH |
| | | - | 1 | NMPC |
| | Maharashtra: Nagpur, 1000', cow dung, 15.ix.1927, E.A.D'Abreu legit. [21°08'N-79°10'E] | - | 2 | BMNH |
| | Maharashtra: Seoni, Korai, 2000 ft, cow dung, 19.x.1927, E.A.D'Abreu legit. [22°05'N-79°30'E] | - | 1 | BMNH |
| | Maharashtra: 25 Km from Poona on the way to Auraganbad, 7.viii.1967, G.Topál legit. [18°29'N-73°57'E] | 2 | 1 | HNHM |
| | Punjab: Bilaspur, iv.1914. [30°34'N-75°22'E] | - | 2 | IRSNB |
| | Sikkim | - | 1 | ZMHU |
| | Tamil Nadu: Anaimalai Hills, Indira Gandhi N.P., Topslip, 10°12'N-76°00'E, 750 m alt., v.1977, T.R.S.Nathan legit | 7 | 9 | OUMNH |
| | Tamil Nadu: Coimbatore, 1.400 ft, 30.v.1937, P.S.Nathan legit | 2 | 2 | IRSNB |
| | Tamil Nadu: Coimbatore, 30.v.1937, P.S.Nathan legit | - | 1 | IRSNB |
| | Tamil Nadu: Coimbatore, vi.1937, P.S.Nathan legit | - | 1 | IRSNB |
| | Tamil Nadu: Coimbatore, 1.400 ft, vi.1937, P.S.Nathan legit | - | 1 | IRSNB |
| | Tamil Nadu: Coimbatore, 3.iii.1938, P.S.Nathan legit | 3 | 1 | IRSNB |
| | Tamil Nadu: Coimbatore, vi.1938, P.S.Nathan legit | 1 | 1 | IRSNB |
| | Tamil Nadu: Coimbatore, 24.x.1938, P.S.Nathan legit | - | 1 | IRSNB |
| | Tamil Nadu: Coimbatore, x.39 | 2 | - | CPhM |
| | Tamil Nadu: Coimbatore, A.K.Weld Downing legit | - | 2 | BMNH |
| | Tamil Nadu: Coimbatore, ix.1951, P.S.Nathan legit | 1 | - | CMN |
| | Tamil Nadu: Coimbatore, 1.400 ft, viii.1952, P.S.Nathan legit | 2 | 1 | IRSNB |
| | Tamil Nadu: Coimbatore, 420 m alt., 11°00'13"N-76°58'19"E, x-xi.1980, T.R.S.Nathan legit | 9 | 11 | OUMNH |
| | Tamil Nadu: Coimbatore, 420 m alt., 11°00'13"N-76°58'19"E, xi.1964, T.R.S.Nathan legit | 3 | 1 | OUMNH |
| | Tamil Nadu: Madras State, Coimbatore, 1400', iv.1953, P.S.Nathan legit | 1 | 1 | CMN |
| | Tamil Nadu: Madras, Coimbatore, 1400 f., x.1965, P.S.Nathan legit | 1 | - | NMPC |
| | Tamil Nadu: Coimbatore Dist., Mardamalai Hills, 1300', xi.1969, P.S.Nathan legit | 1 | - | CMN |
| | Tamil Nadu: Kodalkanal, Pulney Hills, 6500 ft, 21.iv.1953, P.S.Nathan legit. [10°13'N-77°32'E] | 1 | - | IRSNB |
| | Tamil Nadu: Madras, ex Hope collection | 1 | - | OUMNH |
| | Tamil Nadu: Madras City, iv.1924, M.O.T.Iyengar legit. [13°08'N-80°19'E] | - | 1 | BMNH |

APPENDIX 2. *Tiniocellus imbellis* (Bates, 1891). List of material examined other than name-bearing types (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|--|---|----|-------|-------|
| India | Tamil Nadu: Madurai, N9°54'-E78°07', x.1975, M.Coe legit | 1 | 1 | OUMNH |
| | Tamil Nadu: Palani Hills, Sowrikadu, 1000 m alt., v.1978, T.R.S.Nathan legit. [10°27'N-77°31'E] | 28 | 27 | OUMNH |
| | Tamil Nadu: Pondicherry. [11°59'N-79°50'E] | - | 1 | ZMHU |
| | Tamil Nadu: Pondicherry, ex Hope collection. [11°59'N-79°50'E] | - | 1 | OUMNH |
| | Tamil Nadu: Pondicherry, Coll. Ancey. [11°59'N-79°50'E] | - | 1 | MNHN |
| | Tamil Nadu: Puducherry, Karaikal, 2 m alt., 10°55'23"N-79°48'27"E, viii.1963, T.R.S.Nathan legit | - | 1 | OUMNH |
| | Tamil Nadu: Puducherry, Karaikal, 2 m alt., 10°55'23"N-79°48'27"E, x.1980, T.R.S.Nathan legit | 1 | 2 | OUMNH |
| | Tamil Nadu: Tiruchirapalli, R.P.J.Castets legit.[10°45'N-78°45'E] | - | 1 | IRSNB |
| | Tamil Nadu: Tiruchirapalli, 1905, R.P. du Breuil legit.[10°45'N-78°45'E] | 1 | - | IRSNB |
| | Tamil Nadu: Tiruvannamalai, xi.86, T.R.S.N. legit.[12°10'N-79°12'E] | - | 1 | CPhM |
| | Uttar Pradesh: Joshimath, Nanda Devi Nat. Park, 1800 m, 30.ix.1981, F.Tagliaferri legit. [30°30'N-80°30'E] | - | 1 | CFT |
| | Uttar Pradesh: Karnaprayag env., 19-21.vii.1994, M.Snizek legit.[30°17'N-79°13'E] | 1 | - | CEB |
| | Uttar Pradesh: Kumaun, W. Almora, viii.1917, H.G.Champion legit. [29°38'N-79°42'E] | - | 1 | BMNH |
| | Uttar Pradesh: Kumaun, W. Almora, H.G.Champion legit.[29°38'N-79°42'E] | 1 | - | BMNH |
| | Uttar Pradesh: Mussoorie, Kempti Falls, 29.v.21, Dr. Cameron legit. [30°27'N-78°06'E] | 1 | - | BMNH |
| | Uttar Pradesh: Mussoorie, Machinnon Park, on wing, 2.ix.1927, C.F.C.Beeson legit | - | 2 | BMNH |
| | Uttar Pradesh: Rishikesh, 7.x.1981, F.Tagliaferri legit.[30°04'N-78°15'E] | 25 | 32 | CFT |
| | Uttar Pradesh: Rishikesh, 340 m, 4-5.vii.1994, M.Valenta legit.[30°04'N-78°15'E] | 1 | - | CPhM |
| | Uttar Pradesh: Rishikesh, 4-5.vii.1994, M.Valenta legit.[30°04'N-78°15'E] | - | 4 | CEB |
| | Uttar Pradesh: Rishikesh, 340 m, 5.vii.1994, M.Snizek legit.[30°04'N-78°15'E] | 2 | 3 | CEB |
| | Uttar Pradesh: Rishikesh, 330 m, 5.vii.1994, M.Snizek legit.[30°04'N-78°15'E] | 1 | 4 | CEB |
| | Uttar Pradesh: Sitapur, vii.1917, H.G.Champion legit.[27°38'N-80°45'E] | - | 2 | BMNH |
| | Uttar Pradesh: Thalari, 24.vii.1994, M.Snizek legit | 1 | - | CEB |
| | Uttar Pradesh: Thalari [Talwari], Debal 10 Km N, M.Snizek legit. [30°24'N-79°20'E] | 1 | - | CEB |
| | West Bengal: Calcutta. [22°36'N-88°24'E] | 1 | 5 | ZMHU |
| | West Bengal: Darjeeling, Coll. Le Mout. [27°03'N-88°18'E] | - | 1 | MNHN |
| | Coromandel, Genji 6-8.1903, R.P.Autemard | - | 1 | IRSNB |
| | Coromandel, Genji, 25.viii-15.ix.1901, M.Maindron legit | 8 | 12 | MNHN |
| | Coromandel, Genji, M.Maindron legit | - | 1 | MNHN |
| | Coromandel, Genji, vi-viii.1903, R.P.Autemard legit | - | 1 | MNHN |
| | Coromandel, ex Hope collection | 1 | 1 | OUMNH |
| | Coromandel, Coll. Ancey | 1 | 1 | MNHN |
| | E. India, ex Hope collection | 2 | 2 | OUMNH |
| India, ex Hope collection | 2 | 1 | OUMNH | |
| India (paralectotype of <i>Oniticellus modestus</i> Arrow, 1908) | 1 | - | BMNH | |
| India, Nevinson coll. | - | 1 | BMNH | |
| India, Nilghedi Hills | 1 | - | ZMHU | |
| Kappa, Indes Anglaises (Prov. Centr.), G.Babault, Mai 1914.[17°57'N-82°35'E] | - | 1 | IRSNB | |
| Merlestiy Dg. ... (illegible), Ind. Orient., Coll. et determ. J. La Fontaine | - | 1 | IRSNB | |
| Ostind. ... (illegible) | 1 | - | ZMHU | |
| S. India | 1 | 1 | BMNH | |
| Nepal | Dintorni di [= around] Tumlingtar (valle dell'Arun), 24.iv.1990.[27°30'N-87°15'E] | 4 | 1 | CEB |
| Pakistan | Islamabad: N33°40'56"-E73°05'44", 700 m, horse dung on sand, 23.vii.2000, D.J.Mann legit | 1 | - | OUMNH |
| | N.W. Frontier: Karakoram Highway, Besham, N34°54'24"- E72°51'37", 790 m, cattle dung, 24.vii.2000, D.J.Mann legit | 75 | 37 | OUMNH |
| | N.W. Frontier: Mansehra, viii.2000, L.Falletti legit.[34°20'N-73°12'E] | - | 1 | CFT |
| | Punjab: Murree, Ghora Gali, 2100 m, 33.5068N, 73.1884E, 31.v.2007, G.M.Carpaneto legit | 2 | 2 | CGMC |
| Country unspecified or uncertain | Bengal | - | 1 | BMNH |
| | Bengale, Coll. Ancey | 2 | 1 | MNHN |
| | Punjab, Nevinson Coll. 1918-14 | - | 1 | BMNH |
| | Punjab: Baddia (Indes Angl.), iv.1914, G.Babault legit | - | 1 | IRSNB |
| | [without any label] | 1 | - | ZMHU |
| | Ex Hope collection | - | 1 | OUMNH |
| | Coll. De Marseul, 1890 | - | 1 | MNHN |
| Presumably mislabeled | Algérie, Bogghari | 1 | 1 | IRSNB |
| | Natal, coll. Ancey | - | 1 | MNHN |

APPENDIX 3. *Tiniocellus setifer* (Kraatz, 1895). List of material examined, other than name-bearing types (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. | |
|---|---|---|------|-------|------|
| Benin | Bembereke, 2 km W Gando, 2-3.vii.2001, A.Kudrna Jr. legit.[10°14'N-2°19'E] | - | 1 | CFT | |
| | West-Afrika, Dahomey [= Benin] | - | 1 | ZMHU | |
| Burkina Faso | Nahouri: Tiakané, 320 m, 10°11'37"N-1°14'10"E, zone soudanienne sud, bouse de vache, 20.viii.2005, F.Génier legit, 2005-34 | 1 | - | CFG | |
| Burundi | Ruzizi, 23.iv.1984, R.Hastir legit | 1 | 2 | CIB | |
| Cameroon | Adamaoua, entre Bankim et Sonkolong, steppe, ii.1999, M.Desfontaine legit. [6°34'N-13°10'E] | 1 | - | CPHM | |
| | Akonangi, iii-iv.09, G.Tessmann legit | 1 | 2 | ZMHU | |
| | Ambam, iii.1990, V.Rosa legit. [2°23'N-11°16'E] | 1 | - | CFT | |
| | Batanga | - | 1 | IRSNB | |
| | Centre: Mbalmayo, vii.1996, M.Desfontaine legit.[3°31'N-11°30'E] | 2 | 3 | CPHM | |
| | Joko [= Yoko] [5°33'N-12°19'E] | 1 | - | HNHM | |
| | Kamerun [= Cameroon], Conradt legit, coll. Kraatz | - | 2 | DEI | |
| | Kamerun [= Cameroon], Conradt legit | 1 | - | ZMHU | |
| | Mamfé, 30.xi.1955, Exped. Mus. G.Frey Nigeria-Kamerun, Bechnyé legit. [5°45'N-9°19'E] | - | 1 | CNCI | |
| | 7 Km E Somalomo, 50 Km S Messamena, exc. humain, 17-27.i.1995, J.-F.Josso legit. [3°23'N-12°44'E] | - | 1 | CJFJ | |
| | Somalomo, Nord réserve du Dja, exc. humains, 1.iv.1997, J.-F.Josso legit. [3°23'N-12°44'E] | 8 | 6 | CJFJ | |
| | | 3 | 3 | CTB | |
| | Amt-Jaunde [= Prov. Yaoundé], Buschwald, 19-23.x.14, G.Tessmann legit | 1 | - | ZMHU | |
| | SW, Kumba, betw. town and station, forest/gardens, human faeces, day, 31.vii.1988, F.-T.Krell legit. [4°38'N-9°26'E] | 2 | 2 | DMNS | |
| | SW, Kumba, betw. town and station, forest/gardens, dog faeces, 31.vii.1988, F.-T.Krell legit. [4°38'N-9°26'E] | 1 | - | DMNS | |
| | SW, Kumba, betw. town and station, forest/gardens, human faeces, night, 31.vii.1988, F.-T.Krell legit. [4°38'N-9°26'E] | - | 1 | DMNS | |
| | Yaoundé, iii.1931, J.Vadon legit. [3°52'N-11°31'E] | 2 | - | IRSNB | |
| | CAR | Uamgebiet Bosum [neighbourhood of Bozoum], 11-20.iii.14, G.Tessmann legit. [6°19'N-16°23'E] | 1 | - | ZMHU |
| | | Uamgebiet Bosum [neighbourhood of Bozoum], 21-31.iii.14, G.Tessmann legit. [6°19'N-16°23'E] | 3 | 4 | ZMHU |
| | | Uamgebiet Bosum [neighbourhood of Bozoum], 21-31.v.14, G.Tessmann legit. [6°19'N-16°23'E] | 1 | - | ZMHU |
| Uamgebiet Bosum [neighbourhood of Bozoum], 1-10.v.14, G.Tessmann legit. [6°19'N-16°23'E] | | 1 | - | ZMHU | |
| Uamgebiet Bosum [neighbourhood of Bozoum], 1-10.vi.14, G.Tessmann legit. [6°19'N-16°23'E] | | - | 4 | ZMHU | |
| Bozo [= Bozoum], 5°10'N-8°30'E [sic! lapsus pro 18°30'E?], x.81, N.Degallier legit | | - | 1 | CPHM | |
| Bozo [= Bozoum], 5°10'N-18°30'E, exc. humain, xii.81, N.Degallier legit | | - | 2 | CPHM | |
| Sangha-Mbaere: 20 km S Nola, 600 m, 13-14.xii.2008, A.Kudrna Jr. legit. [3°18'N-16°18'E] | | 1 | 1 | CPHM | |
| Fort Crampel. [7°08'N-19°31'E] | | 11 | 9 | IRSNB | |
| Congo Français, Fort Sibut. [5°52'N-19°10'E] | | 16 | 11 | IRSNB | |
| Fort Sibut. [5°52'N-19°10'E] | | 25 | 22 | IRSNB | |
| Fort-Sibut, Haut-Chari, G.Favarel (collection Le Moul). [5°52'N-19°10'E] | | 2 | - | MNHN | |
| Fort-Sibut, Haut-Chari (collection Le Moul). [5°52'N-19°10'E] | | 4 | 9 | MNHN | |
| Ht. Chari-Tchad, Fort-Sibut, collection Le Moul. [5°52'N-19°10'E] | | - | 1 | IRSNB | |
| Haut Sangha, 1922, P.Marcilhacy legit | | - | 1 | MNHN | |
| Hte. Sanga [= Upper Sangha], P. de Riencourt legit | | - | 1 | IRSNB | |
| Congo Moyen, Rég. De M'Baïki (Dr. Fidao), Pitard 1919. [3°51'N-17°59'E] | | 4 | 3 | MNHN | |
| Congo Moyen, Rég. De M'Baïki (Dr. Fidao), février, Pitard 1919. [3°51'N-17°59'E] | - | 4 | MNHN | | |
| Chad | Est de Fort Archambault [= Sarh], Pays Goulei et Nara, de Gangara à Nara et Ngablo, mission Chari-Tchad, Dr. J.Decorse, vi.1904. [9°09'N-18°24'E] | - | 1 | IRSNB | |
| | | 1 | 2 | MNHN | |
| DRC | Équateur: Eala, excrément d'éléphant, xi.19234, J.Ghesquière legit. [0°02'N-18°20'E] | 1 | - | IRSNB | |
| | Équateur: Eala, vi.1935, J.Ghesquière legit. [0°02'N-18°20'E] | 4 | 4 | IRSNB | |
| | Équateur: Eala, vii.1935 J.Ghesquière legit. [0°02'N-18°20'E] | 5 | 10 | IRSNB | |
| | Équateur: Eala, xii.1935 J.Ghesquière legit. [0°02'N-18°20'E] | - | 4 | IRSNB | |
| | Équateur: Libenge, dans excréments humains, R.Cremer & M.Neuman legit. [3°39'N-18°38'E] | 10 | 5 | IRSNB | |
| | Équateur: Libenge, 13.i.1948, R.Cremer & M.Neuman legit. [3°39'N-18°38'E] | - | 1 | IRSNB | |
| | Équateur: Libenge, Sabe, dans crottin buffles, 13.i.1948, R.Cremer & M.Neuman legit | - | 2 | IRSNB | |
| | Équateur: Libenge, dans excréments humains, 16.i.1948, R.Cremer & M.Neuman legit. [3°39'N-18°38'E] | 19 | 11 | IRSNB | |
| | Équateur: Libenge, dans excréments humains, 16.i.1948, mission Mawuya, R.Cremer & M.Neuman legit. [3°39'N-18°38'E] | - | 1 | IRSNB | |
| | Équateur: Libenge, 16.i.1948, R.Cremer & M.Neuman legit. [3°39'N-18°38'E] | 4 | 4 | IRSNB | |
| | Équateur: Libenge, dans excréments humains, 29.i.1948, mission Mawuya, R.Cremer & M.Neuman legit. [3°39'N-18°38'E] | 15 | 13 | IRSNB | |
| | Équateur: Libenge, savane Liki-Bembe, 23.ii.1948, R.Cremer & M.Neuman legit | 1 | 1 | IRSNB | |
| | Équateur: Libenge, savane Liki-Bembe, 26.ii.1948, R.Cremer & M.Neuman legit | - | 1 | IRSNB | |
| | Équateur: Tshuapa, Ikela, R.Deguide legit. [1°04'S-23°22'E] | 1 | - | NMPC | |

APPENDIX 3. *Tiniocellus setifer* (Kraatz, 1895). List of material examined, other than name-bearing types (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. | |
|---|---|----|-------|-------|-------|
| DRC | Haut-Zaïre: Bambesa, 24.vi.1937, J.Vrydagh legit.[3°28'N-25°42'E] | - | 1 | IRSNB | |
| | Haut-Zaïre: Bambesa, 13-14.vii.1937, J.Vrydagh legit.[3°28'N-25°42'E] | - | 1 | IRSNB | |
| | Haut-Zaïre: Bambesa, 12.xii.1939, J.Vrydagh legit.[3°28'N-25°42'E] | 33 | 15 | IRSNB | |
| | Haut-Zaïre: Bambesa, 14-19.xii.1939, J.Vrydagh legit.[3°28'N-25°42'E] | 2 | - | IRSNB | |
| | Haut-Zaïre: Bambesa, 21.xii.1939, J.Vrydagh legit.[3°28'N-25°42'E] | 1 | - | IRSNB | |
| | Haut-Zaïre: Bambesa, 28.i.1940, J.Vrydagh legit.[3°28'N-25°42'E] | - | 1 | IRSNB | |
| | Haut-Zaïre: Lake Albert, Forêt de Kawa, 5.iv.29, A.Collart legit.[2°12'N-25°41'E] | - | 1 | CPHM | |
| | Haut-Zaïre: Lake Albert, Forêt de Kawa, 8.iv.29, A.Collart legit.[2°12'N-25°41'E] | - | 1 | CPHM | |
| | Haut-Zaïre: Lake Albert, Forêt de Kawa, 5.iv.29, A.Collart legit.[2°12'N-25°41'E] | 1 | 1 | IRSNB | |
| | Haut-Zaïre: Lake Albert, Forêt de Kawa, 9.iv.29, A.Collart legit.[2°12'N-25°41'E] | - | 1 | IRSNB | |
| | Haut-Zaïre: Lake Albert, Forêt de Kawa, 14.iv.29, A.Collart legit.[2°12'N-25°41'E] | 1 | 1 | IRSNB | |
| | Haut-Zaïre: Lake Albert, Forêt de Kawa, 21.iv.29, A.Collart legit.[2°12'N-25°41'E] | 1 | - | CPHM | |
| | Haut-Zaïre: Parc Nat. de la Garamba, 27.ii.1950, H. De Saeger legit | - | 1 | NMPC | |
| | | | - | 2 | IRSNB |
| | Haut-Zaïre: Parc Nat. de la Garamba, 9.xi.1950, H. De Saeger legit | 1 | 1 | NMPC | |
| | | | 1 | 1 | IRSNB |
| | Kasai Oriental: Kamba. [3°59'N-22°22'E] | 1 | - | IRSNB | |
| | Kivu: Virunga Parc [= Parc Nat. Albert], Bitshumbi, 28.ix.1933, G.F. de Witte legit. [1°0'S-29°15'E] | - | 1 | IRSNB | |
| | Kivu: Virunga Parc [= Parc Nat. Albert], Bitshumbi, 925 m, 29-30.ix.1933, G.F. de Witte legit. [1°0'S-29°15'E] | 1 | 2 | IRSNB | |
| | Kivu: Virunga Parc [= Parc Nat. Albert], Bitshumbi, 925 m, 7-9.x.1933, G.F. de Witte legit. [1°0'S-29°15'E] | 20 | 42 | IRSNB | |
| | Prov. de Maniéma [= Kivu], Kindu, L.Burgeon 1917.[2°57'S-25°55'E] | 1 | - | MNHN | |
| | Lulua: Kapanga, ii.19..., F.G.Overlaet legit. [3°24'S-28°39'E] | 1 | - | NMPC | |
| | Lulua: Kapanga, xi.1933, G.F.Overlaet legit.[3°24'S-28°39'E] | 1 | - | NMPC | |
| Shaba: Kaniama, 18.i.1939, H.J.Brédo legit.[7°31'S-24°10'E] | 1 | 2 | IRSNB | | |
| Equatorial Guinea | Nkolentangan, xi.07-v.08, G.Tessmann legit | 2 | 1 | ZMHU | |
| Eritrea | Bogosa, Insaba, 1870, O.Beccari legit | 1 | - | MNHN | |
| | Ghinda. [15°30'N-39°04'E] | - | 1 | ZMHU | |
| | Nindil | 1 | - | IRSNB | |
| Ethiopia | Abyssinie, D. Daoua [= Dire Dawa], Coll. Le Mout | 2 | 1 | IRSNB | |
| | Abyssinie, Lac-Daka. [3°55'N-39°58'E] | 9 | 8 | IRSNB | |
| | Abyssinie, Lac Zonay | 1 | 2 | IRSNB | |
| | Abyssinie, Lac Zonay, 22.v.1916 | 5 | - | IRSNB | |
| | Abyssinie, riv. Boulé-Boulé, v.1914 | - | 2 | IRSNB | |
| | Gemu Gofa: near Arba Minch, iv-v.1992, Werner legit.[6°01'N-37°34'E] | 2 | 9 | CPHM | |
| | Häregê: Moulo [= Mulu], 100 Kil. O. de Diré Daoua [= Dire Dawa], piste de l'Assadot, au S. du Kil. 400, 1903, Dr. J.Roger legit. [9°12'N-41°06'E] | - | 4 | MNHN | |
| | Häregê: Harrar [= Härer] [9°18'N-42°08'E] | 1 | 7 | IRSNB | |
| | | | - | 1 | MNHN |
| | Häregê: Harrar [= Härer], Douckier. [9°18'N-42°08'E] | - | 1 | MNHN | |
| | Häregê: Harrar [= Härer], 1911, G.Kristensen legit.[9°18'N-42°08'E] | 1 | - | NMPC | |
| | N. Galla, Daroli, 25.i.01, B. v. Erlanger legit | 1 | - | ZMHU | |
| | N. Galla, Aberoseh, 26.i.01, B. v. Erlanger legit | 1 | - | ZMHU | |
| | N. Galla, Daroli, 30.i.01, B. v. Erlanger legit | - | 1 | ZMHU | |
| | Süd-Aethiop., Omo-Fl., O.Neumann legit. [6°0'N-35°50'E] | 6 | 13 | ZMHU | |
| | "N.O. Afrika, Alesa", O.Neumann legit | 1 | - | ZMHU | |
| | "N.O. Afrika, Maki", O.Neumann legit. [8°09'N-38°49'E] | 2 | 3 | ZMHU | |
| | Sidamo Province, 40 Km W Sodo, 1100 m, 12-14.iv.2007, A.Kudrna Jr. legit. [6°54'N-37°44'E] | 1 | - | OUMNH | |
| | Éthiopie mérid., Laga-Hardina, iv.1905, M. de Rothschild legit | - | 1 | MNHN | |
| | Éthiopie mérid., Haut-Aouache, Endessa, 1905, M. de Rothschild legit | 2 | 3 | MNHN | |
| | Éthiopie mérid., Haut-Aouache, Endessa, ix.1905, M. de Rothschild legit | - | 2 | MNHN | |
| | Éthiopie mérid., Filoa-Tchoba, iv.1905, M. de Rothschild legit | - | 1 | MNHN | |
| | Sidamo: Dila, ix.2000, P.Leonard legit.[6°25'N-38°19'E] | - | 4 | CPHM | |
| Gabon | Ht. Ogooué, 1883, Guiral legit. [1°28'S-13°54'E] | 2 | 1 | MNHN | |
| | Makokou, Ipassa, i.2006, A.Susini legit. [0°32'N-12°46'E] | 12 | 16 | CFT | |
| Ghana | Volta region: Amedzofe, 830 m, 6°52'N-0°26'W, faeces trap, 1.ix.1967, Dr. S.Endrödy-Younga legit | 1 | 1 | HNHM | |

APPENDIX 3. *Tiniocellus setifer* (Kraatz, 1895). List of material examined, other than name-bearing types (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|--|---|----|------|-------|
| Guinea-Bissau | Chime, Rio Géba, 1906, G.Favarel legit | - | 1 | ZMHU |
| | Rio Géba, 1906, G.Favarel legit. [11°58'N-15°21'W] | - | 1 | MNHN |
| Guinea-Conakry | Nzerékoré, 5.vii.1951, Exped. Mus. G.Frey Franz-Guinea 1951, Bechyné legit. [9°37'N-13°36'W] | 2 | 2 | CNCI |
| | Foret Classe de Mts. Nimba, near Lola, 7-9.vii.2004, A.Kudrna Jr. legit. [7°37'N-8°24'W] | 1 | 1 | CFT |
| | Franz W. Afrika, Guinée Française [sic!], bei Kolenté, 2.xii.1956, H.Knorr legit. [10°06'N-12°37'W] | - | 1 | DMNS |
| Ivory Coast | Côte d'Ivoire | - | 1 | IRSNB |
| | Abokouamekro, 19.iii.83, A.Jure legit.[7°05'N-5°05'W] | - | 1 | CPhM |
| | Bingerville, viii.1961, J.Decelle legit. [5°21'N-3°54'W] | - | 1 | NMPC |
| | Bingerville, G.Melou 1914. [5°21'N-3°54'W] | 6 | 3 | MNHN |
| | Bouaké, Cap ^{ne} Le Magnen legit. [7°41'N-5°02'W] | 1 | - | IRSNB |
| | Bouaké, 7-15.v.1980, O.Kubal legit. [7°41'N-5°02'W] | 1 | - | CMN |
| | Bouaké, 350 m, 8-17.v.1980, O.Kubal legit.[7°41'N-5°02'W] | 1 | 2 | CMN |
| | Bouaké, 350 m, small dung traps, 15-28.v.1980, O.Kubal legit.[7°41'N-5°02'W] | 1 | - | CMN |
| | Haute Côte d'Ivoire, cercle de Mankono, entre Kourokoro à Mankono, mai-juin, (F. Fleury), A.Chevalier 1910.[8°03'N-6°11'W] | 1 | 2 | MNHN |
| | Haute Côte d'Ivoire, cercle de Mankono, entre Kourokoro à Mankono, (F. Fleury), A.Chevalier 1910. [8°03'N-6°11'W] | 3 | 2 | MNHN |
| | Lampto [= Lamto], savana, dung traps, 1-5.vi.1980, O.Kubal legit. [6°13'N-5°02'W] | 8 | 24 | CMN |
| | Man, near, Village Zouatta 2, 7°27'36"N-7°21'00"W, cow dung on sand roads, 19.iv.2004, leg. D.H. Newman | 1 | 1 | DMNS |
| | Man, near, Village Zouatta 2, 7°27'36"N-7°21'00"W, human faeces, 19.iv.2004, leg. D.H. Newman | - | 1 | DMNS |
| | Odienné, 9°30'N-7°34'O, 416 m, forêt sèche, piège exc. humain, viii.1997, P.Moretto legit | 70 | 64 | CPhM |
| | | 12 | 12 | CTB |
| | Sassandra: Pauly-Brousse, forêt dégradée, piège exc. humains, xii.1996, Ph.Moretto legit.[7°42'N-7°04'W] | 3 | - | CPhM |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"-W05°06'05", cow dung baited pitfall trap, 6h00-16h00, 27.iii.2002, Newman legit | 12 | 9 | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"-W05°06'05", cow dung baited pitfall trap, 16h00-6h00, 29-30.iii.2002, Newman legit | 1 | - | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"-W05°06'05", cow dung baited pitfall trap, 6h00-16h00, 5.iv.2002, Newman legit | 15 | 5 | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"-W05°06'05", cow dung baited pitfall trap, 6h00-16h00, 6.iv.2002, Newman legit | 13 | 6 | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"- W05°06'56", cow dung, evening, 27.iii.2003, Newman legit | 1 | - | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"- W05°06'56", cow dung, evening, 5.iv.2003, Newman legit | 1 | - | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"- W05°06'56", cow dung, evening, 6.iv.2003, Newman legit | - | 1 | BMNH |
| | Bringakro, coffee plantation, 06°25'N-05°06'W, human dung trap BKFI-7, 20-22.iv.2002, F.-T.Krell legit | 1 | 1 | BMNH |
| | | 4 | 7 | DMNS |
| | Région des Lacs, near Bringakro, savanna, N06°25'53"-W05°04'32", cow dung, evening, 14.vi.2003, Newman legit | - | 1 | BMNH |
| | Région des Lacs, near Bringakro, savanna, N06°25'53"-W05°04'32", cow dung, evening, 16.vi.2003, Newman legit | 1 | - | BMNH |
| | Région des Lacs, Bringakro nr. burned savanna, 6°25'56.1"N-5°04'35.3"W, cow dung, 13.v.2002, evening, leg. Newman et al. | 1 | - | BMNH |
| | | 3 | - | DMNS |
| | Région des Lacs, Bringakro nr. cut savanna, 6°25'55.8"N-5°04'34.6"W, cow dung, 13.v.2002, evening, leg. Newman et al. | 2 | - | DMNS |
| | Bringakro, savanna, 6°26'N-5°5'W, human dung trap BFKII-7, 24-26.iv.2002, F.-T.Krell legit | 1 | - | BMNH |
| | | 1 | 1 | DMNS |
| | Région des Lacs, near Bringakro, savanna grassland, N06°25'53"-W05°04'32", cow dung baited pitfall trap, 6h00-16h00, 16.vi.2003, Newman legit | 1 | 2 | BMNH |
| | Bringakro, <i>imperata</i> , no pasture, N6°25'00"-W5°05'31", cow dung, 25.viii.2002, Kouakou & N'Goran legit | 2 | - | DMNS |
| | Bringakro, savanna, no pasture, 6°25'00"N-5°05'31"W, cow dung, 28.iv.2001, leg. Krell-Westerwalbesloh | 2 | 2 | DMNS |
| | Région des Lacs, near Bringakro, <i>Imperata</i> sp. grassland, N06°25'01"-W05°05'52", cow dung baited pitfall trap, 6h00-16h00, 29.vi.2003, Newman legit | 1 | 1 | BMNH |
| | Région des Lacs, near Bringakro, <i>Imperata</i> sp. grassland, N06°25'01"-W05°05'52", cow dung baited pitfall trap, 6h00-16h00, 30.vi.2003, Newman legit | 1 | 2 | BMNH |
| | Sassandra, Pauly-Brousse, forêt dégradée, exc. humain, xii.1996, P.Moretto legit. [7°42'N-7°04'W] | 77 | 41 | CPhM |
| | | 12 | 10 | CTB |
| | Sassandra, Pauly-Brousse, forêt dégradée, exc. humain, xii.1997, P.Moretto legit. [7°42'N-7°04'W] | 10 | 20 | CPhM |
| Sassandra: Pauly-Brousse, forêt dégradée, exc. humain, iv.1998, P.Moretto legit. [7°42'N-7°04'W] | 21 | 7 | CPhM | |
| Touba: Biémasso/Doila, savane, vi.2000, P.Moretto legit.[8°17'N-7°41'W] | 1 | - | CPhM | |
| Yamoussoukro, 20.viii.1981, A.Ture legit. [6°04'N-5°17'W] | 3 | - | CIB | |
| | 2 | 2 | CFT | |

APPENDIX 3. *Tiniocellus setifer* (Kraatz, 1895). List of material examined, other than name-bearing types (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|---|--|----|------|-------|
| Kenya | Afr. Or. Angl. (Wa-Kikuyu), Fort-Hall [= Murango], 1330 m, i.1912, Alluaud & Jeannel legit. [0°50'S-37°14'E] | 1 | 1 | MNHN |
| | Kericho, vi.1903, F.J.Jackson legit. [0°22'S-35°17'E] | 2 | - | BMNH |
| | Kibwezi, xii.1929, van Someren legit. [2°25'S-37°58'E] | - | 1 | BMNH |
| | Mara Bridge, 16-21.vii.1979, W.Rossi legit.[1°03'S-35°14'E] | - | 1 | CFT |
| | Nandi, Kamilio, vi.1903, F.J.Jackson legit | 2 | - | BMNH |
| | Nyanza: Ile de Lusinga [= Rusinga], x.1903, Ch.Alluaud legit.[0°24'S-34°10'E] | - | 1 | BMNH |
| | Afrique Or ^e . Anglaise, Ile de Lusinga [= Rusinga] (Victoria-Nianza N.-E.), x.1903, Ch.Alluaud legit. [0°24'S-34°10'E] | 1 | 3 | MNHN |
| | Vict.-Nyanza, I. de Lusinga [= Rusinga], Ch.Alluaud legit.[0°24'S-34°10'E] | - | 1 | IRSNB |
| | Baie de Kavirondo (Victoria-Nyanza N.-E.), ix-x.1903, Ch.Alluaud legit | - | 2 | IRSNB |
| | Afrique Or ^e . Anglaise, Baie de Kavirondo (Victoria-Nyanza N.-E.), ix-x.1903, Ch.Alluaud legit | 3 | 6 | MNHN |
| Nigeria | Bugoma [= Buguma], ix.32, T.Jackson legit | - | 1 | BMNH |
| | Enugu, 31.x.1955, Exped. Mus. G.Frey Nigeria-Kamerun, Bechyné legit. [6°27'N-7°29'E] | 1 | - | CNCI |
| | Enugu, 1.xi.1955, Exped. Mus. G.Frey Nigeria-Kamerun, Bechyné legit. [6°27'N-7°29'E] | - | 2 | CNCI |
| | Oyo St. Ile-lfe, Univ. farm, pasture, 7°31'N-4°31'E, cattle dung, 17.vi.1988, F.-T.Krell legit. [7°31'N-4°31'E] | - | 3 | DMNS |
| | Toro, Busongoro, xii.1927, D.H.C. legit.[7°29'N-4°30'E] | 1 | - | BMNH |
| PRC | Brazzaville, ORSTOM park, excrement trap, 2.i.1964, Endrödy-Younga legit. [4°16'S-15°15'E] | 5 | 6 | HNHM |
| | | 1 | - | NMPC |
| | Brazzaville, ORSTOM park, excrement trap, 3.i.1964, Endrödy-Younga legit. [4°16'S-15°15'E] | - | 1 | HNHM |
| | Sibiti, IRHO, milk farm, sifted and singled from excrement, 29.xi.1963, Endrödy-Younga legit.[3°41'S-13°21'E] | 4 | 5 | HNHM |
| | 1 | - | NMPC | |
| Rwanda | Biharagu, i.1960 | 1 | - | NMPC |
| | "Ruanda" | 1 | 3 | IRSNB |
| Senegal | Kolda, Kitiim (Forêt de Balmadou), 27 m, 12°40'47"N - 15°20'08"O, 1.viii.2007, zone guinéenne, piège copro, P.Moretto & F.Génier, 2007-52 | - | 2 | CFG |
| | Niokolo Koba N.P., Assirik, crottin éléphant, 22-31.vii.1995, Ph.Moretto legit. [12°53'N-12°45'W] | 1 | - | CPhM |
| | Niokolo Koba N.P., Niokolo, piège exc. babouins, 22-31.vii.1995, Ph.Moretto legit. [13°02'N-12°59'W] | 5 | 5 | CPhM |
| | Fatick, Diouroup, 2 m, sahel en limite de lagune, piège lumineuse, 14-18.viii.2007, Ph.Moretto legit. [14°22'N-16°31'W] | - | 1 | CPhM |
| | Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 12°53'19"N - 12°43'10"O, 24.vii.2007, zone soudanienne, savane arborée, piège rumen, F.Génier & P.Moretto, 2007-23 | 1 | 1 | CFG |
| | Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 12°53'19"N - 12°43'10"O, 24-25.vii.2007, zone soudanienne, savane arborée, piège rumen, F.Génier & P.Moretto, 2007-26 | 1 | 1 | CFG |
| | | 84 | 86 | CPhM |
| | | 20 | 20 | CTB |
| | Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 12°53'19"N - 12°43'10"O, 24-26.vii.2007, zone soudanienne, savane arborée, piège copro, F.Génier & P.Moretto, 2007-27 | 2 | 3 | CPhM |
| | | 4 | 1 | CFG |
| Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 13°48'16"N - 13°34'47"O, 24-25.vii.2007, zone soudanienne, forêt-galerie, piège rumen, F.Génier & P.Moretto, 2007-30 | - | 1 | CFG | |
| Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 12°53'19"N - 12°43'10"O, 23-25.vii.2007, zone soudanienne, savane arborée, collecte générale, F.Génier, 2007-36 | 1 | - | CFG | |
| Tambacounda, P.N. Niokolo-Koba, piste 110 m, 12°58'02"N - 12°44'31"O, 26.vii.2007, zone soudanienne, savane arborée, bouse de buffle, P.Moretto & F.Génier, 2007-38 | 3 | - | CFG | |
| Sierra Leone | Sierra Leone | 1 | - | BMNH |
| | Sierra Leone, coll. v. de Poll | - | 1 | MNHN |
| | Berria, 2.iv.12, J.J.Simpson legit | 1 | - | BMNH |
| | Rhobomp | - | 1 | IRSNB |
| | 1 | 4 | MNHN | |
| Sudan | O. Sudan, Gelo-Fl., O.Neumann legit. [7°05'N-28°10'E] | 5 | 12 | ZMHU |
| | Ost Sudan, Yambo, O.Neumann legit. [4°35'N-28°16'E] | 17 | 23 | ZMHU |
| Tanzania | Niasoko, 20.vi.15, Holtz legit | - | 1 | ZMHU |
| | Shirati, iii.1912, K.Katona legit. [1°34'S-34°0'E] | - | 1 | HNHM |
| | Ukerewe, xii.1911, K.Katona legit | - | 1 | HNHM |
| | Utegi, i.1912, K.Katona legit. [1°26'S-34°08'E] | - | 1 | HNHM |
| Togo | Bismarckburg, L.Conradt legit. [8°11'N-0°40'E] | 3 | 3 | ZMHU |
| | Bismarckburg, 25.ix-12.xi.1892, L.Conradt legit.[8°11'N-0°40'E] | 1 | 1 | ZMHU |
| | Bismarckburg, 15-21.xi.1892, L.Conradt legit. [8°11'N-0°40'E] | 3 | 4 | ZMHU |
| | | 1 | - | MNHN |
| | Bismarckburg, 23.xi-2.xii.1892, L.Conradt legit.[8°11'N-0°40'E] | 2 | 3 | ZMHU |
| | Bismarckburg, 3-10.xii.1892, L.Conradt legit. [8°11'N-0°40'E] | 1 | - | ZMHU |

APPENDIX 3. *Tiniocellus setifer* (Kraatz, 1895). List of material examined, other than name-bearing types (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. | |
|----------------------------------|---|----|------|-------|------|
| Togo | Bismarckburg, 11-16.xii.1892, L.Conradt legit. [8°11'N-0°40'E] | - | 2 | ZMHU | |
| | Bismarckburg, 3-9.i.1893, L.Conradt legit. [8°11'N-0°40'E] | 1 | - | ZMHU | |
| | Bismarckburg, 11-17.i.1893, L.Conradt legit. [8°11'N-0°40'E] | 1 | 6 | ZMHU | |
| | Bismarckburg, 18-25.i.1893, L.Conradt legit. [8°11'N-0°40'E] | 1 | - | ZMHU | |
| | Bismarckburg, 3-6.iii.1893, L.Conradt legit. [8°11'N-0°40'E] | 12 | 11 | ZMHU | |
| | | | 1 | - | MNHN |
| | Bismarckburg, 13.ii-20.iii.1893, L.Conradt legit. [8°11'N-0°40'E] | 1 | - | ZMHU | |
| | Bismarckburg, 25.iv-3.v.1893, L.Conradt legit. [8°11'N-0°40'E] | 1 | - | ZMHU | |
| | Bismarckburg, 27.vi-8.vii.1893, L.Conradt legit. [8°11'N-0°40'E] | 1 | - | ZMHU | |
| | Bismarckburg, 20-27.x.1893, L.Conradt legit. [8°11'N-0°40'E] | 1 | 1 | ZMHU | |
| | 10 Km N Kpalimé, [illegible], excréments humains, iv.19... [illegible]. [6°54'N-0°38'E] | - | 1 | CEB | |
| | Togo, L.Conradt legit | 2 | 2 | ZMHU | |
| | Togoland, 1892-1893, L.Conradt legit | 17 | 30 | MNHN | |
| Uganda | Bugiri, 1400 m. [0°58'S-29°42'E] | - | 1 | NMPC | |
| | Bwamba, vii-viii.1946, van Someren legit | 1 | - | BMNH | |
| | Entebbe, 20-28.v.1914, C.C.Gowdey legit. [0°03'N-32°28'E] | 1 | 1 | BMNH | |
| | Entebbe, ii.1972, H.Falke legit. [0°03'N-32°28'E] | 2 | 10 | CNCI | |
| | Entebbe, ii-vii.1972, H.Falke legit. [0°03'N-32°28'E] | 7 | 9 | CNCI | |
| | Entebbe env., 8-13.xii.1994, M.Snizek legit. [0°03'N-32°28'E] | 4 | 2 | CEB | |
| | Entebbe, Kisubi, 1.i.1999. [0°07'N-32°32'E] | 4 | - | CJFJ | |
| | Hoima, Bugambe, Jame Finlays Tes Est., ~100m alt., dung baited pitfall trap, fragmented tea estate, fallow land, ix.2008, P.Nyeko legit. [1°26'N-31°20'E] | 1 | 3 | OUMNH | |
| | Kasese, 600 m, 13-19.xi.1994, M.Snizek legit. [0°10'N-30°05'E] | 3 | 1 | CEB | |
| | Lake Albert: top of Escarpment East of Butiaba, 3,200 ft, 9-10.xii.1911, S.A.Neave legit. [1°49'N-31°19'E] | - | 1 | BMNH | |
| | Mpigi, Mawokota, iii.1999. [0°14'N-32°19'E] | 5 | 2 | CJFJ | |
| | Mujenje, vii.1913, K.Katona legit | 2 | 4 | HNHM | |
| | S. Busoga Forest, Glossina thicket, elephants dung, 24.x.1954, P.S.Corbet legit. [0°30'N-33°39'E] | 5 | 4 | BMNH | |
| Uganda, K.Katona legit | 1 | - | NMPC | | |
| Country unspecified or uncertain | Abyssinie | 1 | 1 | IRSNB | |
| | Abessynia, Raffray | - | 1 | ZMHU | |
| | Sansibar, coll. Kraatz | - | 1 | DEI | |
| | Zanzibar, Coll. Monchicourt 1879 | 1 | - | MNHN | |
| | coll. Dr. S.Endrödi | - | 1 | HNHM | |
| | Nevinson Coll. 1918-14 | 1 | 2 | BMNH | |
| Presumably mislabeled | Cap bon. Esp. | - | 1 | IRSNB | |

APPENDIX 4. *Tiniocellus praetermissus* sp. n. List of paratypes (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|--------------|--|---|---|------|
| Benin | Alfakouara, Res. Djona, exc. humains, 23-28.ix.2003, Josso, Juhel & Monfort legit. [11°26'N-3°05'E] | - | 1 | CJFJ |
| | Alfakouara, Res. Djona, exc. vache, 23-28.ix.2003, Josso, Juhel & Monfort legit. [11°26'N-3°05'E] | 1 | 1 | CJFJ |
| | Res. Djona, mare 24, exc. elephants, 23-28.ix.2003, Josso, Juhel & Monfort legit | 1 | - | CJFJ |
| | Kaobagou (Parc du W), crottes d'éléphant, ii-iii.2003, A.Kotchoni & S.Tchibozo legit. [12°02'N-3°02'E] | 4 | 3 | CEB |
| Burkina Faso | Comoé: Forêt de Boulon, 270 m, 10°16'39"N-4°29'28"O, zone soudanienne, forêt galerie, piège copro, 7.vii.2006, F. & S.Génier legit, 2006-07 | 6 | 6 | CFG |
| | Comoé: Forêt de Boulon, 270 m, 10°16'39"N-4°29'28"O, zone soudanienne, forêt galerie, piège interception, 7.vii.2006, F. & S.Génier legit, 2006-08 | - | 2 | CFG |
| | Comoé: Forêt de Boulon, 270 m, 10°16'39"N-4°17'15"O, zone soudanienne, savane boisée, piège copro, 9.vii.2006, F. & S.Génier legit, 2006-17 | - | 3 | CFG |
| | Comoé: Forêt de Boulon, 270 m, 10°16'39"N-4°17'15"O, zone soudanienne, savane boisée, piège copro, 10.vii.2006, F. & S.Génier legit, 2006-24 | 5 | 4 | CFG |
| | Gourma Kompienga (20 Km S Pama), fèces humain, 3-24.ix.1988, F.Génier & M.Sanborne legit. [11°04'N-0°43'E] | 5 | 7 | CMN |
| | Gourma Kompienga (20 Km S Pama), bouse de vache, 3-24.ix.1988, F.Génier & M.Sanborne legit. [11°04'N-0°43'E] | 2 | 1 | CMN |
| | Kompienga: Pama, 230 m, 11°17'0"N-0°42'59"E, zone soudanienne sud, piège excr. humain, 25.viii.2005, F.Génier legit, 2005-45 | 3 | - | CFG |

APPENDIX 4. *Tiniocellus praetermissus* sp. n. List of paratypes (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|---|--|----|------|-------|
| Burkina-Faso | Kompienga: Pama, 230 m, 11°17'0"N-0°42'59"E, zone soudanienne sud, bouse de vache, 25-28.viii.2005, F.Génier legit, 2005-47 | 1 | - | CFG |
| | Kompienga: Pama, 230 m, 11°17'0"N-0°42'59"E, zone soudanienne sud, piège excr. humain, 27-28.viii.2005, F.Génier legit, 2005-54 | - | 3 | CFG |
| | Nahouri: Forêt de Nazinga, Akwazena, 275 m, 11°9'24"N-1°36'44"O, zone soudanienne, savane boisée, crottin hippotrague, 26.vii.2006, F. & S.Génier legit, 2006-73 | - | 1 | CFG |
| | Nahouri: Forêt de Nazinga, Akwazena, 275 m, 11°9'24"N-1°36'44"O, zone soudanienne, savane boisée, crottin d'éléphant, 26.vii.2006, F. & S.Génier legit, 2006-75 | 2 | 3 | CFG |
| | Nahouri: Forêt de Nazinga, Barka, 265 m, 11°8'30"N-1°36'35"O, zone soudanienne, savane boisée, crottin d'éléphant, 22.vii.2006, F. & S.Génier legit, 2006-57 | - | 3 | CFG |
| | Nahouri: Forêt de Nazinga, Barka, 265 m, 11°8'30"N-1°36'35"O, zone soudanienne, savane boisée, piège copro, 24.vii.2006, F. & S.Génier legit, 2006-60 | 4 | 3 | CFG |
| | Nahouri: Forêt de Nazinga, Barka, 265 m, 11°8'30"N-1°36'35"O, zone soudanienne, forêt sèche, piège copro, 24.vii.2006, F. & S.Génier legit, 2006-41 | 2 | 1 | CFG |
| | Nahouri: Forêt de Nazinga, Kalie Boulou, 275 m, 11°11'29"N-1°30'26"O, zone soudanienne, savane boisée, excr. de phacochère, 21.vii.2006, F. & S.Génier legit, 2006-49 | 1 | 1 | CFG |
| | Nahouri: Forêt de Nazinga, Kalie Boulou, 275 m, 11°11'29"N-1°30'26"O, zone soudanienne, savane boisée, piège copro phacochère, 22.vii.2006, F. & S.Génier legit, 2006-54 | - | 2 | CFG |
| | Nahouri: Forêt de Nazinga, Kalie Boulou, 275 m, 11°11'29"N-1°30'26"O, zone soudanienne, savane boisée, piège copro, 22.vii.2006, F. & S.Génier legit, 2006-55 | 1 | 1 | CFG |
| | Nahouri: Forêt de Nazinga, Kalie Boulou, 275 m, 11°11'29"N-1°30'26"O, zone soudanienne, savane boisée, piège interception, 25.vii.2006, F. & S.Génier legit, 2006-67 | 2 | - | CFG |
| | Nahouri: Forêt de Nazinga, Kalie Boulou, 275 m, 11°11'29"N-1°30'26"O, zone soudanienne, savane boisée, piège copro, 25.vii.2006, F. & S.Génier legit, 2006-69 | - | 1 | CFG |
| | Nahouri: Forêt de Nazinga, Kouzougou, 285 m, 11°9'17"N-1°32'10"O, zone soudanienne, savane boisée, crottin d'éléphant, 21.vii.2006, F. & S.Génier legit, 2006-47 | 2 | 6 | CFG |
| | Nahouri: Forêt de Nazinga, Kouzougou, 285 m, 11°9'17"N-1°32'10"O, zone soudanienne, savane boisée, piège copro jour, 24.vii.2006, F. & S.Génier legit, 2006-65 | - | 1 | CFG |
| | Nahouri: Forêt de Nazinga, Kouzougou, 285 m, 11°9'17"N-1°32'10"O, zone soudanienne, savane boisée, piège copro, 25.vii.2006, F. & S.Génier legit, 2006-70 | 1 | 1 | CFG |
| | Ouagadougou, 20.vi.65.[12°22'N-1°32'W] | 1 | 1 | CPhM |
| | Ouagadougou, iv.1985, R.Mourglia legit.[12°22'N-1°32'W] | 1 | - | CEB |
| | Pabré, ii.1971. [12°30'N-1°34'W] | 1 | - | CPhM |
| | Sanguié: Forêt de Sorobouli, 270 m, 11°47'44"N-2°53'25"O, zone soudanienne sud, piège excr. humain, 13.viii.2005, F.Génier legit, 2005-14 | 18 | 17 | CFG |
| Sanguié: Forêt de Sorobouli, 270 m, 11°47'44"N-2°53'25"O, zone soudanienne sud, piège excr. humain, 14.viii.2005, F.Génier legit, 2005-17 | 23 | 18 | CFG | |
| Sanguié: Forêt de Sorobouli, 270 m, 11°47'44"N-2°53'25"O, zone soudanienne sud, piège excr. humain, 15.viii.2005, F.Génier legit, 2005-19 | 2 | 5 | CFG | |
| Sanguié: Forêt de Sorobouli, 270 m, 11°47'44"N-2°53'25"O, piège excr. humain, 10-15.viii.2005, P.Moretto legit | 2 | 1 | CPhM | |
| Sanguié: Forêt de Sorobouli, 270 m, 11°47'44"N-2°53'25"O, piège iule fourré, 10-15.viii.2005, P.Moretto legit | - | 1 | CPhM | |
| Tapoa: Kaabougou, 280 m, 11°57'22"N-2°0'40"E, zone soudanienne, savane arborée, piège copro, 13.vii.2006, F. & S.Génier legit, 2006-33 | 3 | 3 | CFG | |
| CAR | Uamgebiet Bosum [neighbourhood of Bozoum], 1-10.v.14, G.Tessmann legit. [6°19'N-16°23'E] | 1 | - | ZMHU |
| Ghana | Brong-Ahafo region: Bui camp, 130 m, 8°17'N-2°15'W, faeces trap, 16.vii.1965, Dr. S.Endrödy-Younga legit | 1 | - | HNHM |
| | Northern region: Nakpanduri, 430 m, 10°38'N-0°32'W, faeces trap, 7.viii.1967, Dr. S.Endrödy-Younga legit | 5 | 7 | HNHM |
| | | - | 2 | CNCI |
| | Northern region: Nakpanduri, 75 Km S von Bamku, aus Rindermist gesiebt, 12.vii.1970, Dr. S.Endrödi legit.[10°38'N-0°32'W] | 1 | - | HNHM |
| | Côte d'Or | - | 1 | IRSNB |
| Guinea-Bissau | Estrada de Gabu a Ché-Ché, exc. de cavalo, 1.xii.1983, A.Zuzarte & A.Serrano legit. [12°17'N-14°13'W] | 6 | 7 | CTB |
| Ivory Coast | Abokouamekro, 19.iii.83, A.Ture legit. [7°05'N-5°05'W] | 1 | - | CPhM |
| | Abokouamekro, 24.iii.1996, J.F.Josso legit. [7°05'N-5°05'W] | 1 | 1 | CJFJ |
| | Abokouamekro, exc. rhinoceros, 24.iii.1996, J.F.Josso legit. [7°05'N-5°05'W] | 1 | 1 | CJFJ |
| | Bouaké, 350 m, 8-17.v.1980, O.Kubal legit. [7°41'N-5°02'W] | 1 | 1 | CMN |
| | Haute Côte d'Ivoire, cercle de Mankono, entre Kourokoro à Mankono, (F. Fleury), A.Chevalier 1910. [8°03'N-6°11'W] | 1 | 1 | MNHN |
| | Korhogo, dist. savana, 13-14.vi.1980, O.Kubal legit.[9°27'N-5°39'W] | 2 | 1 | CMN |
| | Lampto [= Lamto], savana, dung traps, 1-5.vi.1980, O.Kubal legit. [6°13'N-5°02'W] | - | 1 | CMN |
| | Odienné, 9°30'N-7°34'O, 416 m, forêt sèche, piège exc. humain, viii.1997, P.Moretto legit | 22 | 23 | CPhM |
| | | 6 | 8 | CTB |
| | Parc National de la Comoé, Lola-Camp, savanna, 8°45'02"N-3°48'58"W, buffalo dung, 19.vii.1997, leg. Weiss | 5 | 3 | DMNS |

APPENDIX 4. *Tiniocellus praetermissus* sp. n. List of paratypes (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|---|---|-----|------|-------|
| Ivory-Coast | Parc National de la Comoé, Lola-Camp, savanna, 8°45'02"N-3°48'58"W, buffalo dung, 20.vii.1997, leg. Weiss | 1 | 1 | DMNS |
| | Parc National de la Comoé, Lola-Camp, savanna, 8°45'05"N-3°48'58"W, Phaco skin 1, LB255, 16.iv.1996, F.-T.Krell legit | 1 | - | DMNS |
| | Parc National de la Comoé, Lola-Camp, savanna, 8°45'02"N-3°48'58"W, buffalo dung, 17.i.1998, leg. Westerwalbesloh | 4 | 1 | DMNS |
| | Parc National de la Comoé, Lola-Camp, savanna, 8°45'02"N-3°48'58"W, buffalo dung, 19.i.1998, leg. Westerwalbesloh | 2 | 2 | DMNS |
| | Parc National de la Comoé, track Lola-Gansé, 5 km, savanna, 25.iv.1998, leg. Schmitt & Herzner K205 | 3 | 2 | DMNS |
| | Parc National de la Comoé, 1. bridge betw. old camp and Gansé-Pl., 8°44'11"N-3°49'44"W, hippo faeces L202, 30.vi.1995, F.-T.Krell legit | 4 | 3 | DMNS |
| | Parc National de la Comoé, Zamou, 8°33'N-3°46'O, 260 m, iv.1998, P.Moretto legit | 28 | 24 | CPhM |
| | | 5 | 4 | CTB |
| | Parc National de la Comoé, Zamou, 8°33'N-3°46'O, 260 m, savane, v.1998, P.Moretto legit | 26 | 22 | CPhM |
| | | 4 | 5 | CTB |
| | Parc National de la Comoé, viii.2000, P.Moretto legit | 8 | 5 | CPhM |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"- W05°06'05", cow dung baited pitfall trap, 16h00-6h00, 4-5.iv.2002 (on the first label; 14-15.iv.2002 on the second label), Newman legit | 1 | - | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"- W05°06'05", cow dung baited pitfall trap, 6h00-16h00, 5.iv.2002, Newman legit | 1 | - | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"- W05°06'56", cow dung, evening, 27.iii.2003, Newman legit | - | 1 | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"- W05°06'56", cow dung, evening, 5.iv.2003, Newman legit | 1 | 1 | BMNH |
| | Région des Lacs, near Bringakro, coffee plantation, N06°24'41"- W05°06'56", cow dung, evening, 6.iv.2003, Newman legit | 1 | - | BMNH |
| | Région des Lacs, near Bringakro, savanna, N06°25'53"- W05°04'32", cow dung, evening, 14.vi.2003, Newman legit | - | 1 | BMNH |
| | Région des Lacs, near Bringakro, savanna, N06°25'53"-W05°04'32", cow dung, evening, 16.vi.2003, Newman legit | - | 1 | BMNH |
| | Bringakro, savanna, 6°26'N-5°5'W, human dung trap BFKII-7, 24-26.iv.2002, F.-T.Krell legit | - | 1 | DMNS |
| | Bringakro, savanna, no pasture, 6°25'00"N-5°05'31"W, cow dung, 28.iv.2001, leg. Krell-Westerwalbesloh | 4 | 1 | DMNS |
| | Région des Lacs, Bringakro nr. unburned savanna, 6°25'56.3"N-5°04'36.5"W, cow dung, 13.v.2002, evening, leg. Newman et al. | 1 | - | BMNH |
| | | 3 | - | DMNS |
| | Région des Lacs, Bringakro nr. burned savanna, 6°25'56.1"N-5°04'35.3"W, cow dung, 13.v.2002, evening, leg. Newman et al. | 1 | - | BMNH |
| | | 6 | - | DMNS |
| | Région des Lacs, Bringakro nr. cut savanna, 6°25'55.8"N-5°04'34.6"W, cow dung, 13.v.2002, evening, leg. Newman et al. | 1 | - | BMNH |
| | | 2 | - | DMNS |
| | Région des Lacs, near Bringakro, savanna grassland, N06°25'53"-W05°04'32", cow dung baited pitfall trap, 6h00-16h00, 14.vi.2003, Newman legit | 3 | - | BMNH |
| Région des Lacs, near Bringakro, savanna grassland, N06°25'53"-W05°04'32", cow dung baited pitfall trap, 6h00-16h00, 16.vi.2003, Newman legit | 3 | 1 | BMNH | |
| Région des Lacs, near Bringakro, <i>Imperata</i> sp. grassland, N06°25'01"-W05°05'52", cow dung baited pitfall trap, 6h00-16h00, 29.vi.2003, Newman legit | - | 1 | BMNH | |
| Région des Lacs, near Bringakro, <i>Imperata</i> sp. grassland, N06°25'01"-W05°05'52", cow dung baited pitfall trap, 6h00-16h00, 30.vi.2003, Newman legit | 10 | 6 | BMNH | |
| Bringakro, coffee plantation, 06°25'N-05°06'W, human dung trap BKF1-7, 20-22.iv.2002, F.-T.Krell legit | 2 | - | DMNS | |
| Touba: Biémasso/Doila, savane, vi.2000, P.Moretto legit.[8°17'N-7°41'W] | 1 | - | CPhM | |
| Yamoussoukro, 20.viii.1981, A.Ture legit. [6°04'N-5°17'W] | 1 | - | CIB | |
| | 1 | - | CFT | |
| Nigeria | Bauchi, Yankari Game Reserve, riverine woodland, 30-31.v.1981, R.Dransfield legit.[9°46'N-10°32'E] | 1 | - | OUMNH |
| | N. Nigeria: S.E. Kano, Azare, v.1925, Dr. Ll. Lloyd legit.[11°41'N-10°11'E] | 3 | 3 | BMNH |
| Senegal | Niokolo Koba N.P., Assirik, crottin d'éléphant, 22-31.vii.1995, Ph.Moretto legit.[12°53'N-12°45'W] | 1 | - | CPhM |
| | Niokolo Koba N.P., Siminti, piège exc. babouins, 25-28.vii.1995, Ph.Moretto legit.[13°02'N-13°18'W] | 4 | 4 | CPhM |
| | Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 12°53'19"N - 12°43'10"O, 24.vii.2007, zone soudanienne, savane arborée, piège rumen, F.Génier & P.Moretto, 2007-23 | 2 | 2 | CFG |
| | Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 12°53'19"N - 12°43'10"O, 24-25.vii.2007, zone soudanienne, savane arborée, piège rumen, F.Génier & P.Moretto, 2007-26 | 4 | 2 | CFG |
| | | 218 | 230 | CPhM |
| | | 32 | 34 | CTB |
| | Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 12°53'19"N - 12°43'10"O, 24-26.vii.2007, zone soudanienne, savane arborée, piège copro, F.Génier & P.Moretto, 2007-27 | 9 | 9 | CFG |
| | Tambacounda, P.N. Niokolo-Koba, Ancien Poste, 144 m, 12°53'19"N - 12°43'10"O, 24-25.vii.2007, zone soudanienne, savane arborée, piège rumen, F.Génier & P.Moretto, 2007-30 | 1 | 1 | CFG |
| | Tambacounda, P.N. Niokolo-Koba, Lingue Kountou, 33 m, 13°02'03"N - 13°04'59"O, 27.vii.2007, zone soudanienne, fourré en savane, piège copro jour, P.Moretto & F.Génier, 2007-41 | 2 | 2 | CFG |
| | Tambacounda, P.N. Niokolo-Koba, Lingue Kountou, 33 m, 13°02'03"N - 13°04'59"O, 27.vii.2007, zone soudanienne, savane arborée, piège copro jour, P.Moretto & F.Génier, 2007-42 | 2 | 3 | CFG |

APPENDIX 4. *Tiniocellus praetermissus* sp. n. List of paratypes (Dep.: depositary)

| Country | Collecting data | ♂ | ♀ | Dep. |
|----------------|---|---|---|-------|
| Senegal | Tambacounda, P.N. Niokolo-Koba, Lingue Kountou, 33 m, 13°02'03"N - 13°04'59"E, 27.vii.2007, zone soudanienne, savane arborée, piège copro nuit, F.Génier & P.Moretto, 2007-45 | 1 | 2 | CFG |
| | Kédougou, Dinndefelou, 233 m, 12°22'43"N-13°40'26"E, piège excr. humain, 13-14.vii.2008, P.Moretto legit | 1 | - | CPhM |
| | Kolda, Kitim (Forêt de Balmadou), 27 m, 12°40'47"N - 15°20'08"E, 1.viii.2007, zone guinéenne, piège copro, P.Moretto & F.Génier, 2007-52 | 5 | 2 | CFG |
| | Kolda, Kitim (Forêt de Balmadou), 27 m, 12°40'47"N - 15°20'08"E, forêt guinéenne, piège copro, 1.viii.2007, P.Moretto & F.Génier | 1 | 1 | CPhM |
| | Kolda, Mahon, Forêt de Bakor, forêt soudanienne, milieu ouvert, pièges exc. humain, 3.vii-2.viii.2008, P.Moretto legit.[12°57'N-14°45'W] | 1 | 1 | CPhM |
| | Cazamanca [= Casamance], coll. J.Thomson. [12°49'N-15°03'W] | - | 1 | IRSNB |
| Togo | Dapaon [= Dapaong], sous néon après pluie, vii.1987.[10°51'N-0°12'E] | 1 | - | CTB |

APPENDIX 5. *Tiniocellus dolosus* sp. n. List of paratypes (Dep.: depositary)

| Country | Collecting data | ♂ | ♀ | Dep. |
|-----------------|---|---|-----|-------|
| Angola | Moxico.[13°24'S-20°19'E] | - | 1 | CTB |
| DCR | Shaba: Parc. Nat. de l'Upemba, Kaswabilenga, 700 m, 24.ix.1947, mission G.F. de Witte. [8°59'S-26°41'E] | 3 | - | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Kaswabilenga (r. dr. Lufira), 700 m, 22-26.x.1947, mission G.F. de Witte. [8°59'S-26°41'E] | 1 | - | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Kaswabilenga, 700 m, 14-25.x.1947, mission G.F. de Witte. [8°59'S-26°41'E] | 3 | 2 | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Kaswabilenga, 700 m, 30.x.1947, mission G.F. de Witte. [8°59'S-26°41'E] | - | 2 | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Kaswabilenga, 700 m, 3-7.xi.1947, mission G.F. de Witte. [8°59'S-26°41'E] | 1 | 3 | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Kaswabilenga, 700 m, 3-8.xi.1947, mission G.F. de Witte. [8°59'S-26°41'E] | - | 1 | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Kaswabilenga, 700 m, 30.xii.1948-3.i.1949, mission G.F. de Witte. [8°59'S-26°41'E] | - | 1 | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Mubale, 1480 m, 10-13.v.1947, mission G.F. de Witte | 1 | - | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Katekes, s./affl. Lufira, 950 m, 23.xi-5.xii.1947, mission G.F. de Witte | 5 | 5 | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Kilwezi, 750 m, 23.viii-4.ix.1948, mission G.F. de Witte | 1 | - | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Lupiala, 850 m, 24.x.1947, mission G.F. de Witte. [8°40'S-26°20'E] | 1 | - | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Mabwe, 585 m, 17-27.xii.1948, mission G.F. de Witte. [8°39'S-26°31'E] | - | 2 | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Mabwe, 585 m, 31.xii.1948, mission G.F. de Witte. [8°39'S-26°31'E] | - | 3 | IRSNB |
| | Shaba: Parc. Nat. de l'Upemba, Mabwe (r. E. lac Upemba), 585 m, 1.ii.1949, mission G.F. de Witte. [8°39'S-26°31'E] | - | 2 | IRSNB |
| Malawi | Blantyre, Michiru Nat. Park, i.1991, C.Dudley legit.[15°48'S-35°00'E] | 4 | 1 | CPhM |
| Tanzania | Mpapua [=Mpwapwa], ii.14, Dr. Wölfel legit. [6°21'S-36°29'E] | 2 | 3 | ZMHU |
| Zambia | Kafue Nat. Park, Kacheleko wildlife outpost, exc. humains, 2-3.xii.2007, Josso, Juhel & Monfort legit. [15°46'S-28°11'E] | 1 | 1 | CJFJ |
| | Kafue Nat. Park, Mayukuyuku Camp, exc. éléphant, 13.xii.2009, Josso, Juhel & Monfort legit | 3 | 2 | CJFJ |
| | | 1 | 1 | CTB |
| | Kafue Nat. Park, Chunga, 15°02,362'S-25°59,437'E, exc. humain, 11-12.xii.2009, Josso, Juhel & Monfort legit | 1 | 7 | CJFJ |
| | 1 | 1 | CTB | |
| Zimbabwe | Atlantica, 16 mi W Harare, dung trap, 1-2.ii.1976, M.B.Fenton legit. [17°52'S-30°48'E] | 1 | - | CMN |
| | Atlantica, 16 mi W Harare, dung trap, 3-4.ii.1976, M.B.Fenton legit. [17°52'S-30°48'E] | - | 1 | CMN |
| | Atlantica, 16 mi W Harare, 6-11.ii.1976, M.B.Fenton legit. [17°52'S-30°48'E] | 1 | 1 | CMN |
| | Atlantica, 16 mi W Harare, dung trap, 11-12.ii.1976, M.B.Fenton legit. [17°52'S-30°48'E] | 2 | - | CMN |
| | Hostes Nicolle Inst. Wildlife Res., 28°E-18°S, i.1974, M.B.Fenton legit | 1 | 1 | CMN |
| | Gadzima, xii.1895, G.A.K.Marshall legit | - | 1 | BMNH |
| | Salisbury [= Harare], G.A.K.Marshall legit. [17°50'S-31°03'E] | 3 | 1 | BMNH |
| | | 1 | - | IRSNB |
| | Salisbury [= Harare], xi.1903, G.A.K.Marshall legit.[17°50'S-31°03'E] | - | 1 | BMNH |
| | Salisbury [= Harare], 5000 ft, ii.1905, G.Marshall legit. [17°50'S-31°03'E] | - | 1 | OUMNH |
| | Salisbury [= Harare], i.1906, G.A.K.Marshall legit.[17°50'S-31°03'E] | 1 | 2 | BMNH |
| | Salisbury [= Harare], iii.1906, G.A.K.Marshall legit.[17°50'S-31°03'E] | 4 | 2 | BMNH |
| | Salisbury [= Harare], iv.1906, G.A.K.Marshall legit.[17°50'S-31°03'E] | 3 | 4 | BMNH |
| | 30 km W Harare, 22.xii.1998, S.Becvar legit. [17°52'S-30°48'E] | 1 | - | CFT |
| | Upper Hanyani River, xi.1897, G.A.K.Marshall legit | 3 | - | BMNH |
| | Upper Hanyani River, near Salisbury [= Harare], 12.xi.1987, G.A.K.Marshall legit | 2 | 3 | BMNH |
| | Matopo Hills, i.1904, G.A.K.Marshall legit. [20°30'S-28°30'E] | - | 1 | BMNH |

| APPENDIX 6. <i>Tiniocellus eurypygus</i> sp. n., nominotypical subspecies. List of paratypes (Dep.: depository) | | | | |
|---|--|---|-----|--------|
| Country | Collecting data | ♂ | ♀ | Dep. |
| RSA:Free State | Barberton, P.Rendall legit. [28°58'S-25°04'E] | - | 1 | BMNH |
| RSA: Gauteng | Boekenhoutskloof (30 Km NE Pretoria), trap bovine dung 48 hr, 3.xii.1977, G.Bernon legit. [25°32'S-28°19'E] | 1 | - | CMN |
| | Boekenhoutskloof (30 Km NE Pretoria), trap bovine dung 24 hr, 7.xii.1977, G.Bernon legit. [25°32'S-28°19'E] | - | 2 | CMN |
| | Boekenhoutskloof (30 Km NE Pretoria), trap bovine dung 24 hr, 23.xii.1977, G.Bernon legit. [25°32'S-28°19'E] | - | 1 | CMN |
| | Boekenhoutskloof (30 Km NE Pretoria), trap bovine dung 24 hr, 22.i.1978, G.Bernon legit. [25°32'S-28°19'E] | 1 | - | CMN |
| | | - | 1 | CNCI |
| | Boekenhoutskloof (30 Km NE Pretoria), cow dung trap, 17.xii.1977, Dr. S.Endrödi legit. [25°32'S-28°19'E] | 1 | 9 | HNHM |
| | Boekenhoutskloof (30 Km NE Pretoria), cow dung trap, 31.xii.1977, Dr. S.Endrödi legit. [25°32'S-28°19'E] | - | 6 | HNHM |
| | Boekenhoutskloof (30 Km NE Pretoria), cow dung trap, 2-10.i.1978, Dr. S.Endrödi legit. [25°32'S-28°19'E] | 27 | 29 | HNHM |
| | Pretoria, Rietondale Station, 13.i.1977, G.Bernon legit.[25°44'S-28°11'E] | 1 | 2 | CMN |
| | Pretoria, Soutpan, 25°25'S-28°05'E, cow dung, 8.ii.1973, S.Endrödy-Younga legit | 3 | 3 | TMSA |
| | | 2 | 2 | CTB |
| | Roodeplaat Dam, 25°37'S-28°23'E, cattle dung, 14.viii.1974, A.Strydom legit | 1 | - | TMSA |
| | RSA:Limpopo | Nylsvley / "Sericea", 1100 m, S24°29'-E28°42', 28.x.1983, C.L.Bellamy legit | - | 1 |
| Potgietersrus, sifted dung, 1-3.xii.1992, J.Klimaszewski legit. [24°11'S-29°01'E] | | 2 | 4 | CMN |
| near Thabazimbi, 15-16.i.1999, K.Werner legit | | 2 | 1 | CJFJ |
| 20 Km NE Thabazimbi, S24°32'-E27°24', 23-24.iii.1985, A.V.Evans legit | | - | 2 | NHMLAC |
| Waterberg, Farm 223, 24°11'S-27°50'E, groundtraps, 11.ii.1976, A.Strydom legit | | 2 | 2 | TMSA |
| | | 2 | 2 | CTB |
| Waterberg, Farm 223, 24°11'S-27°50'E, cattle dung, 12.ii.1976, A.Strydom legit | | 6 | 1 | TMSA |
| | | 1 | 1 | CTB |
| RSA:North West | Waterberg, Geelhoutbush farm, 24°22'S-27°34'E, cattle dung, 4.x.1995, Endrödy & Bellamy legit | - | 1 | TMSA |
| | Kroondal, 25°41'S-27°20'E, xi.1963, L.Schulze legit | 1 | - | TMSA |
| | Marico dist., xii.50, C.Koch legit | 1 | - | TMSA |
| | Rustenburg, A.Carpenter legit. [25°40'S-27°14'E] | 14 | 5 | TMSA |
| | 4 | 3 | CTB | |

| APPENDIX 7. <i>Tiniocellus eurypygus transdrakensbergensis</i> ssp. n. - List of paratypes (Dep.: depository) | | | | |
|---|---|----|-----|--------|
| Country | Collecting data | ♂ | ♀ | Dep. |
| RSA: KwaZulu-Natal | Darnall-Tugela, 1.ii.2003, R.Perissinotto & L.Clennell legit.[29°13'S-31°23'E] | 7 | 3 | CPHM |
| | Dukuduku, 18.xii.1962, H.Gedtsema legit. [28°21'S-32°18'E] | - | 1 | TMSA |
| | Itala [sic] Res., 27°30'S-31°14'E, traps baited with pig dung, 13-14.i.1999, A.L.V.Davis legit | 37 | 22 | BMNH |
| | Ithala Game Reserve, 27°31'S-31°12'E, 18-19.ii.2003, R. & H.Fouqué legit | 1 | - | CPHM |
| | Itala [sic] Nat. Res., 9.ii.2000, S.Becvar legit. [27°30'S-31°14'E] | - | 1 | CFT |
| | Hluhluwe, xii.1960, van Son legit. [28°01'S-32°17'E] | 1 | - | TMSA |
| | Hluhluwe, Morris Farm, bush, 28°S-32°E, heavy soil, dung of squared lipped rhino <i>Ceratotherium simum</i> , 13.i.1986, H.H.Aschenborn legit | - | 1 | NHMLAC |
| | Hluhluwe Game Reserve, Bobbiesdrift Riverine forest, heavy soil, 28°S-32°E, dung of squared lipped rhino <i>Ceratotherium simum</i> , 13.i.1986, H.H.Aschenborn legit | 1 | - | NHMLAC |
| | Hluhluwe Game Reserve, Bobbiesdrift Riverine forest, heavy soil, 28°S-32°E, 13.i.1986, H.H.Aschenborn legit | 5 | - | NHMLAC |
| | Hluhluwe Game Reserve, Inzimane Grassland, heavy soil, dung of squared lipped rhino <i>Ceratotherium simum</i> , 15.i.1986, H.H.Aschenborn legit | 1 | 1 | NHMLAC |
| | Hluhluwe Game Reserve, Inzimane Grassland, light soil, dung of squared lipped rhino <i>Ceratotherium simum</i> , 17.i.1986, H.H.Aschenborn legit | 1 | - | NHMLAC |
| | Hluhluwe Game Reserve, Inzimane Grassland, light soil, dung of domesticated cattle, 17.i.1986, H.H.Aschenborn legit | 2 | 1 | NHMLAC |
| | Hluhluwe Game Res., 28°S-32°E, 15.xi.1985, H.H.Aschenborn legit | 1 | - | NHMLAC |
| | Hluhluwe Game Res., 28°S-32°E, 17.i.1986, H.H.Aschenborn legit | 1 | - | NHMLAC |
| | Hluhluwe Game Res., 22.iv.1986, H.H.Aschenborn legit | 1 | 1 | NHMLAC |
| | Hluhluwe Game Res., 28°S-32°E, 22.x.1989, C.Fox & M.J.Byrne legit | 1 | - | NHMLAC |
| | Hluhluwe Game Res., 28°05'S-32°04'E, white rhino dung, 19.xi.1992, S.Endrödy-Younga legit | 14 | 14 | TMSA |
| | 6 | 4 | CTB | |

APPENDIX 7. *Tiniocellus eurypygus transdrakensbergensis* ssp. n. - List of paratypes (Dep.: depository)

| Country | Collecting data | ♂ | ♀ | Dep. |
|--|---|---|--------|------|
| RSA: KwaZulu-Natal | Hluhluwe Game Res., 28°05'S-32°04'E, buffalo dung, 27.xi.1992, S.Endrödy-Younga legit | 1 | 1 | TMSA |
| | | 1 | 1 | CTB |
| | Hluhluwe Game Res., 28°05'S-32°04'E, zebra dung, 28.xi.1992, S.Endrödy-Younga legit | 1 | - | TMSA |
| | Mkuze Game Reserve (Vulture Pan), 16.x.1972, K.M.Olsen legit. [27°38'S-32°15'E] | 1 | - | BMNH |
| | Nagana Res. Lab., 1922, H.H.Curson legit. [27°36'S-32°13'E] | 2 | 8 | BMNH |
| | Richards Bay, 28°17'S-32°17'E, traps baited with pig dung, 25-27.i.2000, A.L.V.Davis legit | - | 1 | BMNH |
| | Umfalazi [sic!], Masumba hill, rhinoceros dung, 25.x.1938, D.L.Uyttenboogaart legit. [28°03'S-31°32'E] | 4 | - | ZMAN |
| | | 3 | - | CTB |
| | Umfolosi Game Reserve, 11.x.1972, K.M.Olsen legit.[28°03'S-31°32'E] | 1 | 1 | BMNH |
| | Umfolosi game res., 25.viii.1971, Bornemissza & Insley legit.[28°03'S-31°32'E] | 1 | - | CMN |
| | Umfolosi game res., 24.xi.1971, Bornemissza, Olsen & Davis legit. [28°03'S-31°32'E] | 1 | - | CMN |
| | Umfolosi game res., 28°03'S-31°32'E, 6.iv.1974, cattle dung, S.Endrödy-Younga legit | 2 | 3 | TMSA |
| | | 2 | 2 | CTB |
| | RSA:Limpopo | Guernsey Farm, 15 Km E Klaserie, 500 m, flight intercept trap, 19-31.xii.1985, H. & A.Howden legit. [24°33'S-31°02'E] | - | 1 |
| Guernsey Farm, 15 Km NE Klaserie, woodland, dungtraps 10 days, 18-31.xii.1985, S. & J.Peck legit. [24°33'S-31°02'E] | | 4 | 2 | CMN |
| Guernsey Farm, 15 Km NE Klaserie, woodland, dungtrap, 18-31.xii.1985, S. & J.Peck legit. [24°33'S-31°02'E] | | 7 | 9 | CMN |
| Hoedspruit, Thornybush Lodge, rhinoceros dung, 7.xii.1992, Jansen & Klimaszewski legit. [24°13'S-30°48'E] | | 3 | 10 | CMN |
| Klaserie Reserve, exc. éléphant, 28.xi.1998, J.-F.Josso legit. [24°11'S-31°12'E] | | 1 | - | CJFJ |
| Kruger Nat. Park, Punda Maria, 22°41'S-31°01'E, 3.ii.1994, elephant dung, S.Endrödy-Younga legit | | - | 1 | TMSA |
| Kruger Nat. Park, Punda Maria, 22°41'S-31°01'E, 7.ii.1994, elephant dung, S.Endrödy-Younga legit | | 2 | - | TMSA |
| Kruger Nat. Park, Punda Maria sands, 22°38'S-30°59'E, elephant dung, 11.ii.1994, S.Endrödy-Younga legit | | 5 | 4 | TMSA |
| | | 2 | 2 | CTB |
| Kruger Nat. Park, Punda Milia, sand, 22°38'S-31°02'E, groundtraps with faeces bait, 8 days, 3.ii.1994, S.Endrödy-Younga legit | | - | 2 | TMSA |
| Kruger Nat. Park, Punda Milia sands, 22°38'S-31°04'E, groundtraps with faeces bait, 3 days, 11.ii.1994, S.Endrödy-Younga legit | | - | 2 | TMSA |
| Kruger Nat. Park, Roodewal, 40 Km NW Satara, zebra dung, 17.xii.1985, H. & A.Howden legit | | 4 | - | CMN |
| Kruger Nat. Park, Satara, open acacia grassland, general collecting, 15-18.xii.1985, S. & J.Peck legit. [24°23'S-31°47'E] | | 1 | - | CMN |
| Kruger Nat. Park, Satara, stream side, thorn scrub, human dung trap, 15-18.xii.1985, S. & J.Peck legit. [24°23'S-31°47'E] | | 3 | 1 | CMN |
| Kruger Nat. Park, nr. Satara, 15-18.xii.1985, H. & A.Howden legit. [24°23'S-31°47'E] | | 1 | - | CMN |
| Kruger Nat. Park, Shingwidzi, 10 mi NE, 14.iii.1972, A.A.Kirk legit | | - | 1 | CMN |
| Kruger Nat. Park, Timbavati river, 24°05'S-31°40'E, Mopane woodland, pitfall baited with cattle dung, i.1999, D.Inward legit | | 2 | 4 | BMNH |
| Kruger Nat. Park, Timbavati river, 24°05'S-31°40'E, D.Inward legit | | 1 | - | BMNH |
| Manyeleti Game Res., 24°36'S-31°27'E, dung collection, 21.xi.1987, T.van Viegen legit | | 8 | 6 | TMSA |
| | | 4 | 3 | CTB |
| RSA:Mpumalanga | Kruger Nat. Park, Lower Sabie, 25°08'S-31°58'E, elephant dung, 10.iii.1996, S.Endrödy-Younga legit | 2 | 1 | TMSA |
| | | 1 | - | CTB |
| | Kruger Nat. Park, Pretoriuskop, 200 m, rhinoceros dung, 13.xii.1985, H. & A.Howden legit. [25°10'S-31°16'E] | 1 | 1 | CMN |
| | Kruger Nat. Park, Skukuza, 7.iii.1972, A.A.Kirk legit.[24°57'S-31°39'E] | - | 1 | CMN |
| | Kruger Nat. Park, Skukuza, 24°57'S-31°39'E, buffalo dung, 17.i.1996, S.Endrödy-Younga legit | 2 | 1 | TMSA |
| | | 1 | 1 | CTB |
| | Kruger Nat. Park, Skukuza, 30.xi-3.xii.1984, H. & A.Howden legit. [24°57'S-31°39'E] | - | 1 | CMN |
| | Kruger Nat. Park, Skukuza, blacklight, 30.xi-3.xii.1984, H. & A.Howden legit | 3 | 2 | CMN |
| | Kruger Nat. Park, Skukuza, 24°50'S-31°35'E, mixed savanna forest, pitfall baited with cattle dung, i.1999, D.Inward legit | 4 | 7 | BMNH |
| | Kruger Nat. Park, Skukuza, 24°50'S-31°35'E, mixed savanna forest, pitfall baited with elephant dung, i.1999, D.Inward legit | 2 | 4 | BMNH |
| | Kruger Nat. Park, Skukuza, 24°50'S-31°35'E, Acacia woodland, pitfall baited with cattle dung, i.1999, D.Inward legit | 7 | 12 | BMNH |
| | Kruger Nat. Park, Skukuza, 24°50'S-31°35'E, Acacia woodland, pitfall baited with elephant dung, i.1999, D.Inward legit | - | 1 | BMNH |
| | Kruger Nat. Park, Skukuza, on human feces, 12-15.xii.1985, S. & J.Peck legit. [24°57'S-31°39'E] | 2 | 8 | CMN |
| | Kruger Nat. Park, 24 km S. Skukuza, 22.ii.1993, J.Klimaszewski legit | 1 | - | CMN |
| | Nelspruit, Pullen Farm, sifted dung, 9-13.xii.1993, J.Klimaszewski legit. [25°28'S-30°59'E] | - | 1 | CMN |
| Pretoriuskop, S25°10'-E31°16', 3.xii.1984, C.H.Scholtz legit | 1 | - | NHMLAC | |

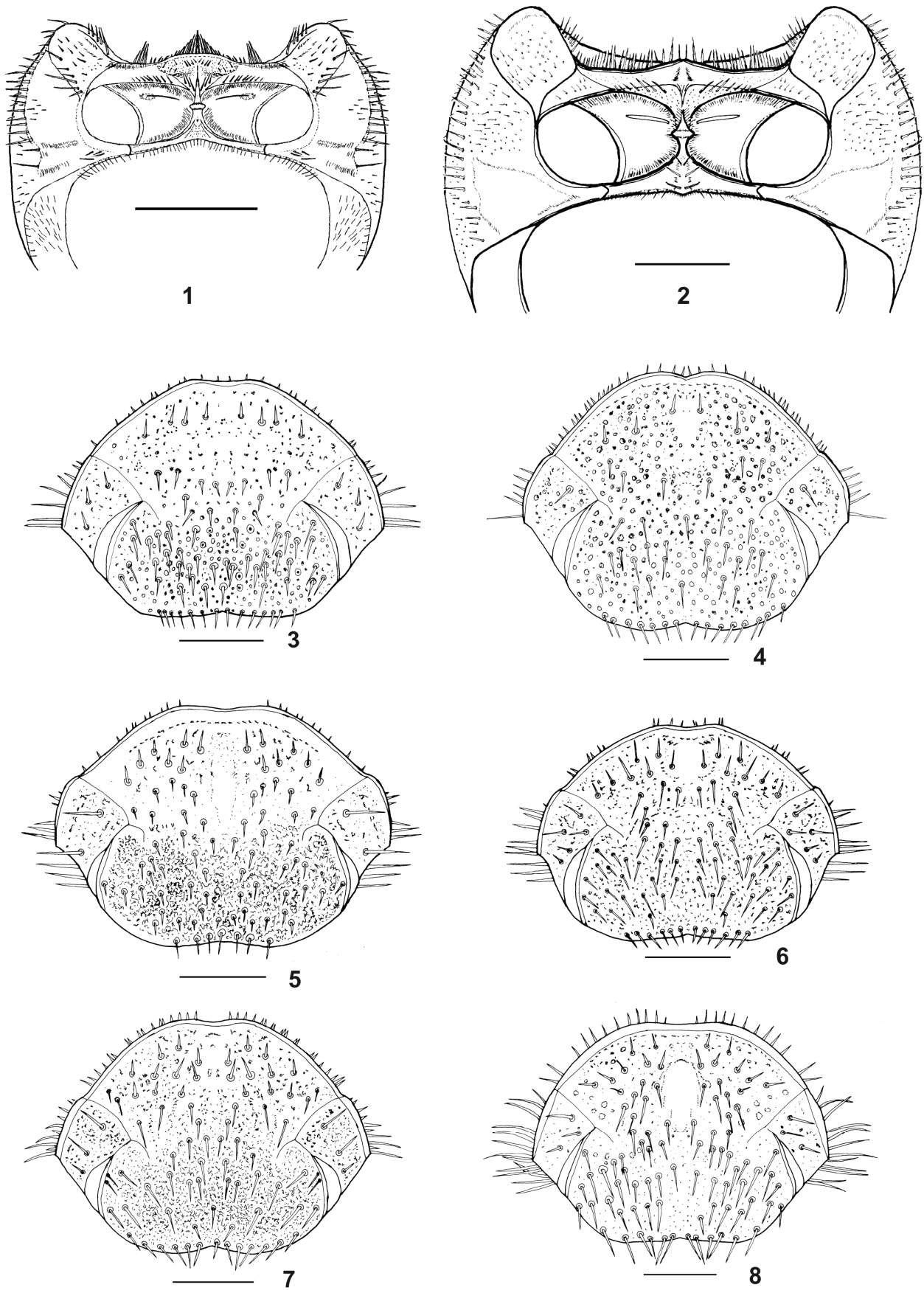


Fig. 1-2. Prosternum. **1.** *Tiniocellus spinipes* (Roth, 1851), RSA, Kruger Nat. Park, Magamba water hole. **2.** *Nitiocellus panthera* (Boucomont, 1921), Ivory Coast, Parc Nat. de Taï. **Fig. 3-8.** Genus *Tiniocellus*, head. **3.** *T. spinipes* (Roth, 1851), holotype. **4.** *T. imbellis* (Bates, 1891), female, India: Himachal Pradesh, Kullu. **5.** *T. setifer* (Kraatz, 1895), syntype male. **6.** *T. praetermissus* sp. n., holotype. **7.** *T. dolosus* sp. n., Zimbabwe, Hostes Nicolle Inst. Wildlife Res. **8.** *T. eurypygus* sp. n., holotype. Scale lines: fig. 1-2: 1 mm; fig. 3-8: 0.5 mm.

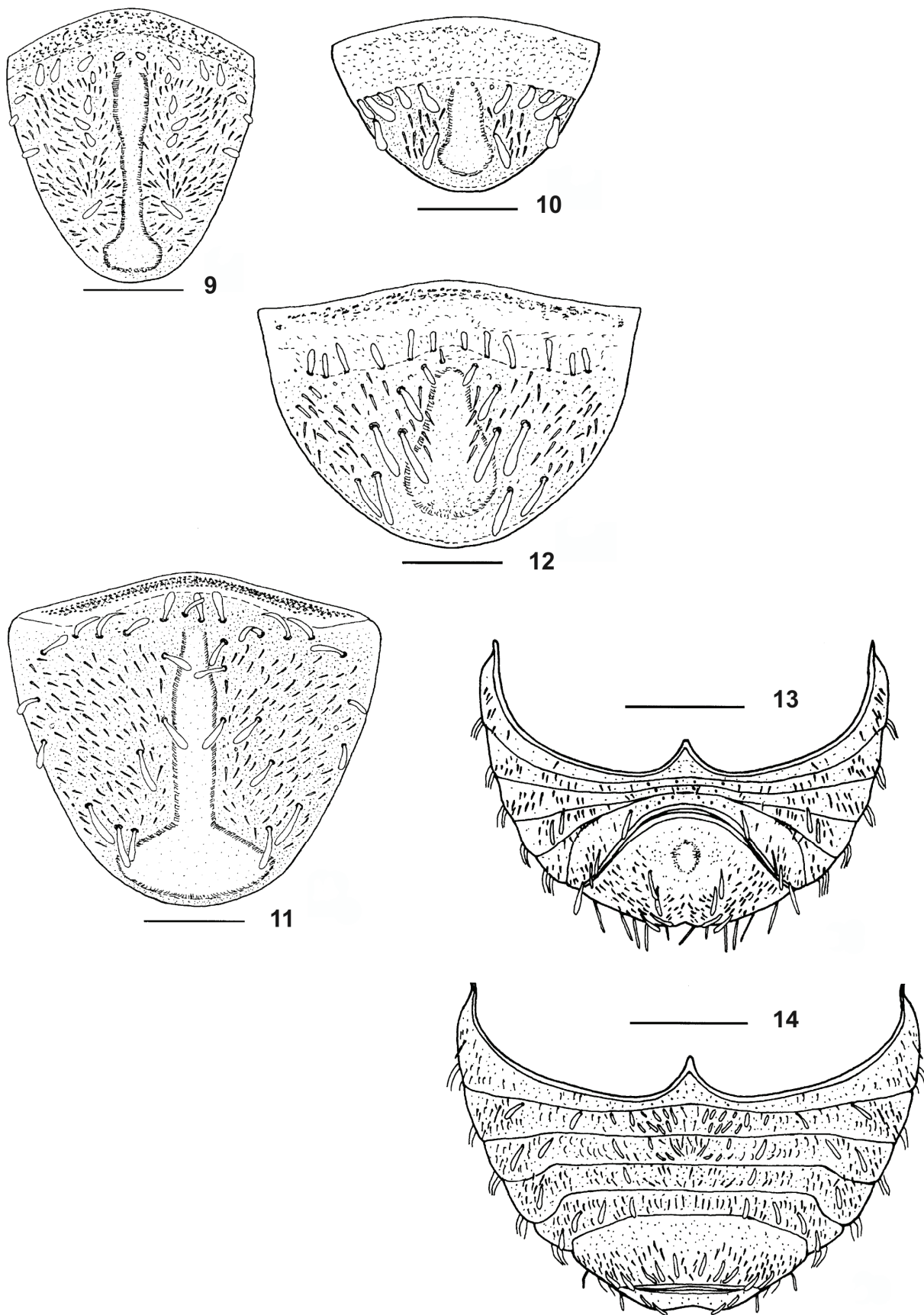


Fig. 9-12. Pygidium. **9-10.** *Tiniocellus spinipes* (Roth, 1851), Malawi, Vwaza Marsh Res. **9.** Male. **10.** Female. **11-12.** *T. eurypygus* sp. n., RSA, Gauteng, Pretoria, Soutpan. **11.** Male. **12.** Female. **Fig. 13-14.** *Tiniocellus eurypygus* sp. n., RSA, Limpopo, Waterberg, abdomen. **13.** Male. **14.** Female. Scale lines: fig. 9-12: 0.5 mm; fig. 13-14: 1 mm.

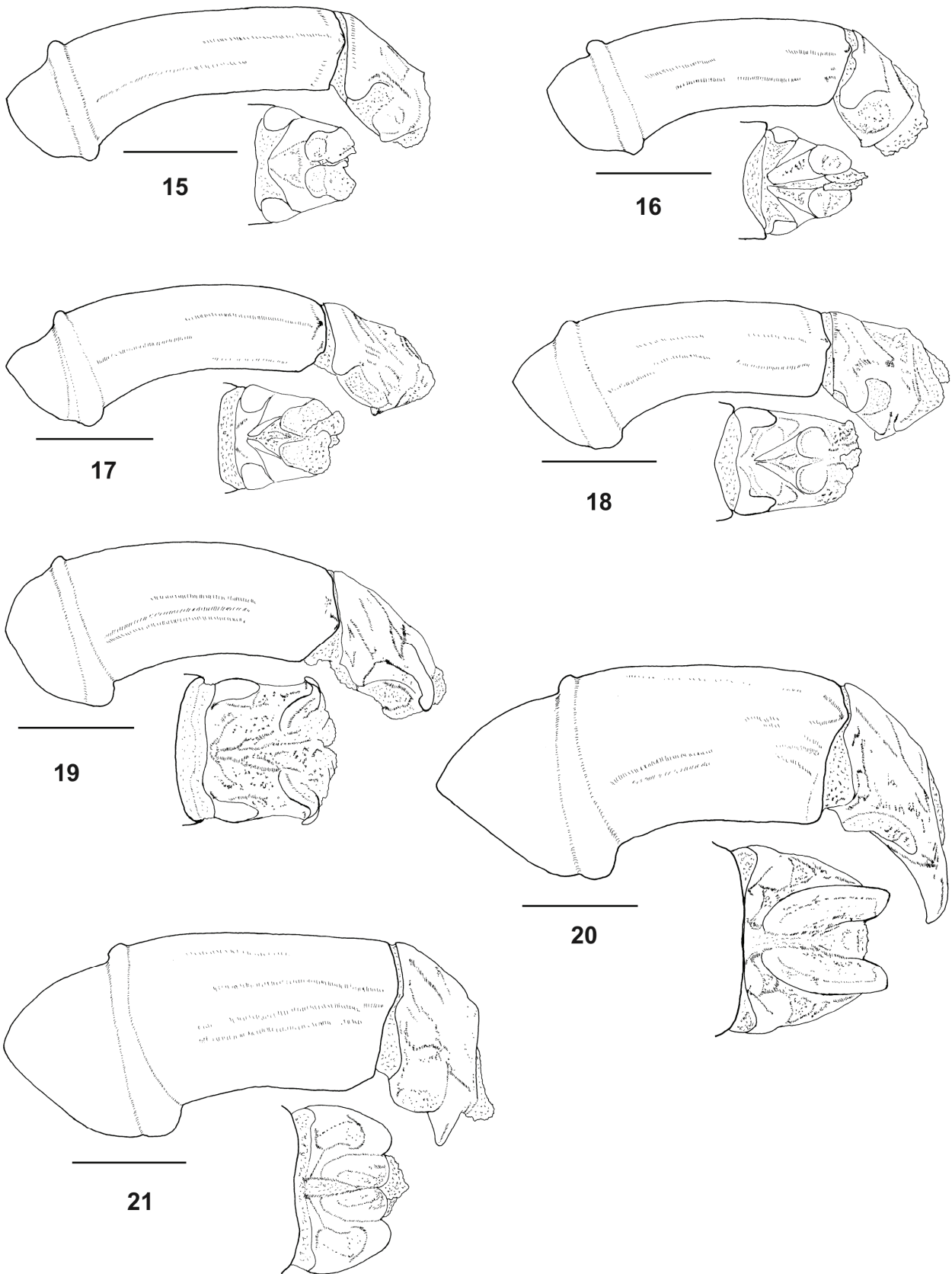


Fig. 15-21. Genus *Tiniocellus*, aedeagus in lateral view, and parameres in ventral view. **15.** *T. spinipes* (Roth, 1851), Ethiopia, Härer. **16.** *T. imbellis* (Bates, 1891), India, Himachal Pradesh, Kangra. **17.** *T. setifer* (Kraatz, 1895), Togo, Bismarckburg. **18.** *T. dolosus* sp. n., Zimbabwe, Hostes Nicolle Inst. Wildlife Res. **19.** *T. praetermissus* sp. n., holotype. **20.** *T. eurypygus* sp. n., holotype. **21.** *T. eurypygus transdrakensbergensis* ssp. n., holotype. Scale lines 0.5 mm.

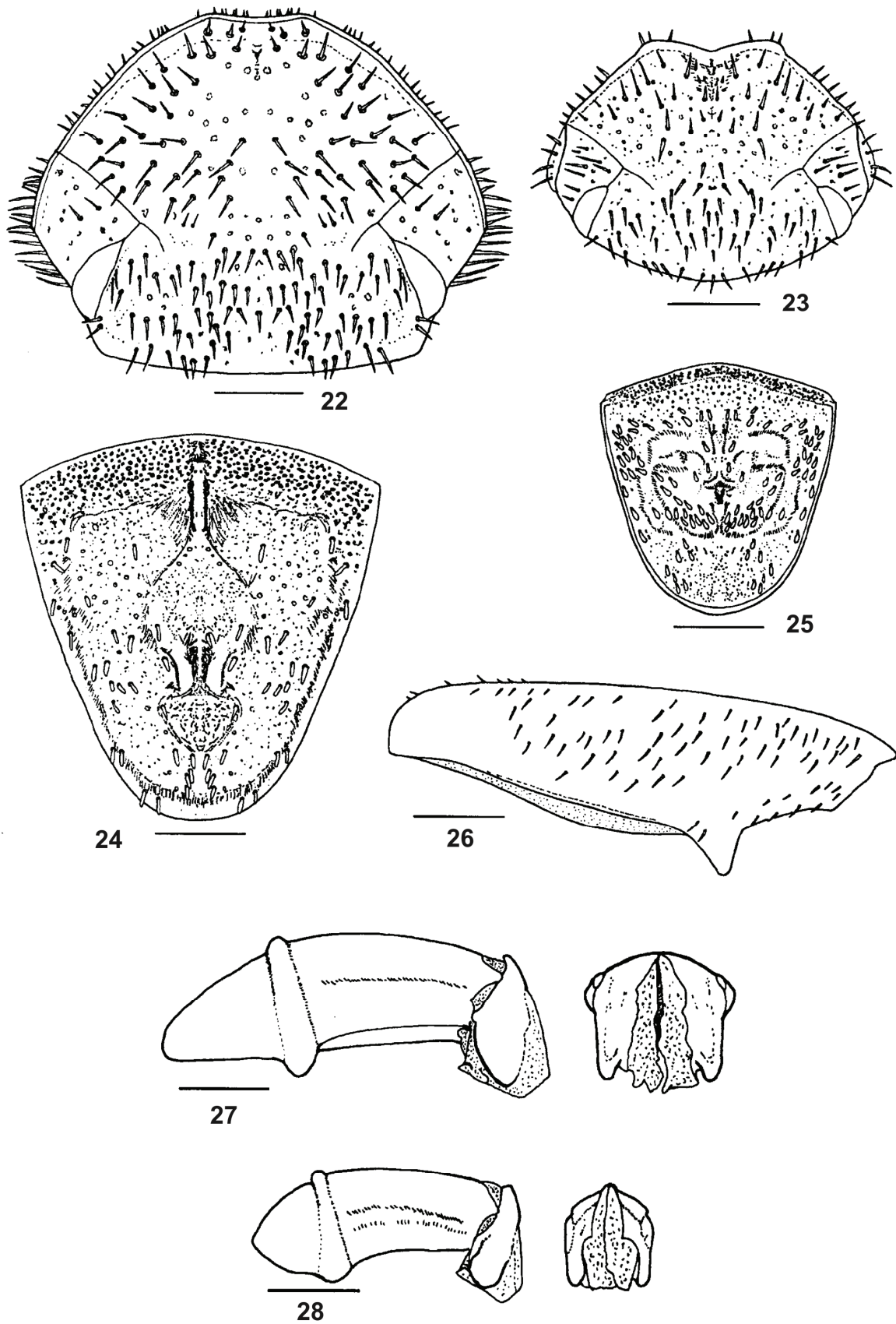


Fig. 22-28. Genus *Nitiocellus*. 22-23. Head. 24-25. Pygidium. 26. Right hind femur. 27-28. Aedeagus in lateral view, and parameres in dorsal view. 22, 24. *N. panthera* (Boucomont, 1921), syntype. 27. *N. panthera* (Boucomont, 1921), Ivory Coast, Parc Nat. de Taï. 23, 25. *N. collarti* (Janssens, 1939), holotype. 26, 28. *N. collarti* (Janssens, 1939), DRC, Parc Nat. de la Garamba. Scale lines 0.5 mm.

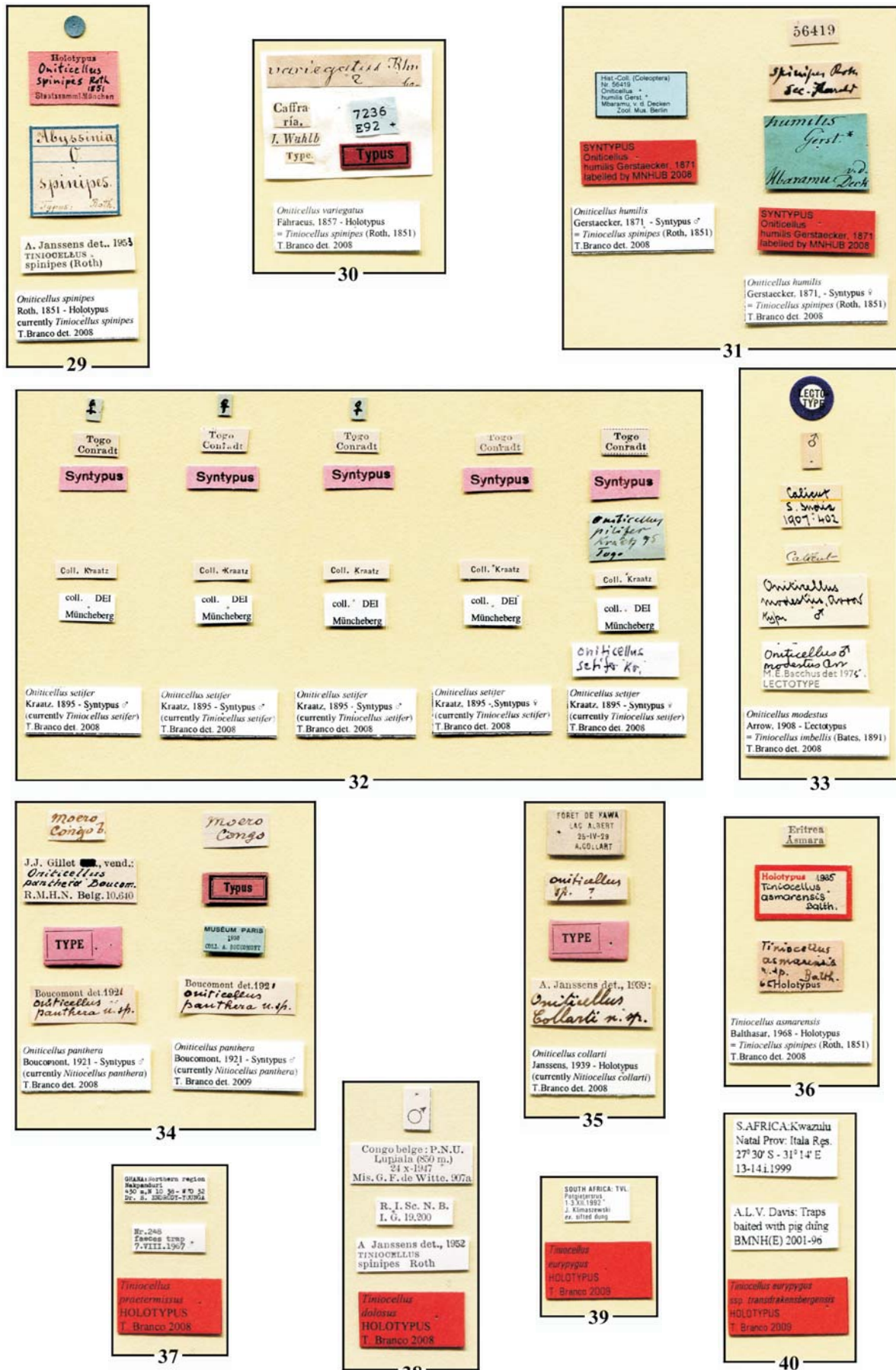


Fig. 29-40. Labels on name-bearing types. 29. *Oniticellus spinipes* Roth, 1851, holotype. 30. *Oniticellus variegatus* Fähræus, 1857, holotype. 31. *Oniticellus humilis* Gerstaecker, 1871, syntypes. 32. *Oniticellus setifer* Kraatz, 1895, syntypes. 33. *Oniticellus modestus* Arrow, 1908, lectotype. 34. *Oniticellus panthera* Boucomont, 1921, syntypes. 35. *Oniticellus collarti* Janssens, 1939, holotype. 36. *Tiniocellus asmarenensis* Balthasar, 1968, holotype. 37. *Tiniocellus praetermissus* sp. n., holotype. 38. *Tiniocellus dolosus* sp. n., holotype. 39. *Tiniocellus eurypygus* sp. n., holotype. 40. *Tiniocellus eurypygus transdrakensbergensis* ssp. n., holotype.

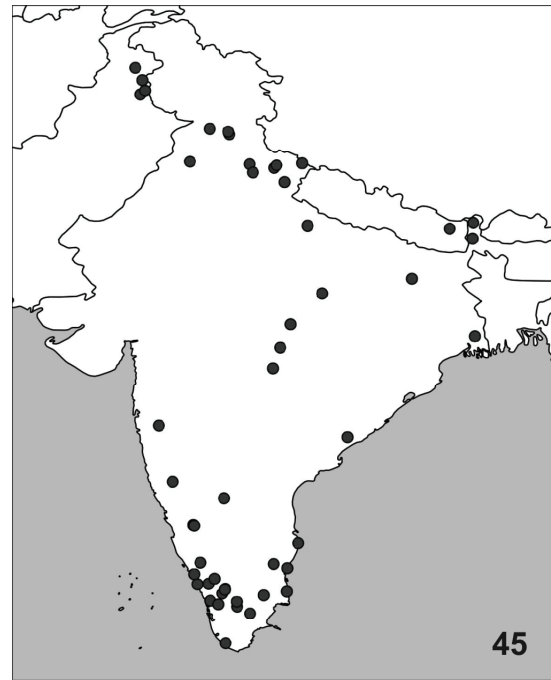
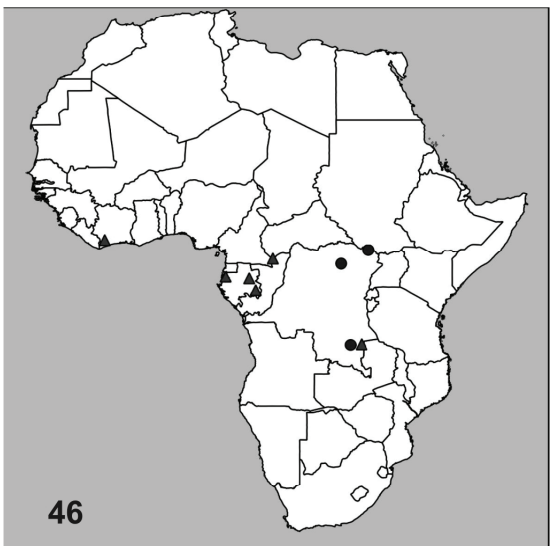
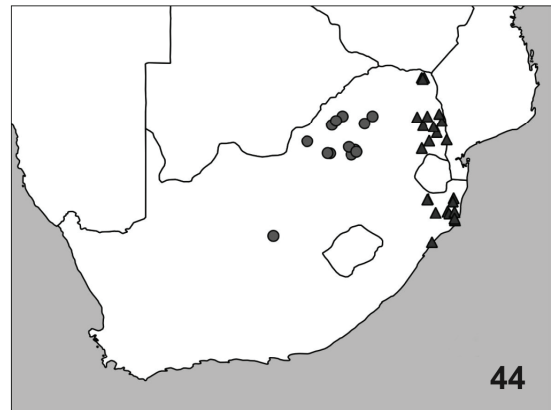
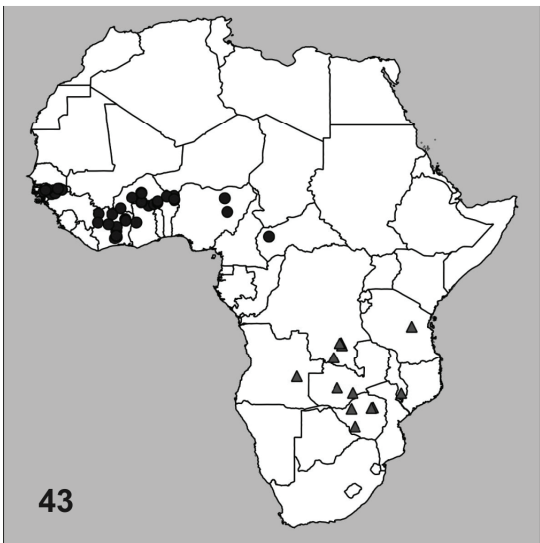
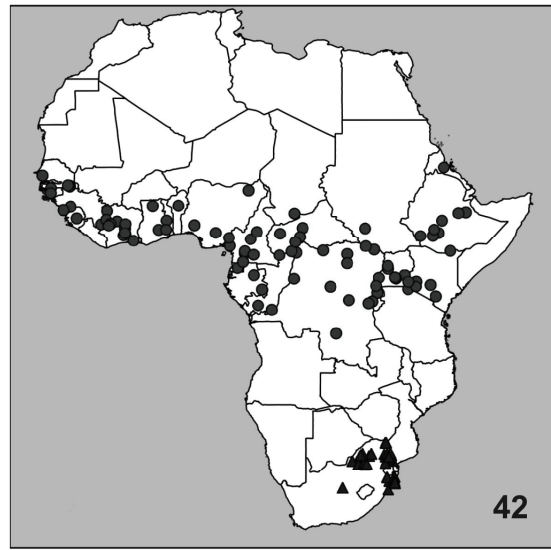
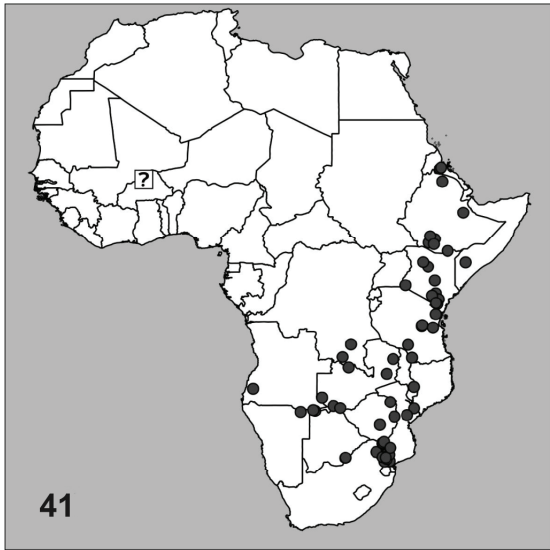


Fig. 41-46. Distribution charts. **41.** *T. spinipes* (Roth, 1851) (●); single record from western Africa ([?]). **42.** *T. setifer* (Kraatz, 1895) (●); *T. eurypygus* sp. n. (▲). **43.** *T. praetermissus* sp. n. (●); *T. dolosus* sp. n. (▲). **44.** *T. eurypygus eurypygus* ssp. n. (●); *T. eurypygus transdrakensbergensis* ssp. n. (▲). **45.** *T. imbellis* (Bates, 1891) (●). **46.** *N. panthera* (Boucomont, 1921) (▲); *N. collarti* (Janssens, 1939) (●).