

TRICHOTRIUROIDES BONETI GEN. N., SP. N. (ZYGENTOMA, NICOLETIIDAE) AND NEW DATA ON ZYGENTOMA IN THE COLLECTION OF THE MUSEO NACIONAL DE CIENCIAS NATURALES IN MADRID (SPAIN)

L. F. Mendes *, C. Bach de Roca **, M. Gaju-Ricart *** y R. Molero-Baltanás ***

ABSTRACT

In this paper we study several samples of *Zygentoma* (families Ateluridae, Lepismatidae and Nicoletiidae) deposited in the collection of the Museo Nacional de Ciencias Naturales in Madrid (Spain). The studied specimens were collected in Spain, Morocco, Syria and Equatorial Guinea. Several faunistic novelties are emphasized: the male of *Grassiella modesta* (Silvestri, 1908) is redescribed on the basis of material from Bioko Island (Fernando Poo) and *Trichotriuroides boneti* gen. n., sp. n., also from Bioko is described and compared with the closest genera of Nicoletiidae.

Key words: *Zygentoma*, taxonomy, Apterygota, Lepismatidae, Nicoletiidae, Ateluridae, Grassiella, Trichotriuroides.

RESUMEN

***Trichotriuroides boneti* gen. n., sp. n. (*Zygentoma*, Nicoletiidae) y nuevos datos de *Zygentoma* de la colección del Museo Nacional de Ciencias Naturales de Madrid (España).**

Se estudian diversas muestras de *Zygentoma*, pertenecientes a las familias Ateluridae, Lepismatidae y Nicoletiidae. El material estudiado pertenece a la colección del Museo Nacional de Ciencias Naturales (Madrid). Los ejemplares provienen de España, Marruecos, Siria y Guinea Ecuatorial. Se amplía el conocimiento de muchas de las especies. Se redescubre el macho de *Grassiella modesta* (Silvestri, 1908) con material procedente de la isla de Bioko (Fernando Poo). Se describe *Trichotriuroides boneti* gen. n., sp. n., también de Bioko, y se compara con los géneros de Nicoletiidae más próximos.

Palabras clave: *Zygentoma*, taxonomía, Apterygota, Lepismatidae, Nicoletiidae, Ateluridae, Grassiella, Trichotriuroides.

INTRODUCTION

Dr. Agenjo, of beloved memory, entrusted us the study of a batch of *Zygentoma* belonging to the Museo Nacional de Ciencias Naturales of Madrid (Spain), whose specimens had been collected at different geographical locations. The examination of this material allowed us to increase the available knowledge of Order *Zygentoma* and, to some extent,

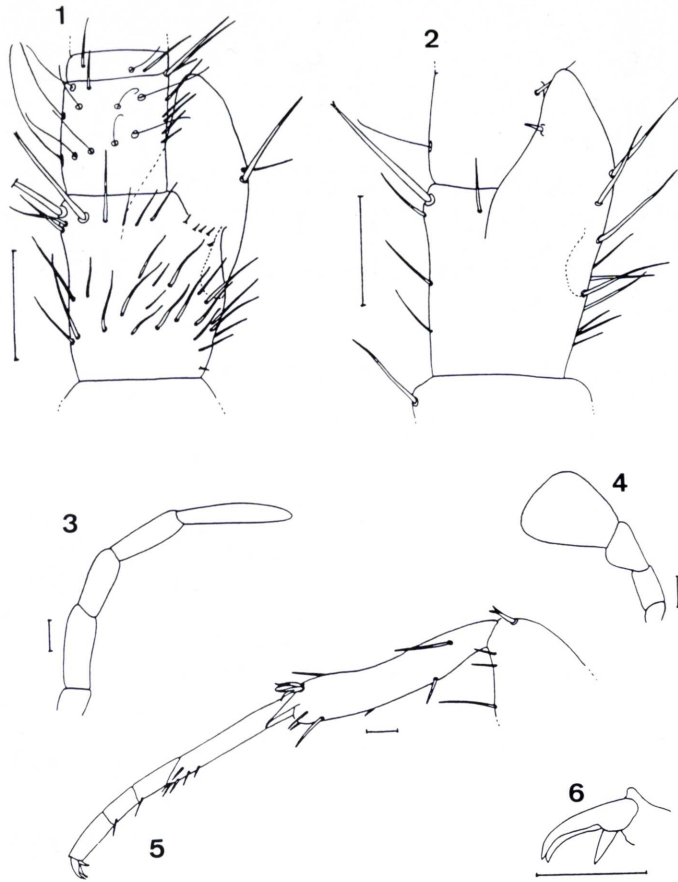
to complete the study on the Apterygota from the aforementioned institution, since Order Microcoryphia had been previously studied by one of us (BACH DE ROCA, 1977).

Overall we identified 16 species from three families of *Zygentoma* including a new genus and a new species. Also the male of *Grassiella modesta* (Silvestri, 1908) is redescribed and new records for the collecting sites are given.

* Centro de Zoología, Instituto de Investigação Científica Tropical. R. da Junqueira, 14. 1300 Lisboa (Portugal). Fellow of the INIC-PL/2.

** Departamento de Biología Animal, Vegetal y Ecología, Facultad de Ciencias, Universidad Autónoma de Barcelona. Bellaterra 08193 Barcelona (España).

*** Departamento de Biología Animal (Sección de Zoología). Facultad de Ciencias. Universidad de Córdoba. E-14004 Córdoba (España).



Figs. 1-6.—*Grassiella modesta* (Silvestri, 1908), ♂: 1) Pedicellus and proximal flagellum of antenna (ventral view). 2) *Ibid.*, dorsal view. 3) Maxillary palp. 4) Labial palp. 5) P. III (general aspect). 6) *Ibid.*, detail of pretarsus. Scale: 0.1 mm.

The different species examined are described grouped into families.

FAM. ATELURIDAE

Grassiella modesta (Silvestri, 1908)

Grassiella modesta was described in both sexes and the original, unique sample was also collected in Bioko (Fernando Poo) (Mussola, 500-700 m). Reported for comparison only by WYGODZINSKY (1958), it was listed by PAULT (1963) in the absence of any further material. Recently MENDES (1988a) redescribed the female using specimens from the Island of São Tomé (Democratic Republic of São Tomé e Príncipe), captured in low marginal areas in association with ants (Poneridae and Myrmicidae). The extremely brief description of the male (SILVESTRI, 1908) and the lack of details on major features (the specialized chaetotaxy of the hind filaments and the transformed chaetotaxy of the ventral Xth urotergite) compel the redescription of this sex which is done below.

Body length: 5.7-5.9 mm; thorax length: 2.3-2.4 mm; thorax width: 1.9 mm; cercus length: 1.0-1.1 mm; antenna (probably relatively intact) maximum length: 2.9 mm; maximum body length (total): 6.9 mm. Hypodermal pigment absent; typical yellowish scales; yellowish to light brownish macrochaetae.

Head as in the female. Antennal pedicellus provided with an inner distal apophysis (figs. 1 and 2) with some strong setae and with a ventral fovea; subconical apophysis reaching or even slightly surpassing the level of the first flagellar article, with a minute anteapical inner conule. Mandibles without special features. Typical maxillae; elongated maxillary palp (fig. 3), distal article 5.0-5.5 times longer than wide and more than 1.5 times longer than the penultimate. Labial palp as in figure 4, the apical article being clearly longer than wide.

Nota without special features. Robust legs, the PIII as in figure 5; tibia 5.0-5.5 times longer than wide, shorter than the tarsus, with 2 dorsal and 4-5 thin ventral macrochaetae; simple and complete praetarsus (fig. 6), lateral claws clearly stronger than the empodium.

Urotergites covered with scales, with setae limited to posterolateral areas. Urotergites I-VIII (figs. 7, 8 and 9) with one strong macrochaeta and two shorter and thinner setae, accompanied by 1-2 thin setulae. In the IVth urotergite an obvious malformation is patent in the Basilé specimen; the right side chaetotaxy is similar to previous descriptions, only one seta is present (fig. 9) while in the left side there are six (fig. 10). IXth urotergite with one strong lateroapical macrochaeta and 6-7 strong outer setae, as in figure 11. Xth urotergite as in figures 12 and 13, the posterior notch clearly less excavated than in the female and devoid of chaetotaxy; 1+1 posterolateral macrochaetae and several marginal setae, the most posterior of which can be clearly more developed; sensorial conules not particularly abundant (17-25), with the posterior pair more markedly developed than the anterior ones.

Urosternites I and II glabrous, the IIIrd having only one submedial short seta (or 1 pair). Urosternite IV (fig. 14) with 1+1 submedial macrochaetae, 1+1 abdominal stylets and 1+1 shorter macrochaetae located in the inner area of the stylet insertion; eversible vesicles absent. Urosternite V and VI (fig. 15) with 1+1 submedial and 1+1 sublateral macrochaetae and with (5-6)+(5-6) short setae around the eversible vesicles, the abdominal stylets having no special features. VIIth abdominal sternite (fig. 16) with 1+1 submedial macrochaetae (clearly stronger than in the preceding segments) and 2+2 lateral macrochaetae, the pseudovesicles being bare. Coxite VIII (fig. 17) slightly concave, with a series of short setae along the extended medial area. Coxite IX as

in figure 18, the stylet much more markedly developed than the preceding ones and with two ventral and one dorsal very strong and long macrochaetae which are almost black. Parameres cylindrical, 4 times longer than wide, provided with abundant thin setae and with *ca.* six thin long setae in the proximal inner half and a few (less than ten) apical specialized setae; parameres reaching insertion of the most anterior stylet dark spine, longer than half the stylet length. Cerci provided with two thin yellowish-brown conules only in the inner area of the most basal article, as shown in figure 19. Terminal filament with 4 rows of stronger cones (overall) with the following distribution: 3+3+(3-4) on the dorsal medial area of the basal article and 3 cones in the medioproximal dorsal area of the second article (fig. 20).

Examined material. EQUATORIAL GUINEA: Bioko (Fernando Poo), Basilé, 1 ♂, ?-XI-33, F. Bonet & J. Gil leg.; Botonós, 1 ♂, 1 juv. con T4, ?-XI-33, F. Bonet & J. Gil leg.; Rebola, 1 ♂ badly preserved, ?-XI-33, F. Bonet & J. Gil leg.

Proatelura pseudolepisma (Grassi, 1887)

Observed throughout the Mediterranean basin, this pan-myrmecophilous species has been reported to occur in Spain only in the provinces of Tarragona (STACH, 1930) and Córdoba (BACH DE ROCA *et al.*, 1989).

Examined material. SPAIN: El Escorial (Madrid), 3 ♀, 1 juv., 21-X-34, E. Morales leg.

FAM. LEPISMATIDAE

Ctenolepisma albida Escherich, 1905

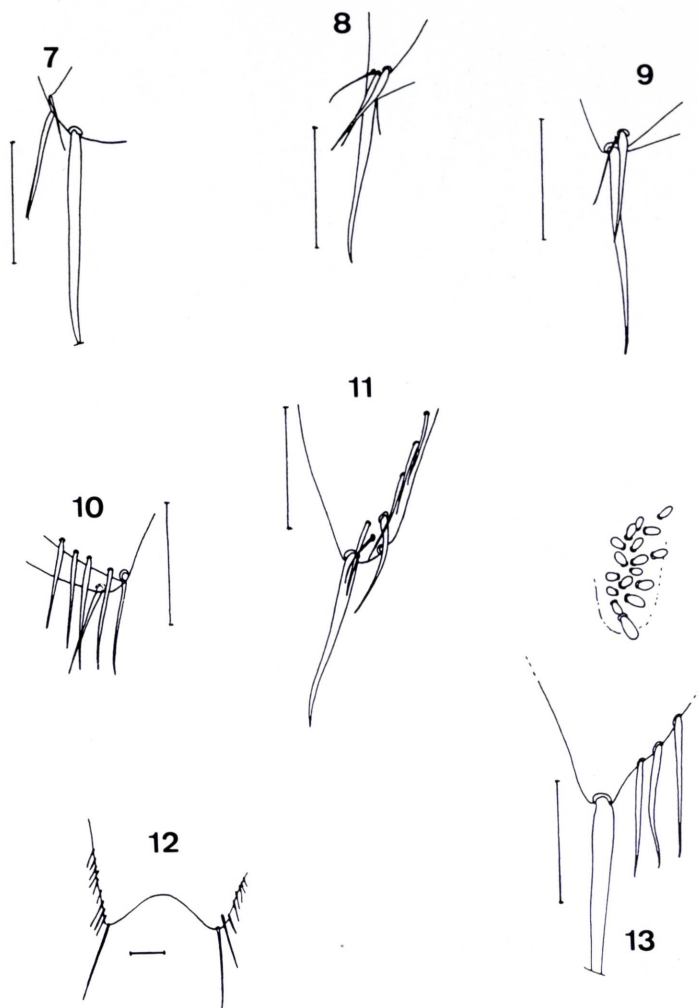
As recently stated (MENDES, 1992), *C. albida*, described from Egyptian specimens (ESCHERICH, 1905), seems to be a typical Northern Saharan or Sub-Saharan element.

Examined material. MOROCCO: Sidi Ifni, 1 ♀, ?-IV-34, F. Escalera leg.

Ctenolepisma ciliata (Dufour, 1831)

C. ciliata is a widely distributed lepismatid, particularly common in the Mediterranean basin; it has been reported to occur in continental and insular Spain by several authors.

Examined material. MOROCCO: Mogador, 1 ♀, 1 juv., 22-IX-05, F. Escalera leg. SPAIN: Cádiz, 1 ♂, 1 ♀, no date, A. Benítez leg.; Montarco (Madrid), 1 ♂, 3 ♀♀, no date, F. Bonet leg.



Figs. 7-13.—*Grassiella modesta* (Silvestri, 1908), ♂: 7) Ist urotergite infralateral group of setae. 8) VIIth urotergite infralateral group of setae. 9) IVth urotergite, right angle typical infralateral group. 10) *Ibid.*, left angle abnormal chaetotaxy. 11) IXth urotergite infralateral chaetotaxy. 12) Xth urotergite (dorsal view). 13) *Ibid.*, detail of the ventral specialized chaetotaxy. Scale: 0.1 mm.

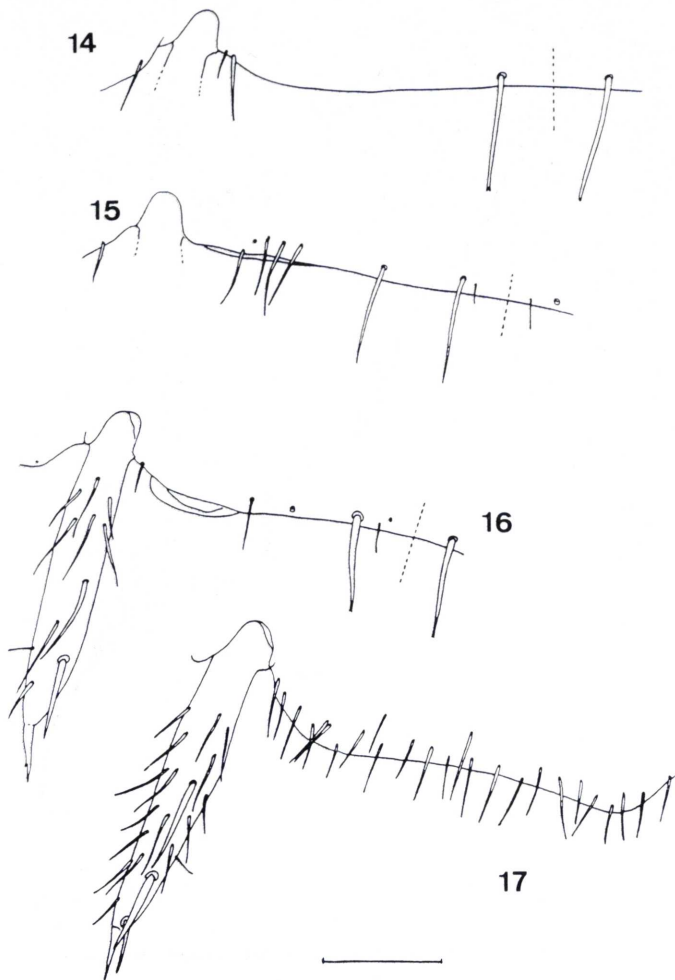
Ctenolepisma lineata (Fabricius, 1775)

C. lineata is very widely distributed throughout the Mediterranean sub-region; it has been repeatedly registered in Morocco and Spain.

Examined material. MOROCCO: Mogador, 2 ♂, 4 ♀, 1 ♀ juv., 22-IX-05, Escalera leg.; Sidi Ifni, 1 ♂, ?-IV-34, F. Escalera leg.; Beni Hosimar, Tagsult, 1 ♀ rather badly preserved, 12-VI-32, ? leg.; Bab Ruadi, 1 ♀, 15-VI-32, ? leg.; Vandus, 1 ♀, no date, ? leg. SPAIN: Posadas (Córdoba), 1 ♂, 1 ♀, 1 juv., 18-IV-52, Bolívar leg.; Torca del Agua, Palancares (Cuenca), 1 ♀, no date, C. Bolívar leg.; Robledo (?), 1 ♂, no date, ? leg.

Ctenolepisma longicaudata Escherich, 1905

Known to occur in nearly every mild and warm region in the world, this synanthropic species has been



Figs. 14-17.—*Grassiella modesta* (Silvestri, 1908), ♂: 14) IVth urosternite. 15) VIth urosternite. 16) VIIth urosternite. 17) VIIIth coxite. Scale: 0.1 mm.

detected twice in Morocco both in Rabat (WYGODZINSKY, 1941; MENDES, 1992). In Spain, though unpublished material shows the taxon to occur widely in urban areas (in Andalusia), it has never been recorded.

Examined material. MOROCCO: Spanish Morocco, Melilla, 1 ♂ badly preserved, ?-?-29, ? leg. SPAIN: Benidorm (Alicante), 1 ♀, 1 juv., no date, F. Bonet leg.; Calpe (Alicante), 1 ♀, 29-VII-30, F. Bonet leg.; Aranjuez (Madrid), 1 ♂, 3 ♀, 2-I-34, Roz leg.

Ctenolepisma targionii (Grassi & Rovelli, 1890)

This species was known in Spain exclusively through the Tarragona specimens reported by STACH (1930).

Examined material. SPAIN: Madrid, 1 ♂, ?-IV-33, E. Morales leg.

Ctenolepisma sp.

These specimens, all of large size, are incomplete, which makes it impossible to count the distribution of their tergal abdominal combs and determine the morphology of their Xth urotergite. The absence of median bristle-comb in the IIInd and IIIrd urosternites (the only ones they preserve) excludes the possibility of their being *C. albida*, known to occur at the same location.

Examined material. MOROCCO: Sidi Ifni, 3 incomplete specimens, ?-IV-04, F. Escalera leg.

Lepisma saccharina Linnaeus, 1758

This almost cosmopolitan species had already been observed in Spain by NAVAS (1906), STACH (1930) and MENDES (1980).

Examined material. SPAIN: Torca del Agua, Palancares (Cuenca), no date, 1 ♀, C. Bolívar leg.; Cercedilla (Madrid), no date, 1 ♂, 3 ♀, F. Bonet leg.; Avalan (?), casa forestal, 6-VIII-29, 2 ♂, 1 ♂ juv., 2 ♀, 1 ♀ juv.; Montarco (Madrid), no date, 3 ♀, 1 juv., F. Bonet leg.

Lepismina pluriseta Wygodzinsky, 1942

The only female from the Euphrates basin matches the original description of *L. pluriseta* (WYGODZINSKY, 1942) based on Palestinian specimens collected not far from the Lake of Tiberias; the species has also been registered in Israel (WYGODZINSKY, 1952) in the Negev (Haleiqim Plain). It was found now for the first time outside Israel.

Examined material. SYRIA: Mesquiné (quite probably Mesken), Euphrates, 1 ♀, 5-II-1899, C. Escalera leg.

Neoasterolepisma crassipes (Escherich, 1905)

This western and central Mediterranean species had been observed in Spain by STACH (1930) in the provinces of Barcelona and Tarragona.

Examined material. SPAIN: Coll de Jou (Cadí Mountain) (Lérida), 5 ♂, 1 ♀, 1 juv., 20-IV-20, ? leg.

Neoasterolepisma curtiseta Mendes, 1988

This species was previously reported as occurring in Spain by GAJU-RICART & BACH DE ROCA (1986) and was detected in the province of Córdoba only.

Examined material. SPAIN: Benidorm (Alicante), no date, 1 ♀, F. Bonet leg.

Neoasterolepisma iberica (Stach, 1930)

This species was known to occur exclusively in the Iberian Peninsula (MENDES, 1988b) and was detected in Spain in the provinces of Tarragona and Lérida (STACH, 1930) and in Córdoba (MENDES, 1980 and GAJU-RICART & BACH DE ROCA, 1986). It is now recorded for the first time in Morocco, the exact location of its collecting area in Northern Africa being impossible to state precisely owing to the illegible original label.

Examined material. MOROCCO: ? Vandus, 1 ♂, no date, ? leg. SPAIN: Quero (Toledo), 3 ♂, 3 ♀, 6 juv. with ants, 22-V-29, F. Bonet leg.

Neoasterolepisma sp.

The specimen is too young to allow for infrageneric determination.

Examined material. SPAIN: El Pardo (Madrid), 1 juv., 20-II-34, C. Bolívar leg.

Tricholepisma gyriniformis (Lucas, 1846)

T. gyriniformis had already been observed in several regions in Morocco and Algeria and in a non-specified region in Egypt. In the Northern Mediterranean basin, the species had been found in Corfu and Sicily only (see MENDES, 1988b).

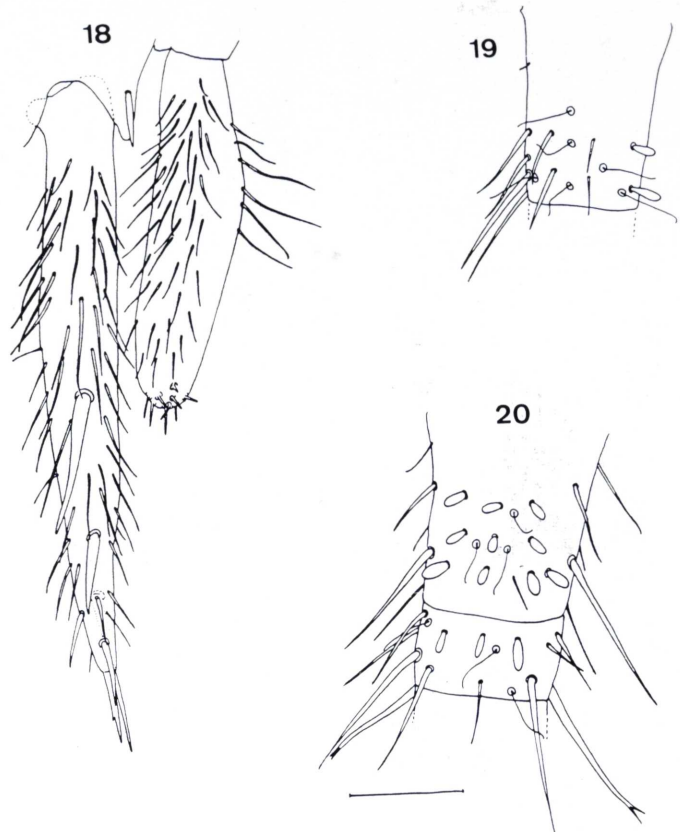
Examined material. MOROCCO: Tagsult, 2 ♂, 1 juv., 24-VI-32, ? leg.

FAM. NICOLETIIDAE

Hematelura gestroi (Silvestri, 1908)

H. gestroi has been described (sub *Monactinella*) from a single female (SILVESTRI, 1908) from the Bioko island, where it was collected in Punta Frailles in association with the «terrible *Anochetus*»; later, it was reported to occur on Mont Nimba, Guinea-Conakri (WYGODZINSKY, 1958) from one further isolate female collected inside a termite mound. Several specimens (again females only) were collected in São Tomé (near S. Nicolau and Ponta Baleia, in the central and southern areas of the island), inside nests of Poneridae ants (MENDES, 1988a). The male remains unreported.

Examined material. EQUATORIAL GUINEA: Bioko (Fernando Poo), Sampaka, ?-XI-33, F. Bonet & J. Gil leg., 1 ♀ con T. 3; Botonós, ?-XI-33, 1 ♀ juv., F. Bonet & J. Gil leg.; Laka, ?-XI-33, 3 ♀ juv., F. Bonet & J. Gil leg.



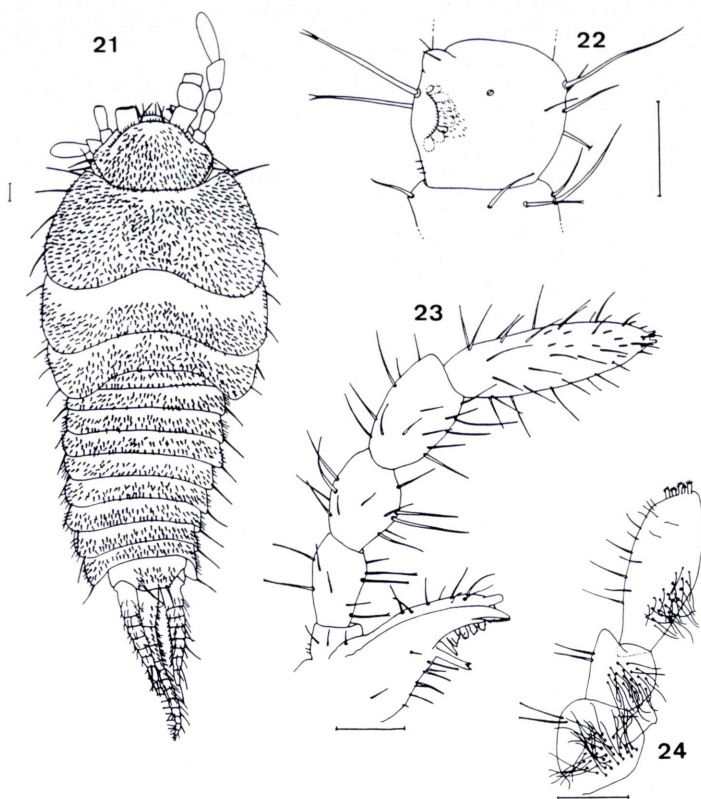
Figs. 18-20.—*Grassiella modesta* (Silvestri, 1908), ♂: 18) Distal area of IXth coxite, stylet and parameres. 19) Dorsal area of cercus, basal article. 20) Dorsal area of terminal filament, basal articles. Scale: 0.1 mm.

Trichotriuroides gen. n.

Small insects (around 3 mm). Limuloid body with thorax clearly wider than abdomen; almost continuous notal lateral borders. Hypodermal pigment and scales absent; very light coloured setae and macrochaetae, almost hyalin.

Head completely visible from above, covered with numerous setae, cephalic macrochaetae being limited to external angles and frontal area. Pedicellus of male with one distal apophysis and one fovea. Mandibles slender. Galea and lacinia similarly developed, former with single conspicuous distal conule; lacinia with one large distal and one smaller proximal tooth, pectinated process not surpassing apex of distal tooth. Maxillary palp typical. Labium with rounded posterolateral corners, devoid of special chaetotaxy. Labial palp typical, with specialized ventral chaetotaxy (at least in male), apical article elongated oval, with typical papillae.

Nota well developed, wider than long, covered with setae, the lateral margins with few strong, long macrochaetae, particularly developed on the pron-



Figs. 21-24.—*Trichotriuiroides boneti* gen. n., sp. n., ♂: 21) General aspect of body (dorsal view). 22) Pedicellus of antenna (ventral view). 23) Maxillary palp. 24) Labial palp. Scale: 0.1 mm.

tum. Legs typical with four-articled tarsi; lateral claws well developed with thinner empodium, abruptly pointing apically.

Abdominal tergites with few irregular rows of setae, infralateral chaetotaxy absent. Infralateral lobes of IXth not particularly protruded. Xth tergite small, proximally covered by IXth hind border and devoid of ventral pegs.

Abdominal sternites I-VIII entire, first one almost devoid of chaetotaxy, remainder with thin setae only. Abdominal stylets in 3 pairs with hind ones more markedly developed, in segments VII-IX. 1+1 pseudovesicles in VIIth only. IXth coxites fused in single plate. Parameres entire, ovoid, well developed, short and stout. Penis large with longitudinal narrow opening.

Posterior filaments elongated with straight cerci, almost parallel to terminal filament, both with specialized chaetotaxy in male.

Spermatolophids unknown.

Female unknown.

Type species: *Trichotriuiroides boneti* sp. n.

Etymology: The new genus is named after its quite probable closeness to *Trichotriura* Silvestri, 1918.

Discussion: *Trichotriuiroides* gen. n. seems particularly close to *Trichotriura*, also monotypical and Afrotropical, a genus described upon 4 ♀♀ only, collected in Ibadan (Nigeria); the main morphological differences between these two genera lie in the completely different chaetotaxy of the dorsal body surface (particularly that of the urotergites). *Trichotriura* shows a single row of posterior macrochaetae on each abdominal terga, although the new genus possesses several rows of such setae; in addition, the number of setal rows on the nota is clearly higher in *Trichotriuiroides* gen. n., with 12-15 rows on the pronotum and 5-6 on the meso and metanotum, than in the Nigerian species, with 5-6 pronotal rows and 2-4 meso and metanotal rows of setae. The future description of the male in *Trichotriura* and of the female in the new Bioko species will certainly permit the establishment of further generic differences.

Though not originally included in the Nicoletiidae (MENDES, 1988c), these two afrotropical genera, *Trichotriura* and, now, *Trichotriuiroides*, and a further neotropical genus, *Trichatelura* Silvestri, 1932, are almost certainly close to *Hematelura* Escherich, 1906, considered as part of the subfamily Subnicoletiinae and being the only ones to share a strong tendency to reduce abdominal stylets and eversible vesicles; furthermore, *Trichotriura* and *Trichotriuiroides* are the only genera observed to possess only one sensory conule in the apical area of the galea and, with the likely exception of «*Trinemura*» *subarmata* Paclt, 1982, *Trichotriuiroides* and *Trichatelura* (as noted earlier, *Trichotriura* is known from females only) are the only genera in the subfamily with non apically divided (or strongly transformed) parameres. They are also the most ateluriform of all Nicoletiidae.

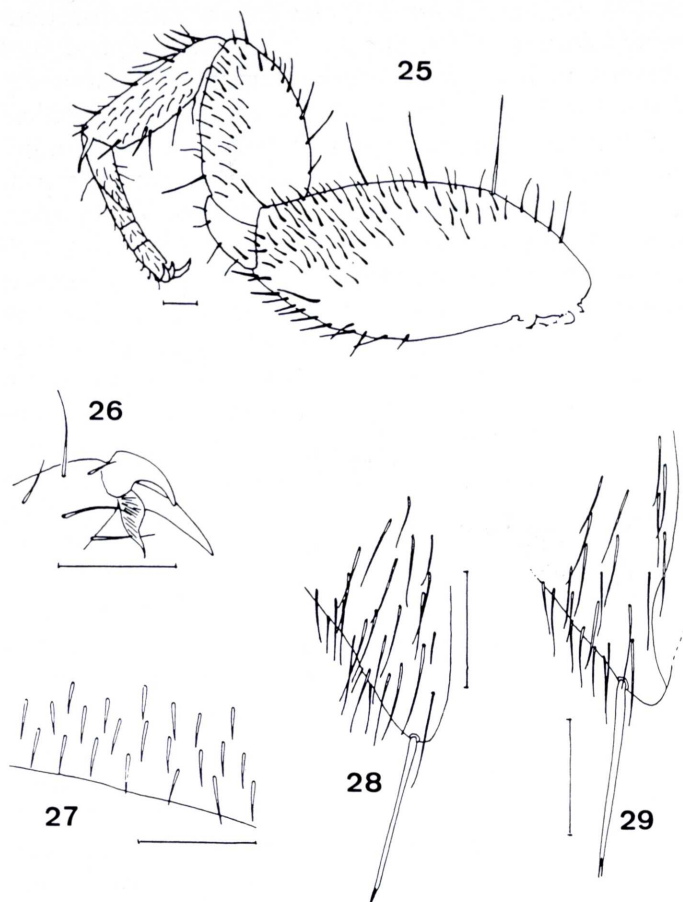
On account of the common features of *Trichotriura*, *Trichatelura* and *Trichotriuiroides*, described here provisionally as part of the Subnicoletiinae (as suggested before —MENDES, 1988c— quite probably a paraphyletic group that requires careful global analysis), the features of the dichotomic keys proposed for the Nicoletiidae subfamilies (MENDES, 1988c: 771) must be changed as regards Subnicoletiinae since:

1. An apical apophysis may be present in the antennal pedicellus of the male; it occurs in the new *Trichotriuiroides* but is also present in *Trinemurodes mayanus* Silvestri, 1916.

2. The parameres, as stated above, may be apically divided or highly transformed, but they can also be typically complete and stout and thus not transformed.

Trichotriuiroides boneti sp. n.

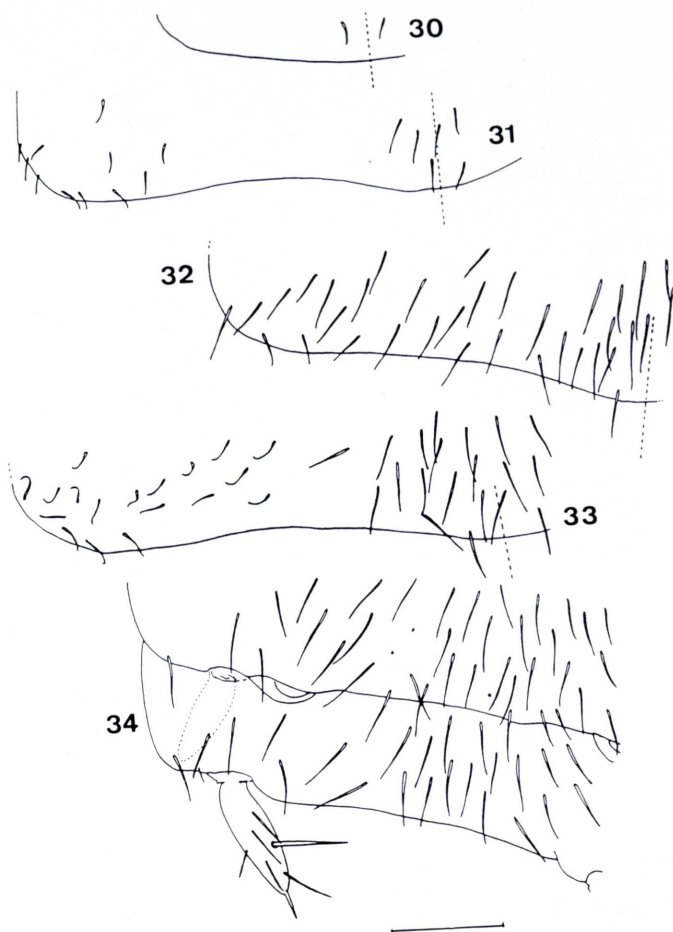
Body length: 2.7 mm; thorax length: 1.1 mm; thorax width: 1.2 mm; cercus length: 0.5 mm; antennae



Figs. 25-29.—*Trichotriuroides boneti* gen. n., sp. n., ♂: 25) P. III, general aspect. 26) *Ibid.*, detail of pretarsus. 27) Setae of median area of VIIIth urotergite. 28) Posterolateral area of IVth urotergite. 29) Posterolateral area of IXth urotergite. Scale: 0.1 mm.

length: unknown as only the proximal articles are preserved; total body length: 3.1 mm. Hypodermal pigment absent, without scales. General aspect of body shape and chaetotaxy as in figure 21.

Head clearly wider than long, free, somewhat emarginated at level of antennal insertion, covered with short, strong setae; 1+1 macrochaetae on lateral angles and 1+1 on frontal area; clypeus and labrum with isolated setae. Pedicellus of antenna as wide as long, with short outer distal ventral apophysis and outer medial ventral fovea (fig. 22), flagellum absent. Mandibles devoid of special features. Maxillae as in figure 23 and consistent with generic description, galea having one single strong apical cone; maxillary palp with thin setae only, distal article almost twice longer than the preceding one and 3.0-3.5 times longer than wide, provided with several thin sensillae on distal half. Labium typical, labial palp as in figure 24, elongated, provided on all articles with abundant, thin, ciliary setae, distal article about 2.5

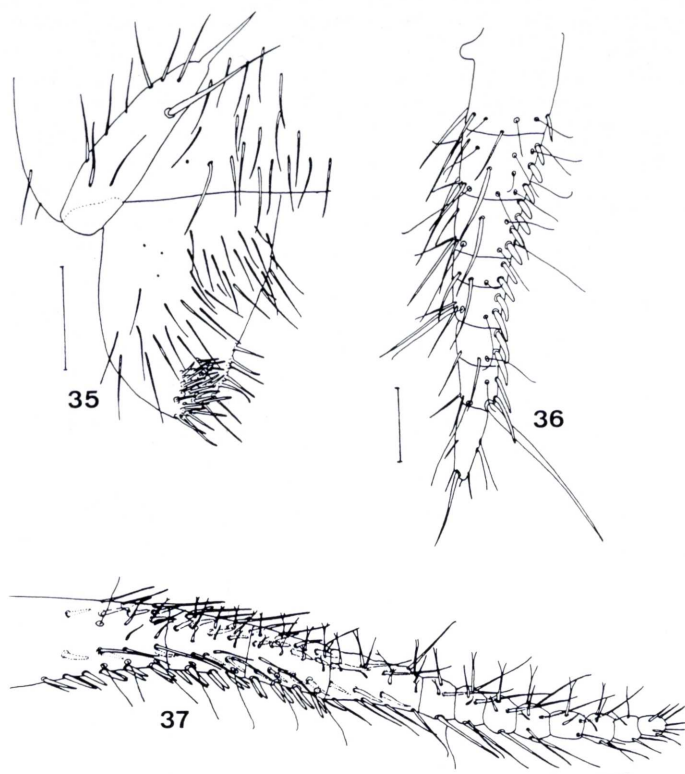


Figs. 30-34.—*Trichotriuroides boneti* gen. n., sp. n., ♂: 30) First urosternite. 31) IInd urosternite. 32) IVth urosternite. 33) VIth urosternite. 34) VIIth and VIIIth urosternites. Scale: 0.1 mm.

times longer than wide, with sensory papillae limited to apical area.

Nota with almost continuous lateral margins, with few lateral macrochaetae, covered with abundant, dense, strong and short setae; pronotum with 13 irregular rows, meso- and metanotum with 5-6 rows of similar setae; on lateral areas, setae even more numerous, though clearly thinner. Legs (fig. 25) without any special features, devoid of strong macrochaetae but with few long and stout setae (mainly on the outer coxa); tarsi as in generic description (fig. 26).

Urotergites I-IX hairy, short setae along medial area of each tergite as in figure 27, similar to those present on cephalic capsule and on notal discs. Urotergite I almost completely concealed by metanotal hind border (see fig. 21); infralateral areas of urotergites II-VIII as in figure 28, short setae being thinner and not particularly more elongated than those of dorsomedial area; with isolated and not very strong macrochaetae (with no correspondence in I), 2.0-2.5 times longer than the ordinary setae. IXth urotergite protruded in not very extruded infralate-



Figs. 35-37.—*Trichotriuroides boneti* gen. n., sp. n., ♂: 35) IXth coxal single plate and parameres. 36) Right cercus. 37) Terminal filament. Scale: 0.1 mm.

ral lobes, as in figure 29, chaetotaxy quite similar to that of preceding sclerites. Xth urotergite partially hidden by IXth tergite (only basal part), clearly wider than long at base, with 3-4 irregular rows of short setae and with 1+1 infralateral macrochaetae (see fig. 21), hind border between macrochaetae being almost straight; ventral surface devoid of pegs.

Urosternite I (fig. 30) almost devoid of chaetotaxy, with 1+1 submedial short setae only. Urosternites II-IV progressively more hairy, with 1+1 lateral and 1+1 submedial groups of similar setae (figs. 31 and 32). Urosternites V and VI similar to each other (fig. 33), with 1+1 strong infralateral setae. Urosternites VII and VIII (fig. 34) similar, with short abdominal stylets, former with 1+1 pseudovesicles. Coxites IX fused (fig. 35), stylets much more pronounced than preceding ones. Parameres as in figure 35, ovoid, not longer than wide at base and with not very dense covering of thin setae, provided with abundant stiff glandular apical and antepical setae. Penis typical, matching the generic description.

Cerci as in figures 21 and 36, with 8 articles, inner ventral margin with one continuous row of strong, dark and more or less cylindrical cones; one isolated thin cone on proximal article, 3-4 cones on following 2nd and 3rd articles, 2 cones progressively thinner

and longer on 4th to 7th; one extremely strong and long macrochaeta, almost as long as last four apical articles on inner margin of distal area of penultimate article. Terminal filament as in figure 37, 1.5 times longer than cerci and with 12 articles, not strongly curving down, four basal articles clearly stronger and longer than remaining ones; 2-3 rows of conules (cylindrical, strong and dark coloured like those of cerci) progressively more slender along laterodorsal borders of 3 proximal articles, 4th article with one row of 3 spiniform setae on each side. As in the cerci, several trichobothria and ordinary setae.

Etymology: The new species is named after its collector, Dr. F. Bonet.

Type material: EQUATORIAL GUINEA: Bioko (Fernando Poo), Basilé, ?-I-33, F. Bonet & J. Gil leg., 1 ♂ holotypus, with T. 10.

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