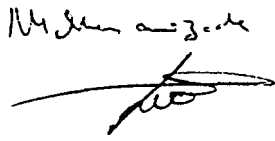
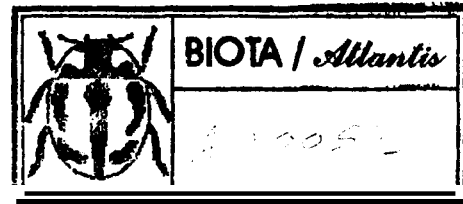


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New data on the thysanurans fauna of the Canary islands. I. Zygentoma

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Several samples of *Zygentoma* from the Canary islands are studied and *Neoasterolepisma vulcana* n. sp. is described and compared with the most close species: *N. myrmecobia* and *N. pelagodromae*.

Diversas amostras de *Zygentonia* provenientes das Canárias são estudadas e *Neoasterolepisma vulcana* sp. n. é descrita e comparada com as provavelmente vizinhas *N. myrmecobia* e *N. pelagodromae*.

Al estudiar diversas muestras de *Zygentoma* procedentes de las islas Canárias se ha encontrado una especie nueva que se describe denominándola *Neoasterolepisma vulcana* sp. n. Se efectúa la comparación entre la nueva especie y las más próximas, *N. myrmecobia* y *N. pelagodromae*.

The presence of ZYGENTOMA in the Canary islands has been noticed for the first time by RIDDLEY (1881) who pointed three species to the Tenerife island — *Ctenolepisma lineata* (as *Lepisma eatoni*), *Ctenolepisma* cf. *ciliata* (as *Lepisma mauritanica*) and *Lepisma saccharina* — and only one species to Gran Canaria — *Lepisma saccharina*. Further data on the silverfish of the archipelago have been presented by SILVESTRI (1940), WYGODZINSKY (1952), PACLT (1966) and MENDES (1982); they found four species of Lepismatidae distributed throughout it: *Ctenolepisma ciliafa*, *C. lineafa*, *Lepisma saccharina* and *Neoasterolepisma myrmecobia*.

In the present paper the authors notice for the first time to the Canaries *Ctenolepisma longicaudata*

and *C. vieirai*, new data are presented on *C. lineafa*, *Lepisma saccharina* and *Neoasterolepisma myrmecobia*, and a new species is described: *Neoasterolepisma vulcana* n. sp. from the lava beds and lava caves in the Hierro island.

The studied material belong to the following collections: Carmen Bach collection (CB), Centro de Zoologia of the IICT (CZ), Luís Mendes collection (LM) and Museo de Ciencias Naturales de Madrid (MM). The authors are deeply grateful to Prof. Pedro OROMI, from the La Laguna University, Dr. P. ASHMOLE from the Edinburgh University, Dr. Arturo COMPTE, from the Museum of Natural Sciences of Madrid and Prof. H. STURM from the Hildesheim University by the offered and loaned material.

Ctenolepisma lineata (Fabricius, 1775)

EXAMINED MATERIAL — LANZAROTE:

Yaiza, 7.XI.1985, leg. M. Gaju, 1 ♀ (CB). GRAN CANARIA: Tejada, n.º 2, ?IV.1935, leg. Bolívar & Bonet, 1 ♂ (MM); Puerto de la Luz, n.º 4, ?IV.1935, leg. C. Bolívar & F. Bonet, 1 ♂ (MM); *ibid.*, dunes, n.º 6, leg. C. Bolívar & F. Bonet, 5 ♂♂ 1 juv. (MM). TENERIFE: Valle de Santiago, n.º 5, ?IV.1935, leg. C. Bolívar & F. Bonet, 1 juv. + 1 incomplete adult (MM); Montaña Bermeja, 1400 m, n.º 8, ?IV.1935, leg. C. Bolívar & F. Bonet, 1 juv. (MM); Aguamansa, 800-1100 m, Kieferwald, unter Steinen, 29.II.1981, leg. H. Sturm, 2 ♂♂ + 1 incomplete specimen (LM); Puerto de la Cruz, östl. Städtstrand bei Serpentinweg zurt ca. 30-50 m über meer, unter Stein zw. niedriger vegetation, 26.III.1981, leg. H. Sturm, 2 ♀♀ (LM); 6 mi from Faro Tenó, Küstennäch, unter Steinen, 28.III.1981, leg. H. Sturm, 5 ♂♂ (LM); El Medano, bei Punta Roja, ca. 20-70 m über meer, unter Steinen, 31.III.1981, leg. H. Sturm, 2 ♀♀ (LM); Tenerife, without precise location, n.º 24, n.º 5, 14.II.1984, 1 ♀ (CB); cerca funicular Teide, without number, 13.III.-1984, 1 ♂ (CB); Tenerife, without precise location, n.º 451, 9-16.III.1984, 1 ♀ (CB); Tenerife, without precise location, n.º 462, 9-16.III.1984, 2 tubes, 5 ♂♂ 4 ♀♀ 1 juv. (CB); Tenerife, without precise location, n.º 477, 16-19.III.1984, 1 ♂ (CB); *ibid.*, n.º 1817, 23-31.III.1984, 1 ♀ (CB); *ibid.*, n.º 1846, 23-31.III.1984, 1 ♀ (CB); *ibid.*, n.º 762, 25.III.-2.IV.1984, 1 ♂ (CB); *ibid.*, n.º 763, 29.III.-6.IV.1984, 1 ♀ (CB); *ibid.*, n.º 1740, 25.III.-2.IV.1984, 3 ♂♂ 2 juv. (CB); Cueva, Cabtza de Perro, n.º 18, 28.V.1985, GIET, leg. J. L. Martín, 1 ♂ (CB); *ibid.*, n.º 32, 1 ♂ (CZ). HIERRO: Hierro, without precise location, n.º 8919, S.IV.1957, 3 ♂♂ 3 ♀♀ (CB), leg. P. Ashmole; *ibid.*, n.º 3774 5.IV.1987, 1 ♂ (CB); Hiramás Colada, n.º 8223, 5.IV.1987, 1 ♂ 1 incomplete ♀ (CB). LA PALMA: Canyon Sierra Martín, 30 min NPA/MTA, n.º 8346, 23.VII.1986, 1 ♂ (CB); *ibid.*, n.º 8485, without date, 1 ♀ 2 ♂♂ juv. 1 ♀ juv. (CB); San Juan Colada, n.º 8469, without date, leg. P. Ashmole, 1 ♂ 5 juv. + 2 incomplete adults (CB).

Ctenolepisma lineata seems to be the most common and widespread species of *Zygentoma* in the archipelago: it has been already noticed to the Canaries by RIDLEY (1881 — as *Lepisma eatoni*), ESCHERICH (1905), WYGODZINSKY (1952), PAULT (1966) and MENDES (1982).

Ctenolepisma cf. lineata

EXAMINED MATERIAL — LANZAROTE: without precise location, n.º 8550, 14-28.III.1985, leg. P. Ashmole, 4 ♀♀ (CB).

The poor conditions of these specimens prevents a more accurated determination.

Ctenolepisma longicaudata Escherich, 1905

EXAMINED MATERIAL — LANZAROTE:

Lanzarote, without precise location, n.º 807, 14-18.V.1984, leg. P. Ashmole, 5 ♂♂ 5 ♀♀ + fragments (CB); *ibid.*, n.º 8550, 23-27.III.1985, 1 ♂ (CB); *ibid.*, n.º 8613, 24-28.III.1985, 4 ♂♂ 3 ♀♀ (CB); *ibid.*, n.º 8627, 25-29.III.1985, 1 ♂ juv. in bad conditions (CB); *ibid.*, n.º 8703, 25-29.III.1985, 1 ♂ 1 ♀ (both very damaged) 1 juv. (CB); *ibid.*, n.º 8891, 30.III-3.IV.1985, 1 ♂ 1 incomplete ♀ 1 juv. (CB).

Ctenolepisma longicaudata, despite its enormous distribution area is noticed for the first time to the Canaries.

Ctenolepisma vieirai Mendes, 1981

EXAMINED MATERIAL — LANZAROTE:

Lanzarote, without precise location, n.º 824, 14-18.V.1984, leg. P. Ashmole, 2 tubes, 2 ♂♂ 2 ♀♀ (CB); *ibid.*, n.º 828, 14-18.V.1984, leg. P. Ashmole, 3 tubes, 6 ♂♂ 7 ♀♀ 7 juv. (CB). ?FUERTEVENTURA: without precise location, n.º 2971 (F/C), 22.V.1956, 1 ♂ 1 ♀ (CE). HIERRO: Orchilla Colada, n.º 3561, 31.III.-5.IV.1987, leg. P. Ashmole, 1 ♀ 2 ♀♀ juv. 2 juv. (CB); Hiramás Boca, n.º 3592, 5.VI.1987, 1 ♀ (CB). LA PALMA: Teneguía Colada Nueva, n.º 5443, no date, 2 ♂♂ 2 ♀♀ 3 ♂♂ juv. 3 ♀♀ juv. 11 juv. + 4 incomplete specimens (CB); *ibid.*, n.º 5497, 5 ♀♀ 12 juv. + 5 incomplete specimens (CB).

Described from the Madeira archipelago (MENDES, 1981). this species is now recorded for the first time in the Canary islands.

Ctenolepisma sp

EXAMINED MATERIAL — TENERIFE:

Las Cañadas, 21.IV.1935, leg. C. Bolívar & F. Bonet, 1 ♂ 1 ♀ 1 juv. very damaged (MM). HIERRO: Orchilla Colada, n.º 3752, 31.III.1987, 1 juv. (CB).

The specimens are too young (the juvenile from Hierro) or too damaged (the sample from Tenerife) to allow a determination below the generic level.

Lepisma saccharina Lin., 1758

EXAMINED MATERIAL — TENERIFE:

Puerto de la Cruz, Schuttplatz bei Casa Alta, unter Steinen, 1.IV.1981, leg. H. Sturm, 1 ♂ 2 ♀♀ (2 tubes) (LM).

Lepisma saccharina has been noticed to the Canaries (as an anthropophilic species) only by RIDLEY (1881).

Neoausterolepisma myrmecobia (Silvestri, 1908)

EXAMINED MATERIAL — TENERIFE: Montaña Bermeja, 1300 m, n.º 8, ?IV.1935, leg. C. Bolívar & F. Bonet, 1 ♂ (MM); Bajamar; 50 m, ?IV.1935, leg. C. Bolívar, 1 ♂ (MM); Puerto de la Cruz, Schuttplatz bei Casa Alta, unter Stein, 1.IV.1981, leg. H. Sturm, 1 ♀ juv. (LM).

Neoausterolepisma myrmecobia, described from the Cape Verde islands (SILVESTRI, 1908), was noticed from the Canary islands by SILVESTRI (1940), WYGODZINSKY (1952) and MENDES (1982).

Neoausterolepisma vulcana n. sp.

EXAMINED MATERIAL — HIERRO: Cueva Cuaclo de la Molera, n.º 49, 19.IV.1985, leg. J. L. Martín, Giet, 1 ♂ holotypus 1 ♀ allotypus (in two preparations) 1 ♀ paratypus; same data, 1 ♂ 1 ♀ paratypus very damaged (CB); Cueva de Don Justo, estación 1, H-DJ-4, 18.IV.1984, leg. Giet, 1 ♀ paratypus (CZ); Hierro O. Cueva, n.º 3601, 31.III-4.IV.1986, 1 ♂ 1 ♀ 2 juv. paratypus (CB); Hiramás Boca, n.º 3592, 1-5.IV.1987, 1 ♂ 3 ♀♀ 2 juv. paratypus + 2 incomplete specimens (CB); Hiramás Cueva, n.º 3578, 1-5.IV.1987, 1 ♂ juv. 2 ♀♀ juv. several incomplete juveniles (CB); Lomo Negro, Cueva, n.º 3654, 2-6.IV.1987, 1 ♂ paratypus (CZ) 1 ♀ 1 juv. paratypus (CB); Lomo Negro, Boca, n.º 3660, 2-6.IV.1987, leg. P. Ashmole, 2 ♂♂ 1 ♀ 3 juv. paratypus (CB); Boca Cueva Don Justo, n.º 3765, 2.IV.1987, 3 ♂♂ 2 ♀♀ 1 juv. paratypus (CB); *ibid.*, n.º 3771, 1 ♂ juv. 2 juv. (CB).

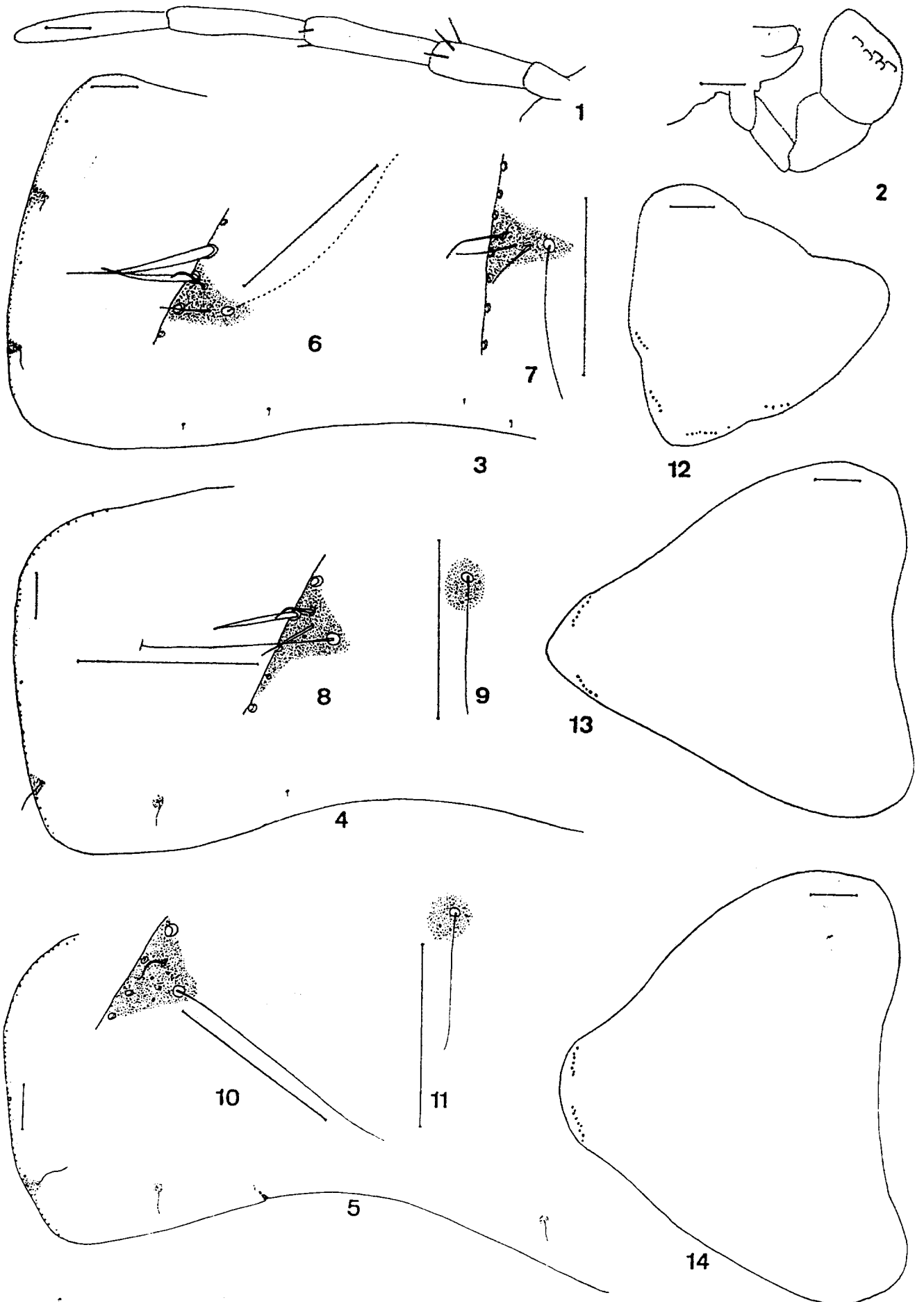
Body length of ♂ 5.0-5.5 mm, of ♀ 8.3-9.0 mm; body shape of the usual type, the thorax not clearly wider than the abdomen base. Color of scales unknown. Hypodermal pigment absent.

Head without special characteristics, with the typical chaetotaxy. Antennae elongated, extending to the metanotal border when intact, their chaetotaxy as usual. Mandibles with several acute apical well sclerotized teeth. Maxillae without special features, the maxillary palp as in Fig. 1: articles 2 and 3 with some strong apical macrochaetae; distal article not clearly longer than the preceding ($n/n-1 = 1.1$), cylindrical and 6-7 times longer than wide. Labial palp as in Fig. 2, its last article as long as wide, weakly dilated to the median area and provided with 2 + 3 typical apical papillae.

Pro (Fig. 3), meso (Fig. 4) and metanotuni (Fig. 5) progressively more excavated in the hind border, the first one with 3 + 3 inconspicuous setae in the anteposterior area, the second one with (0-1) + (0-1) similar setae (all very thin and extremely short), the metanotum devoided of such type of chaetotaxy. Trichobothrial areas of pronotum longer than wide, the anterior one (Fig. 6) with one only thin seta, the posterior (Fig. 7) with 2-3; anterior areas of mesonotum (Fig. 8) and of metanotum (Fig. 10) wider than long, triangular, the former with 2-3 setae only, the second ones with 3-5; posterior areas of meso (Fig. 9) and of metanotum (Fig. 11) rounded, small, both with 3-4 thin setae; trichobothrium of all the anterior areas clearly longer than those present in the posterior areas. Prosternum (Fig. 12) wider at base than long (1/6 more) of triangular shape, clearly constricted in its distal 2/3, provided with 2 + 2 setal combs; proximal combs with 3-5 macrochaetae, the distal ones with 4-7. Mesosternum as wide as long (Fig. 13) with 1 + 1 subapical setal combs, each one with 6-7 macrochaetae, their distance as 1.1-1.5 times their own width. Metasternum (Fig. 14) clearly wider at base than long (1/4 more), cordiforme, its apical area weakly rounded, the 1 + 1 apical bristle-combs almost parallel to the distal border; combs with 8-9 macrochaetae, their distance similar to 2/3 their own width. Legs normal, those of the male devoided of specialized chaetotaxy; tibia of P III strongly elongated, the ratio length/width as 5.2-6.0 (Fig. 15); ventral surface of hind tibia with 6-8 thin spiniforme setae shorter to equal to the tibial diameter, its dorsal area with 1-2 similar setae.

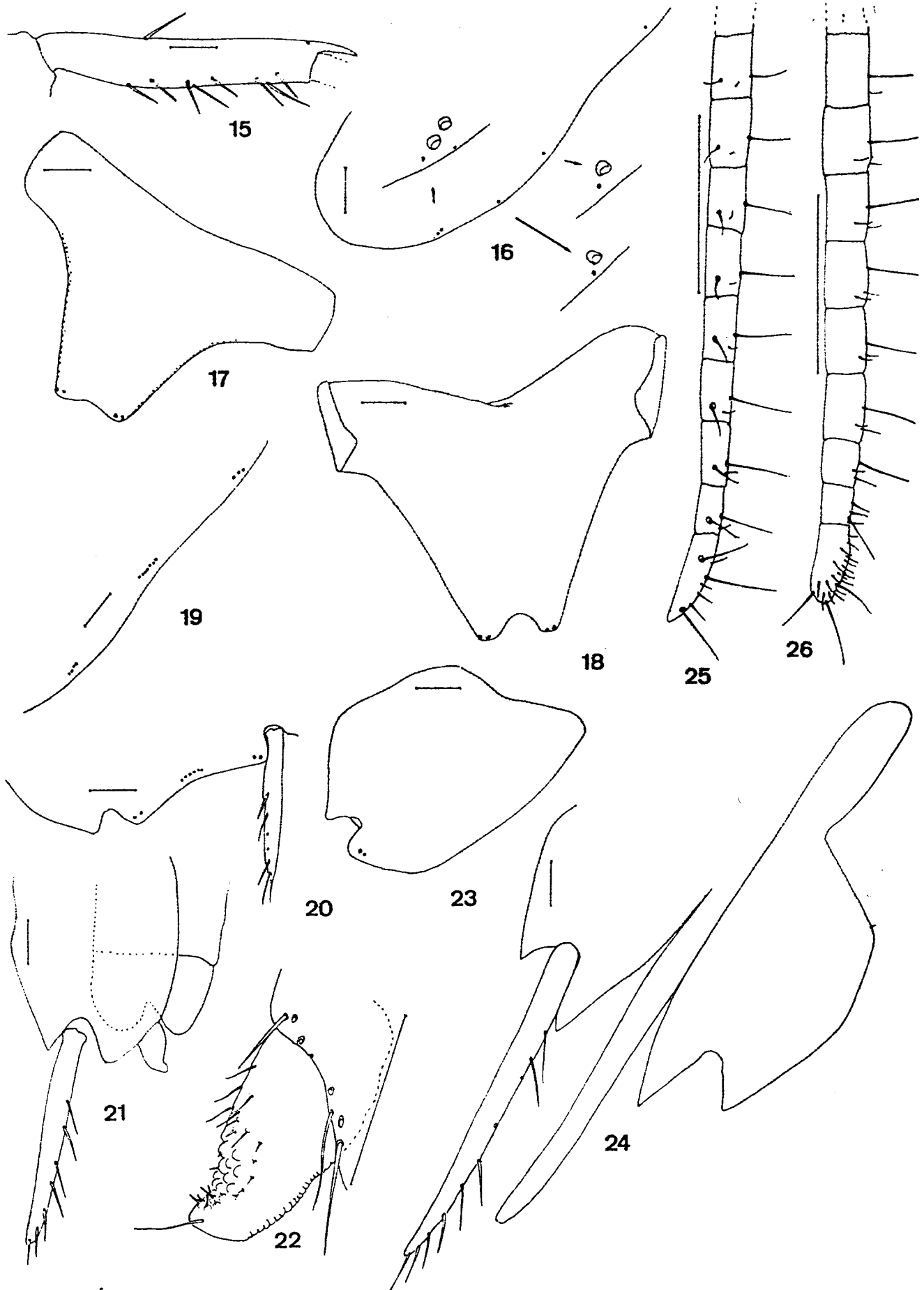
Urotergite I with 2 + 2 infralateral and 1 + 1 submedian macrochaetae, the II-VIII with 2 + 2 infralateral (externally also a thin seta), 1 + 1 lateral and 1 + 1 submedian macrochaetae, the sublateral pair of macrochaetae absent (Fig. 16); urotergite IX with 2 + 3 infralateral macrochaetae only, their distance bigger than in the preceding sclerites; almost all the macrochaetae lost in the studied material; a few preserved submedian macrochaetae are thin and about half of the length of the tergite; the only preserved infralateral setae, those in the inner position of the IIIrd and VIth urotergites, are thin, equally developed, and about 1/3 of the tergite length. Urotergite X of ♂ (Fig. 17) almost twice wider at base than long, with 2 + 2 macrochaetae in the posterolateral angles, its hind margin poorly excavated; Xth urotergite of ♀ (Fig. 18) longer, its hind margin much more deeply concave.

Urosternite I without, the II with a 8-9 setae median comb, the III-VIII (♂) or III-VII (♀) (Fig. 19) with 1 + 1 lateral and one median combs, all the



Neosterolepisma vulcana n. sp. Fig. 1—Maxillary palp; Fig. 2—Labial palp; Fig. 3—Pronotum; Fig. 4—Mesonotum; Fig. 5—Metanotum; Fig. 6—Pronotal anterior trichobothrial area; Fig. 7—Pronotal posterior trichobothrial area; Fig. 8—Mesonotal anterior trichobothrial area; Fig. 9—Mesonotal posterior trichobothrial area; Fig. 10—Metanotal anterior trichobothrial area; Fig. 11—Metanotal posterior trichobothrial area; Fig. 12—Prosternum; Fig. 13—Mesosternum; Fig. 14—Metasternum.

Scales: 0.1 mm



Neoasterolepisma vulcana n. sp. Fig. 15 — P. III, tibia; Fig. 16 — VIIIth urotergite and details of the insertion of the macrochaetae; Fig. 17 — Urotergite X of ♂; Fig. 18 — *Id.*, of ♀; Fig. 19 — Urosternite V, hind border; Fig. 20 — Coxite VIII of ♂; Fig. 21 — Coxite IX of ♂; Fig. 22 — Paramerum; Fig. 23 — Coxite VIII of ♀; Fig. 24 — Coxite IX of ♀ and ovipositor; Fig. 25 — VIIIth gonapophyses, distal articles; Fig. 26 — IXth gonapophyses, distal articles. Scales: 0.1 mm

setae equally thin: lateral bristle-combs with (2) 3-4 setae, the median with 5-8, their distance 5-7 times bigger than the width of the former ones. Abdominal stylets in two pairs, the VIIIth (Fig. 20) shorter and more delicate. Paramera well developed (Figs. 21-22), their basal area with 5-7 thin setae; inner process of IXth coxite of ♂ 1.1-1.2 longer than wide at base and twice longer than the outer process; IXth stylets long, the ratio length of inner process/length of stylet 1/3-1/4. Coxite VIII of ♀ (Fig. 23) with one only comb of 2 setae in the inner area, close to the stylet insertion; IXth coxite inner process (Fig. 24) 1.5 times longer than wide at base and twice longer than the outer process, the stylet strongly elongated, 4-4.5 times longer than the inner process. Ovipositor of the primary type, not specially thin, provided with 23-24 articles, shorter than the IXth stylets but extending beyond the apex of the IXth coxite inner process by 2 times its own length; apical area of the gonapophyses VIII and IX as in Figs. 25 and 26 respectively.

DERIVATIO NOMINIS — The new species is named *Neoasterolepisma vulcana* n. sp. on account of the biotop colonized, the volcanic tubes and the lava bed.

DISCUSSION — *Neoasterolepisma vulcana* n. sp. share several characteristics mainly with *N. pelagodromae* Mendes, 1988, but also with *N. myrmecobia* (Silvestri, 1908), both known to occur also in the Macaronesia only; the former has been described from the Salvages islands and has never been found out of this archipelago, where it inhabits subterraneous nests of Procellariiformes birds: the second one was described from the Cape Verde islands (SILVESTRI, 1908) and further noticed to the Canaries (WYGODZINSKY, 1952) and to the Porto Santo — Madeira archipelago — island (MENDES, 1982 and 1988) — see also Table II. The main differences among these three species are exposed in Table I.

The new species enters in the dichotomic keys presented, by one of us (MENDES, 1988), for the species of *Neoasterolepisma* in number 21 which must be changed as follows:

21 — Distance between the lateral and the median urosternal bristle-combs 6-10 times larger than the lateral combs width. Urotergites provided with 1 + 1 submedian and 1 + 1 sublateral macrochaetae besides the 1 + 1 infralateral groups. Prosternum clearly wider at base than long 21 A
21' — Distance between the lateral and the median urosternal bristle-combs 4.5-8 times larger than the lateral combs width. Urotergites provided with 1 + 1 submedian, 1 + 1 sublateral and 1 + 1 lateral macrochaetae besides the 1 + 1 infralateral

groups. Prosternum not clearly wider at base than long 22

21 A — Distance between the lateral and the median urosternal bristle-combs 8-10 times bigger than the lateral comb width. Basal portion of paramera provided with 10-13 cilia. Ovipositor extending beyond the IXth coxite inner process by its own length. Xth urotergite weakly excavated in both sexes. Tibia III normal, 3-4 times longer than wide in the ♀ (4-5 in the ♂) and with 4-5 ventral macrochaetae
..... *N. pelagodromae* Mendes, 1988

21 A' — Distance between the lateral and the median urosternal bristle-combs 5-8 times bigger than the lateral comb width. Basal portion of paramera provided with 5-7 cilia. Ovipositor extending beyond the IXth coxite inner process by twice its own length. Xth urotergite of ♂ weakly excavated, that of ♀ clearly concave. Tibia III of both sexes strongly elongated, 5-6 times longer than wide and with 6-8 ventral macrochaetae ... *N. vulcana* n. sp

ZOOGEOGRAPHICAL NOTES — The distribution of the *Zygentoma* nowadays known to occur in Canaries is shown in Table II. The most abundant and widely distributed species is *Ctenolepisma lineata*, noticed to all the islands with one only exception, the poorly prospected Fuerteventura: known from all the mediterranean basin and xerothermic Europe, the species has been further signalized from the Nearctic and the Australian Regions where introduced populations are naturalized and widespread; in the eastern Atlantic islands, it extends from Madeira, Salvages and Canaries to Cape Verde. *Ctenolepisma vieirai* was described from Madeira and Porto Santo islands and is now reported from four of the seven canarian islands: its range extends so, from Madeira to Canaries and until further data, it may be considered as a macaronesian element; *C. feae*, from Cape Verde (SILVESTRI, 1908) is very similar and is perhaps a meridional vicariant of this species. *Ctenolepisma ciliata* presents a geographical distribution very similar (though not so extended) to that presented by *C. lineata*, being a typical western-Palaeartic element: never found in Madeira, Porto Santo or Salvages, the species is known to occur in Macaronesia only in Canaries and Cape Verde archipelagoes. *Ctenolepisma longicaudata* and *Lepisma saccharina* are World distributed species, known to occur mainly in association with Man; the former has never been recorded to the Canary islands and is now noticed only to the Lanzarote island (no information about the biotop

TABLE I

Diagnostic characteristics for the separation of *N. vulcana* n. sp. from the closely allied *N. myrmecobia* (Silvestri) and *N. pelagodromae* Mendes

	<i>N. myrmecobia</i> (Silvestri)	<i>N. vulcana</i> n. sp.	<i>N. pelagodromae</i> Mendes
Prosternum	Not clearly wider at base than long (+ 1/13), in both sexes, clearly constricted	Clearly wider at base than long (+ 1/6) — ♂ — or not clearly (+ 1/10) — ♀ — clearly constricted	Clearly wider at base than long (+ 1/4) in both sexes, weakly constricted
Metasternum	Not clearly wider at base than long	Clearly wider at base than long (+ 1/4)	Clearly wider at base than long (+ 1/4)
Distance between metasternal coxibs	d = 1	d = 1	d = 1.5-2 1
Infralateral group in urotergites	1 + 1 isolated macrochaetae	2 macrochaetae close each other	2 macrochaetae close each other
Distance between lateral and median urosternal coxibs	d = 5-8 1	d = 5-8 1	d = 8-10 1
Number of cilia in basal portion of the parameia	4-5	5-7	10-13
Inner process of ♀ IXth coxite	1.75 X longer than wide and 2 X longer than the outer process	1.5 X longer than wide and 2 X longer than the outer process	1.5 X longer than wide and 1.5 X longer than the outer process
Inner process of IXth coxite/IXth stylet (♀)	≈ 1/2	≈ 1/4	Stylets lost in all the examined specimens
Number of articles ovipositor	17-19	33-24	25-24
Length of ovipositor	Exceeds IXth coxite inner process by its own length	Exceeds IXth coxite inner process by twice its own length	Exceeds IXth coxite inner process by its own length
Urotergite X (♂)	Not strongly concave	Not strongly concave	Not strongly concave
(♀)	Clearly excavated	Clearly excavated	Not strongly concave
L/W of Ti III (♂)	2.9-5.2	5.2-6.0	4.0-4.8
(♀)	2.7-2.8	5.2-6.0	3.2-3.5
Number of ventral spines in Ti III	2-4	6-8	4-5

TABLE II

Distribution of the Lepismatidae in the Canary islands. (1) RIDLEY (1881); (2) ESCHERICH (1905); (3) SILVESTRI (1940); (4) WYGODZINSKY (1952); (5) PACLT (1966); (6) MENDES (1982); (7) new data

	<i>Ct. lineata</i>	<i>Ct. vietnui</i>	<i>Ct. ciliata</i>	<i>Ct. longicaudata</i>	<i>Ctenolepisma</i> spp.	<i>L. saccharina</i>	<i>N. myrmecobia</i>	<i>N. vulcana</i>
Lanzarote	(5) (7)	(7)	—	(7)	—	—	—	—
Fuerteventura	—	(7)	—	—	—	—	—	—
Gran Canaria	(6) (7)	—	? (1) (6)	—	—	(1)	(3) (6)	—
Tenerife	(1) (2) (4) (5) (6) (7)	—	—	—	(7)	(1) (7)	(3) (4) (7)	—
Gomera	(5)	—	—	—	(6)	—	—	—
La Palma	(5) (7)	(7)	—	—	—	—	—	—
Hierro	(7)	(7)	—	—	(7)	—	—	(7)

where the specimens were found). The two *Neoaetrolepisma* present on Canaries are quite similar and, as stated, close also to a third species from Macaronesia, the Salvages' *N. pelagodromae*; besides the morphological different characteristics that allow their taxonomical characterization, they are also distinct in the eco-ethological point of view: *N. myrmecobia* is a myrmecophilous species, *N. pelagodromae* a phloeophilous species and *N. vulcana* a free-living species which occur in the lava soils; this last one is, for the time being, endemic to the Hierro island.

Among the seven Lepismatidae noticed to the Canaries, only one (=14.5%) is endemic though related to typically Palaearctic taxa; two species (=28.5%) seem exclusive from the Macaronesia and are certainly also Palaearctic elements; two other species (=28.5%) are common to Western Palaearctic Region; finally, two further species (=28.5%) are cosmopolitan and, so, they avoid any zoological interest, although one, *L. saccharina*, will be originally an ibronorthafrican element (MENDES, 1988).

REFERENCES

- ESCHERICH, K. — «Das System der Lepismatiden». *Zoologica* (Stuttgart), **45** (18), 1905, 1-164.
- MENDES, L. F. — «Nova nota e descrições de tisanuros (Microcoryphia e Zygentoma: Apterygota) da Macaronésia». *Arq. Mus. Boc.*, (A) **1** (9), 1981, 145-164.
- «Notas taxonómicas e zoogeográficas sobre os tisanuros (Microcoryphia e Zygentoma: Apterygota) macaronésicos». *Bolm Soc. port. Ent.*, **1** (7), (supl. A), 1982, 151-167.
- «Revisão do género *Lepisma* Lin., 1758 s. l. (Zygentoidea; Lepismatidae)». *Bolm Soc. port. Ent.*, Supl. 2, 1988, 1-256.
- PACLT, J. — «Neue Beiträge zur Kenntnis der Apterygoten-Sammlung des Zoologischen Staatsinstitut und Zoologischen Museums Hamburg. II. Lepismatidae und Maindroniidae (Thysanura)». *Entom. Mitt. zool. Mus. Hamburg*, **5** (57), 1966, 147-161.
- RIDLEY, H. M. — «Notes on Thysanura collected in the Canaries and Madeira». *Ent. month. Mag.*, **18**, 1881, 144.
- SILVESTRI, F. — «Tisanuri raccolti da L. Fea alle isole del Capo Verde, alla Guinea portoghese e alle isole de S. Thome, Principe e Fernando Poo». *Ann. Mus. civ. Stor. nat. Genova*, **4** (5) (44), 1908, 135-187.
- «Primo contributo alla conoscenza dei Tisanuri del Peru e descrizione di un genere e due specie dell' Argentina settentrionale». *Boll. Lob. Ent. Portici*, **4**, 1940, 444-458.
- WYGODZINSKY, P. — «Notes on the Thysanura (Insecta, Apterygota) of the Canary islands». *Zool. Meddel.*, **31** (20), 1952, 225-252.