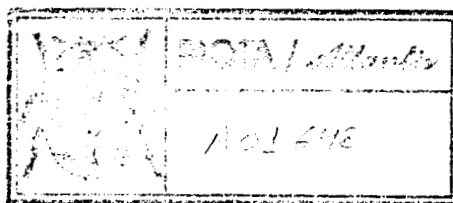


GERARD L. VAN EYNHOVEN\* and VINCENZO VACANTE



THE *BERLESEI*- GROUP OF THE GENUS *BRYOBIA* KOCH  
(ACARI, TETRANYCHIDAE)



*Rerum natura nusquam magis  
quam in minimis tota.*

PLINIO

Estratto da *REDIA*, Vol. LXVIII, 1985, pp. 377-437, 36 figg., 5 tabb.

Publicato dall'Istituto Sperimentale per la Zoologia Agraria di Firenze

The chaetotaxy of the legs is as follows:

Coxa: 2-1-1-1;  
trochanter: 1-1-1-1;  
femur: 14-9-4/7-4/5;  
genu: 6/7-5-4/7-5/6;  
tibia: 12 normal + 1 trichobothrium + 1 solenidium -9-9-9;  
tarsus: 14/17 normal + 5 solenidia + 3 eupathidia + 2 duplex  
setae — 12 normal + 2 solenidia + 3 eupathidia + 1 duplex setae — 13  
normal + 1 duplex setae — 14 normal + 1 solenidium.

The setae of the pretarsi are the same as in *B. provincialis*.

The duplex setae of tarsus III consist of a solenidium of 12-13  $\mu$  combined with an associated tactile seta of 15-17  $\mu$ . Tarsus IV has a solenidium of 7-9  $\mu$  at a distance of 7-8  $\mu$  from the nearest tactile seta which has a length of 20  $\mu$ .

Stylophore 100 x 55  $\mu$ . The distal anastomosis of the peritrema measures 29-30 x 6-7  $\mu$ . The 5th segment of the palp is very long and slender, slightly more than twice the length of the claw, 25-25 x 5  $\mu$ . The tip of the claw reaches the 5th segment at a lower level than its tactile seta. The solenidium of this segment has a length of 9-11  $\mu$  and its 3 eupathidia measure 8  $\mu$ , 7-8  $\mu$  and 5-6  $\mu$ .

The *receptaculum seminis* is subglobular to ovoid, smooth, 11-15 x 7-s  $\mu$ .

Male. - Unknown.

Holotype: Q, Turkey, Dikmen near Ankara, on a plant species of the tribus *Genisteeae* (*Leguminosae*), 1.VII.1958, leg. G.L. van Eynhoven, loc. 958129, in the collection of the Z.M.A.

Paratypes: from the same locality and date, in the collection of the Z.M.A. and the I.E.a.C.

#### ***Bryobia cooremani* sp. n.**

In November 1970 van Eynhoven collected in the island of Tenerife (Islas Canarias) several mites of the *Bryobia berlesei* group, belonging to 2 species: *B. cooremani* sp. n. and *B. perinsignis* sp. n., living on plants of the tribus *Genisteeae* (*Leguminosae*). The exact names of the host plants are not known. As there are various species of the *Genisteeae* growing in Tenerife, new material will have to bring the solution.

As part of the samples was collected in Llano de Ucanca (Las Cañadas),

about 1500-1700 m above sea-level, we may for the host plant think of *Adenocarpus viscosus* W.B. and perhaps of *Spartocytisus nubigenus* W.B. *B. cooremani* was also collected at El Portillo (about 700 m) and might be living there on the same *Adenocarpus viscosus*. Other plant species at El Portillo could be: *Cytisus proliferus* L. var. *angustifolius* Ktze., *Cytisus ramosissimus* Poir., or perhaps *Retama rhodorrhizoides* Webb.

As will be seen from the description, the size of its dorsal setae is not a good character, as it is highly varying. Even the long sacral and clunals may be short. We did not find any system in this diversity, so that we consider all specimens to belong to one and the same species. The other characters as well do not give reason for splitting. If later it might prove that we have to deal with 2 species, the one with the long sacral and clunals will be *B. cooremani*.

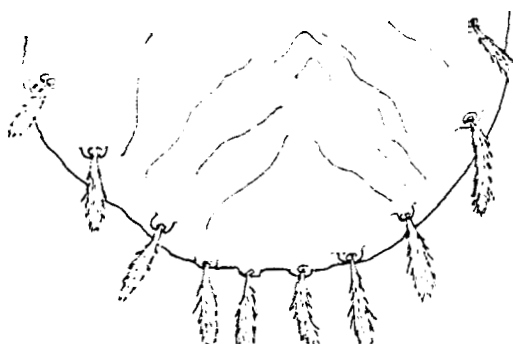


Fig. XXVIII

*Bryobia cooremani* sp. n.

Dorsal aspect of the opisthosoma of the deutonympha; van Eynhoven del.

Another remarkable fact is that in this species many specimens have a small and deformed *receptaculum seminis*.

*Bryobia cooremani* is characterized by having all legs with normal setae only (there are no flattened setae), combined with a rather long 5th segment of the palp and a *receptaculum seminis* (if not deformed) long about 2-3 times its width.

Larva and protonympha unknown.

Deutonympha (fig. XXVIII). - Length, including the lobes, 400  $\mu$ , width 280  $\mu$ . Lobes similar to those of the female. The imaginary line uniting the tops of the setae on the exterior lobes passes through the setae of the interior lobes or through their basis. Setae of the exterior lobes 22 x 8  $\mu$  and of the interior lobes 12 x 6  $\mu$ . Dorsal setae 20 x 8  $\mu$ , lateral setae up to 30 x 8  $\mu$ , terminal setae 40 x 5  $\mu$ , all pectinate.

Leg I 240  $\mu$ , femur 1 with 2 long setae of 30-35  $\mu$ ; leg II 160  $\mu$ ; leg III 160  $\mu$ ; leg IV 180  $\mu$ .

Palptarsus about  $1\frac{1}{2}$  times as long as the claw, 22 x 6  $\mu$ .

Female (figs. XXIX-XXX). - The body surface is granulate and shows rather irregular striae. Length, including the lobes, 580-600  $\mu$ , width 320-360  $\mu$ . The general shape is ovoid. The exterior lobes are subtriangular; the interior lobes are subtriangular to somewhat mammelliform, about twice the

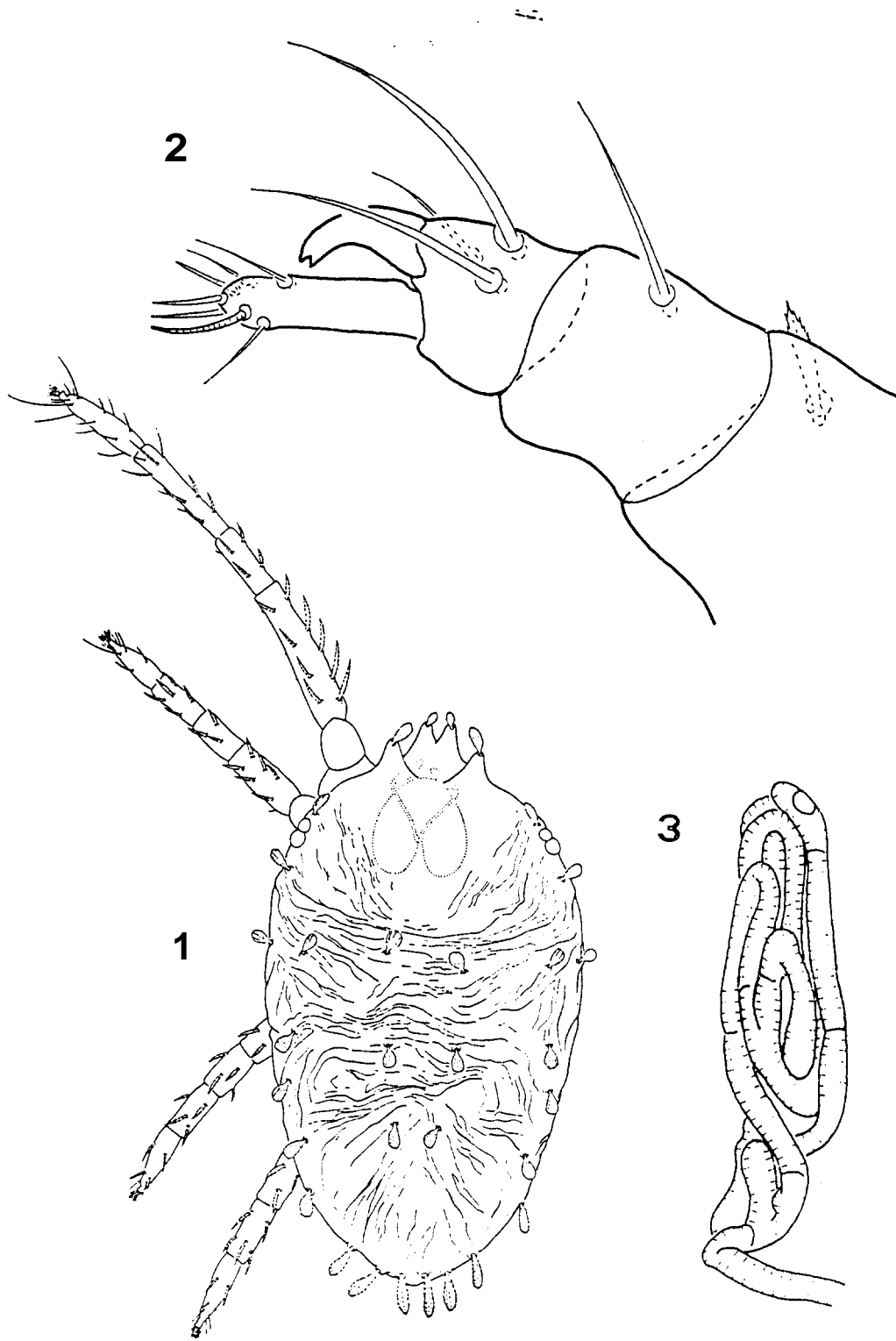


Fig. XXIS

*Bryobia cooremani* sp. n.

Female, dorsal, with its 4 left legs (1); last 4 segments of the pedipalp (2); distal anastomosis of the peritreme (3). *Vacante del.*

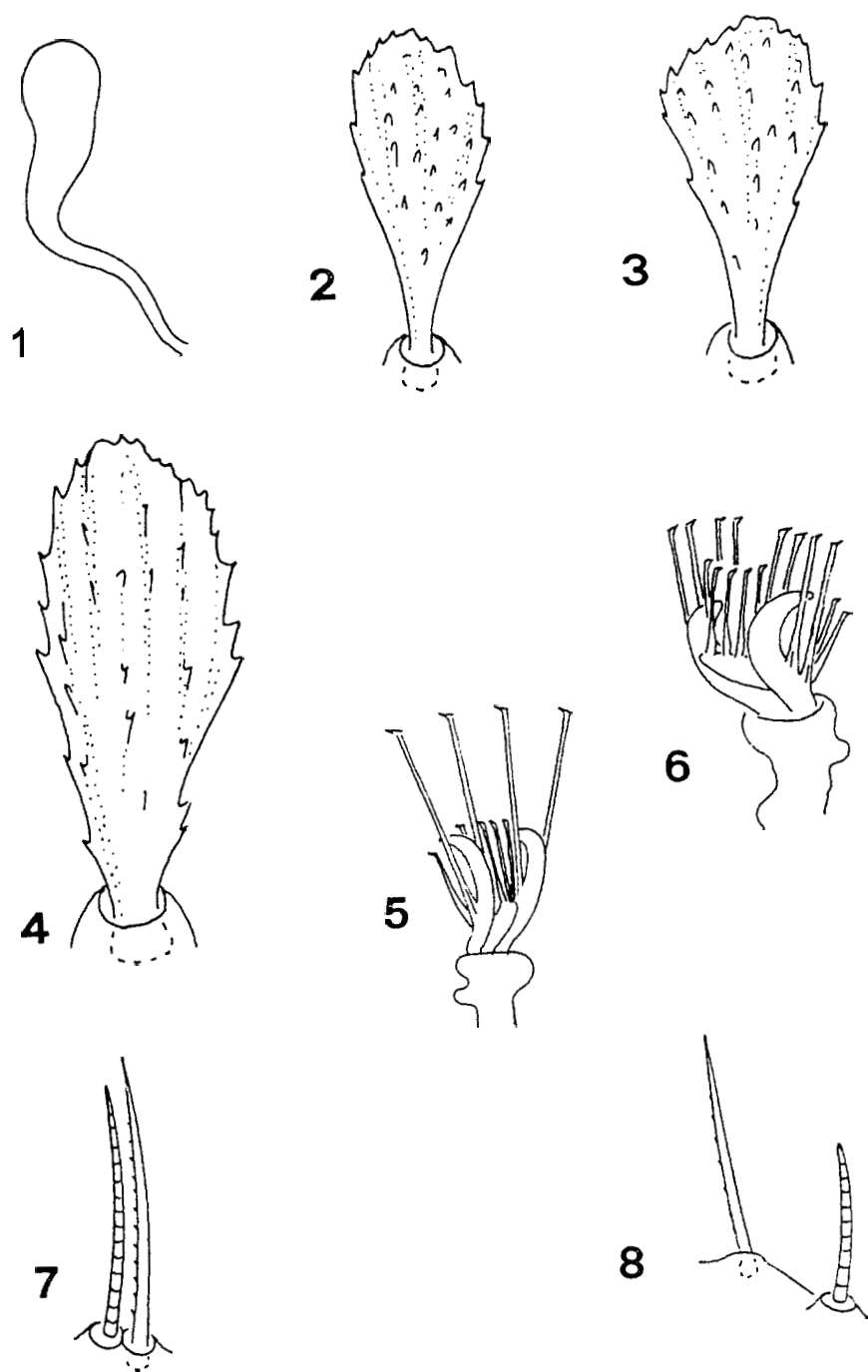


Fig. XXX

*Bryobia cooremani* sp. n.

Female. *Receptaculum seminis* (1); first (2) and third (3) dorso-central seta; clunal seta (4); pretarsus I (5) and III (6); duplex setae of tarsus III (7); solenidium and nearest tactile seta of tarsus IV (8).  
*Vacante del.*

length of the exterior lobes. The imaginary line uniting the tops of the setae of the exterior lobes passes through the basis of the setae of the interior lobes. Setae of the interior lobes much smaller than those of the exterior lobes.

Dorsal setae all spatulate, on small tubercles, the 6 dorsocentrals of

Table 5. — *Bryobia cooremani* sp. n. - Length and width in  $\mu$  of some dorsal setae, taken from 12 ♀♀.

1st propodo-somal	2nd propodo-somal	1st dorso-central	3rd dorso-central	clunal	int. sacral	ext. sacral	4th dorso-central	4th dorso-lateral
20x9	32x12	26x11	24x8	34x17	37x16	30x15	24x15	25x12
18x9	32x13	27x8	24x8	38x14	40x15	34x13	26x12	25x11
24x8	35x12	33x10	29x8	39x16	43x13	43x15	30x12	30x11
20x8	31x11	27x12	26x9	44x9	30x16	29x12	25x12	26x10
21x7	31x11	30x8	39x9	47x12	45x9	39x10	31x10	31x12
20x8	33x9	30x10	30x14	30x12	50x12	50x12	35x13	42x13
20x9	30x10	24x10	21x8	45x16	30x16	34x16	24x12	24x10
20x10	37x13	30x11	35x14	47x11	45x17	44x20	35x17	33x13
21x9	30x10	30x11	32x13	46x12	46x11	46x10	35x10	39x13
22x9	34x10	29x12	30x10	37x16	46x15	43x12	35x14	35x14
20x8	30x11	22x10	23x9	38x14	38x12	38x16	26x12	27x12
23x8	31x15	26x10	27x11	40x15	35x13	40x13	30x12	29x16

about the same size. The sacrals and clunals normally are long. The dimensions of all dorsal setae are very variable, as can be seen from table 5 above, based on 12 specimens.

The respective distances between DC<sub>1</sub>-DC<sub>2</sub> and DC<sub>2</sub>-DC<sub>3</sub> are 68-94  $\mu$  and 60-85  $\mu$ ; those between DC<sub>1</sub>-DC<sub>1</sub>, DC<sub>2</sub>-DC<sub>2</sub> and DC<sub>3</sub>-DC<sub>3</sub> are 72-90  $\mu$ , 55-70  $\mu$  and 35-50  $\mu$ .

The ventral setae correspond with those of the genus.

The legs (femur-genu-tibia-tarsus) are long: I 465-483  $\mu$ , II 240  $\mu$ , III 240  $\mu$ , IV 270  $\mu$ . The segments of the leg I are: femur 175-180  $\mu$ , genu 70-75  $\mu$ , tibia 115-120  $\mu$ , tarsus 105-108  $\mu$ . The interior dorsal row on femur I consists of 4 long setae of about 40  $\mu$ , and 1 normal seta. Exceptionally there are 3 or 5 long setae.

No setae of the legs are flattened.

The chaetotaxy of the legs is as follows:

Coxa: 2-1-1-1;

trochanter: 1-1-1-1;

femur: 14/15-10-7-6;  
genu: 6/8-5-5-5;  
tibia: 12 normal + 1 ti-ichobothrium + 1 solenidium — 8/9-9-9;  
tarsus: 16/17 normal + 4 solenidia + 3 eupathidia + 2 duplex  
setae — 11/12 normal + 2 solenidia + 3 eupathidia + 1 duplex setae  
— 13 normal + 1 duplex setae — 13/14 normal + 1 solenidium.

Pretarsus I has each claw with 2 setae and the empodium with 2 rows of setae. Pretarsi II-IV have the claws and the empodium with 2 rows of setae.

The duplex setae of tarsus III consist of a solenidium and an associated seta both 20-22  $\mu$  long. The solenidium of tarsus IV is 10  $\mu$  at a distance of 6-7  $\mu$  from the nearest seta which is 15-20  $\mu$  long.

Stylophore 110 x 84-90  $\mu$ ; the distal anastomosis of the peritrema measures 38-40 x 8  $\mu$ .

The 5th segment of the palp has about  $1\frac{1}{2}$  times the length of the claw and is rather thick, 22-25 x 5-7  $\mu$ .

The *receptaculum seminis* (if not deformed) is about 2-3 times as long as its width, 12-18 x 6-7  $\mu$ .

Male. - Unknown.

Holotype: ♀, Islas Canarias (Spain), Tenerife, Las Cañadas, Llano de Ucanca, 1500-1700 m, on a species of the *Genisteae* (*Leguminosae*), 13.XI.1970, leg. G.L. van Eynhoven, in the collection of the Z.M.A.

Paratypes: from the same locality Llano de Ucanca, in the collection of the Z.M.A. and of the I.E.a.C. Further paratypes from Tenerife, El Portillo,  $\pm$  700 m, 15.XI.1970, leg. G.L. van Eynhoven, in the collection of the Z.M.A.

The name is given in memory of our good friend and colleague Dr Jean Cooreman, Bruxelles, deceased 25th March 1983.

### ***Bryobia strombolii* Vacante**

*Bryobia strombolii* Vacante, 1985, *Phytophaga*, 1:67.

*Bryobia strombolii* is characterized by rather low exterior lobes and mammelliform interior lobes, combined with a palptarsus  $1\frac{1}{2}$  times the claw and a *receptaculum seminis* about 3 times as long as wide. Moreover the granulations of the skin are smaller and more densely distributed than in the other species and the 3 pairs of dorsocentrals are smaller than the

*Receptaculum seminis* pyriform, smooth, 15 x 8  $\mu$ .

Male. - Unknown.

Holotype: ♀, France, Pyrénées Orientales, Banyuls-sur-Mer, near the village, on *Ulex parviflorus* Pourret (*Leguminosae*), 28.VI.1959, leg. W. Chr. de Kock, loc. 959334, in the collection of the Z.M.A.

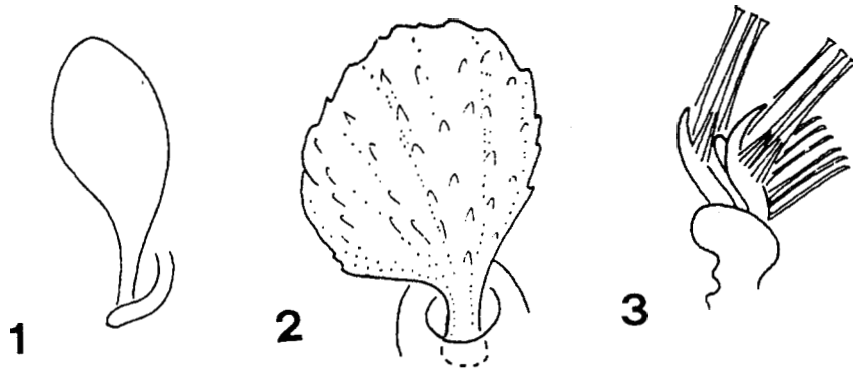


Fig. XXXIV

*Bryobia dekokki* sp. n.

Female. *Receptaculum seminis* (1); first dorsocentral seta (2); (3) prctarsus. *Vacante riel.*

Paratype: 1 ♀ of the same locality and date, in the collection of the Z.M.A.

The species name is dedicated to Drs. W. Chr. de Kock, who repeatedly has provided van Eindhoven with specimens of Tetranychidae, amongst them some *species novae*.

***Bryobia perinsignis* sp. n.**

This species was collected by van Eindhoven in the same area and at the same date as *B. cooremani*, in the island of Tenerife (Islas Canarias). Also in this case the exact host plant is not known. We may refer to the notes given with *B. cooremani*.

*B. perinsignis* is characterized by its excessively long dorsal setae, a proportionally short humeral and its structure of the lobes, combined with a rather long 5th segment of the palp and an oval *receptaculum seminis*.

Egg, larva, protonympha and deutonympha unknown.



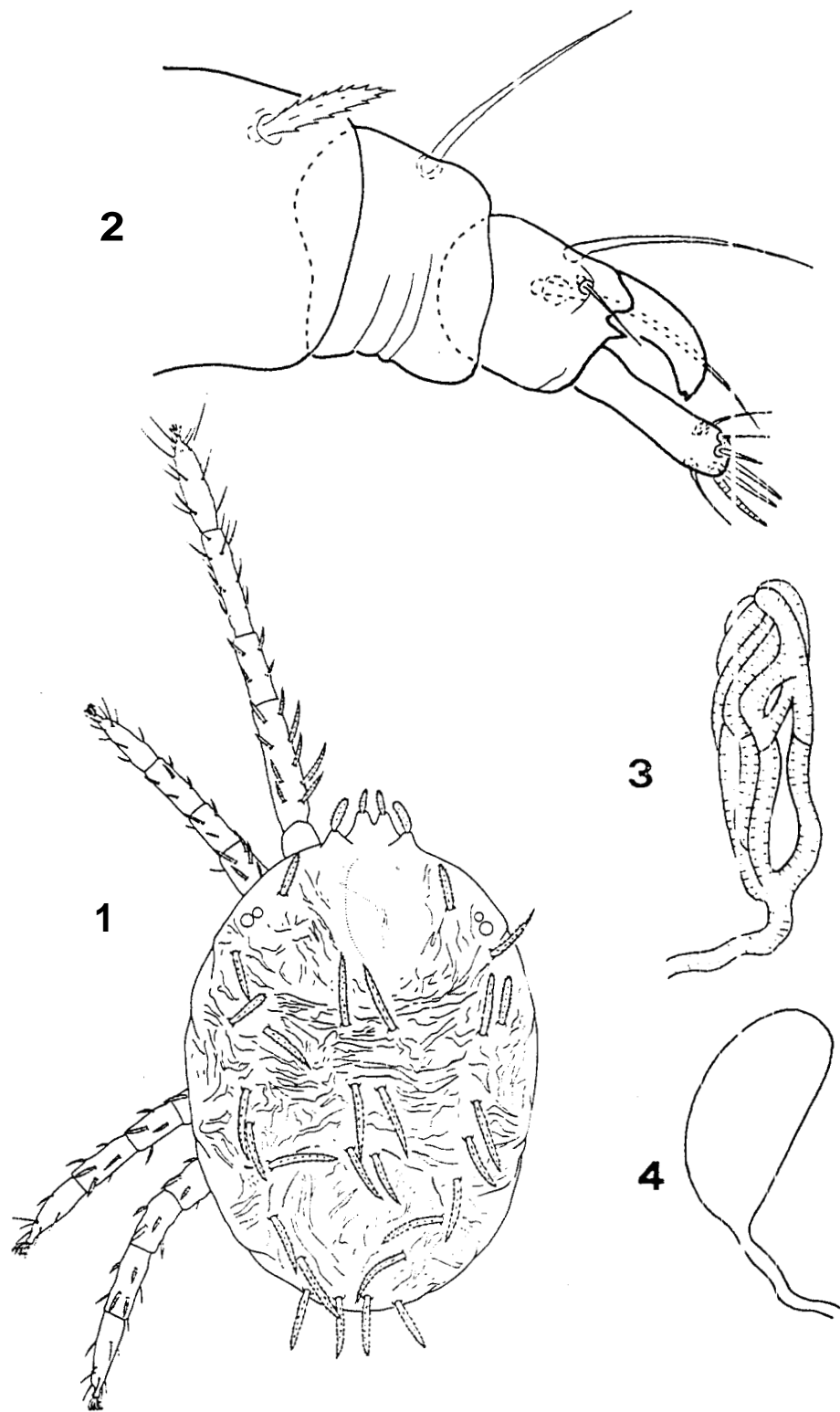


Fig. XXXV

*Bryobia perinsignis* sp. n.

Female, dorsal, with its 4 left legs (1); last 4 segments of the pedipalp (2); distal anastomosis of the peritreme (3); receptaculum seminis (4). *Vicente del.*

Female (figs. XXXV-XXXVI). - Body surface with scattered granulations and irregular wrinkles. Length, including the lobes, 450-490  $\mu$ , width 350-360  $\mu$ . All lobes are subtriangular. The exterior lobes are lower than

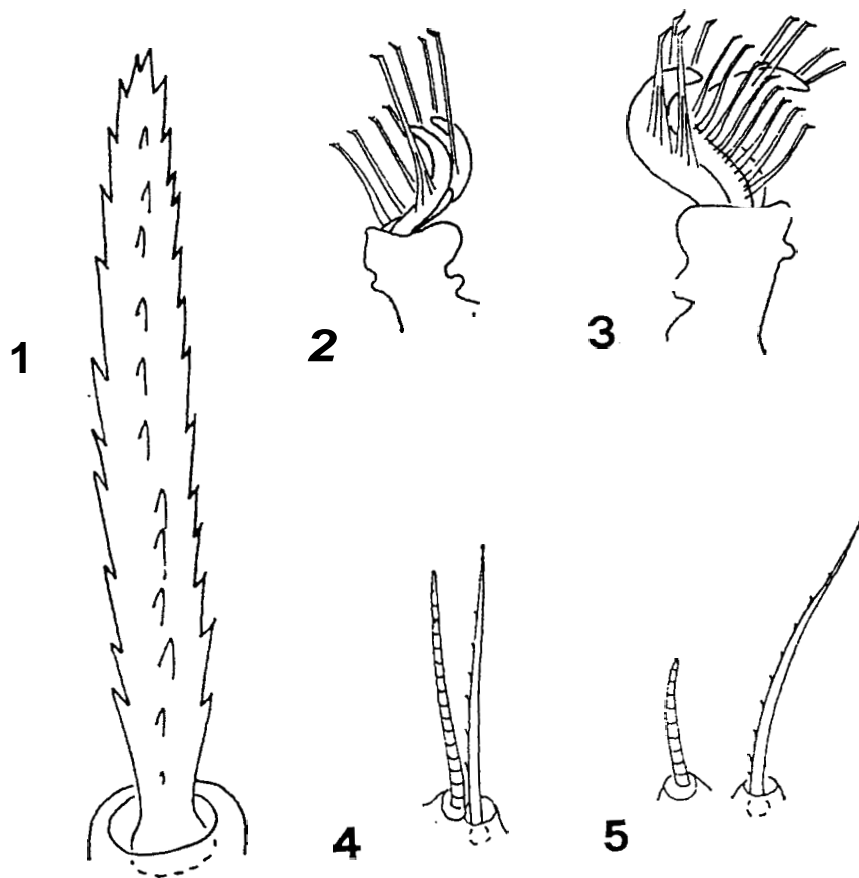


Fig. XXXVI

*Bryobia perinsignis* sp. n.

Female. Sacral seta (1); pretarsus I (2) and IV (3); duplex setae of tarsus III (4); solenidium and nearest tactile seta of tarsus IV (5).  
*Vacante del*

the length of their seta. The interior lobes are fused about  $2/3$  of their length, but lower than the imaginary line which unites the tops of the exterior setae, which line passes through the interior setas. Exterior setae 35-40 x 9-12  $\mu$ , interior setae 15-25 x 5-6  $\mu$ .

Dorsal setae all remarkably long, 80-90 x 6-8  $\mu$  with the exception of

the much shorter humeral, 60 x 10-12  $\mu$ . Clunals and interior sacrals also shorter, 55-60 x 8  $\mu$ .

The respective distances between DC<sub>1</sub>-DC<sub>2</sub> and DC<sub>2</sub>-DC<sub>3</sub> are 65-90  $\mu$  and 50-65  $\mu$ ; those between DC<sub>1</sub>-DC<sub>1</sub>, DC<sub>2</sub>-DC<sub>2</sub> and DC<sub>3</sub>-DC<sub>3</sub> are 40-60  $\mu$ , 40-55  $\mu$  and 28-40  $\mu$ .

The ventral setae correspond with those of the genus.

The legs (femur-genu-tibia-tarsus) are long: I 431-440  $\mu$ , II 240  $\mu$ , III 230  $\mu$ , IV 250-260  $\mu$ . The segments of leg I are: femur 150-153  $\mu$ , genu 70-72  $\mu$ , tibia 115-117  $\mu$ , tarsus 96-98  $\mu$ . The interior dorsal row on femur I consists of 4 long setae of about 40  $\mu$ , and 1 normal seta.

The chaetotaxy of the legs is as follows:

Coxa: 2-1-1-1;

trochanter: 1-1-1-1;

femur: 14-11-6-6;

genu: 8-5-6-5;

tibia: 12 normal + 1 trichobothrium + 1 solenidium -9-9-9;

tarsus: 16 normal + 4 solenidia + 3 eupathidia + 2 duplex setae  
— 12 normal + 2 solenidia + 3 eupathidia + 1 duplex setae — 13 normal  
+ 1 duplex setae — 14 normal + 1 solenidium.

Pretarsus I has each claw with 2 setae and the empodium with 2 x 2 setae. Pretarsi II-IV have the claws with some setae and the empodium with 2 rows of them.

The duplex setae of tarsus III consist of a solenidium of 20  $\mu$  and an associated seta of 26  $\mu$ . The solenidium of tarsus IV is 10  $\mu$  long and the nearest seta measures 26-27  $\mu$ .

Stylophore 100 x 80  $\mu$ ; the distal anastomosis of the peritreme measures 25-33 x 8-10  $\mu$ .

The 5th segment of the palp is 22-25 x 5  $\mu$ , about 1½ times the length of the claw. On it are 3 tactile setae, 1 solenidium of 8-9  $\mu$  and 3 eupathidia of 7  $\mu$ , 8  $\mu$  and 5  $\mu$ .

The *receptaculum seminis* is about twice as long as broad, 20 x 9-12  $\mu$ .

Male. - Unknown.

Holotype: ♀, Islas Canarias (Spain), Tenerife, Las Cañadas, Llano de Ucanca, 1500-1700 m, on a species of the *Genisteae* (*Leguminosae*), 13.XI. 1970, leg. G.L. van Eynhoven, in the collection of the Z.M.A.

Paratype: from the same locality and of the same date, in the collection of the Z.M.A.

The species name is chosen because of the very special appearance of the mite, mainly by its unusual, excessively long setae.

#### SUMMARY

One of the species-groups within the genus *Bryobia* Koch is the *berlesei* group van Eynhoven. Up to now 13 species of this group are known, 8 of which are undescribed and are published in this paper. All 13 species are characterized by (normally) 4 long setae on femur I. Each species has its own host plant and all 13 plants belong to the tribus *Genistene* of the *Leguminosae*.

Key words: Systematic, Acari, Tetranychidae.

#### RIASSUNTO

Nel genere *Bryobia* Koch è possibile distinguere attualmente 13 specie appartenenti al gruppo *berlesei* van Eynhoven; queste sono caratterizzate dalla presenza di 4 lunghe setole site sul margine interno del femore I e da un'ospitatore vegetale specifico della famiglia *Leguminosae*. Otto di queste specie vengono descritte per la prima volta nella presente nota.

#### REFERENCES

- BERLESE A., 1888 — *Acari, Myriopoda et Scorpiones hucusque in Italia repertn.* Padova. fasc. XLIX, recte L, n° 10 and LI n° 1.
- CANESTRINI G. and FANZAGO F., 1878 — *Intorno agli Acari Italiani.* - Atti Ist. veneto Sci., (ser. V), 4: 91, tav. V, fig. 4.
- EYNDHOVEN VAN G.L., 1957 — *L'interprétation de Bryobia speciosa Berl. (non Koch). Notulae ad Tetranychidas 4.* - Ent. Ber., Amst., 17 (3): 43-44.
- EYNDHOVEN VAN G.L., 1959 — *Un nouveau Bryobia, B. ulicis. Notulae ad Tetranychidas 7.* - Acarologia, 1 (1): 44-52.
- KOCH C.L., 1836 — *Deutschlands Crustaceen, Myriopoden und Arachniden, Ein Beitrag zur Deutschen Fauna.* Regensburg, fasc. 17, fig. 10.
- VACANTE V., 1985 — *Prima raccolta di acari Tetranychidi in Sicilia.* - Phytophaga, 1 (1983): 41-114, pl. I-XVII (199 figs).