

REVISION OF THE SUBGENUS *BRUNEHALDIA*  
VERCAMPEN-GRANDJEAN, 1956  
DESCRIPTION OF TWO NEW SPECIES  
(TROMBICULIDAE : ACARINA)<sup>1</sup>

BY

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*Brunehaldia* V.-G., 1956 was erected as a genus for the North African species *brunehaldi* (1). Later, in 1960, it was considered by the same author as a subgenus of *Euschoengastia* Ewing, 1938 (2). The subgeneric type *Euschoengastia* (*Brunehaldia*) *brunehaldi* is redescribed below.

In 1952, Dr. Harry HOOGSTRAAL sent to our colleague Col. Robert TRAUB two specimens of a second species collected on an *Acomys* from Egypt. We want to thank Dr. TRAUB for his generosity in allowing us the pleasure of studying that interesting species, obviously related to *brunehaldi* but much larger. It is described here under the name of *Euschoengastia* (*Brunehaldia*) *aegypti* n. sp.

Moreover, the second author (Kolebinova) collected in 1961, from an *Apodemus* from Bulgaria, a third species, much smaller than *brunehaldi*. It is described under the name of *Euschoengastia* (*Brunehaldia*) *bulgarica* n. sp.

The subgenus *Brunehaldia* Vercammen-Grandjean, 1956.

SGT/*Brunehaldia brunehaldi* Vercammen-Grandjean, 1956.

D : SIF = 7B.S-B-3-2III.0000<sup>3</sup>.

*Euschoengastia* of medium size, Ip = 570 to 910. Scutum sparsely punctate, shaped like that of many *Euschoengastia*, with prominent postero-margin, SB well

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3. For the meaning of this and other abbreviations, one should consult *Acarologia*, 7, Suppl., April 1965, pp. 36-42.

behind the PL line and sensillary bases well apart, in the center of a circular scutal depression and a large crest surrounding that depression anteriorly. Antero-margin biconcave and latero-margin concave. Sensilla fusiform or pyriform densely clothed with barbs or spicules. Scutal setae also densely covered with long and thin barbs; PL>>AL>AM. Eyes always absent, no infra-cuticular pigment (blind species; probably permanent burrow-dwellers). Body hirsute, its numerous setae being covered with numerous long and thin barbs. Always at least two pairs of humerala. fPp = (B)-(B)-(B).B.B. Only two genuala on leg 1 (ga = 2). Coxa 3 with 3 to 5 coxalae (fCx = 1/1/3-5). No mastisetae on leg 3 (= 0000). Subterminala, parasubterminala, and pretarsala 1 & 2, all nude (ST, pST, PT', PT'') = N. Famulus of leg-tarsus 2 (f'') inserted slightly before the solenidion (S''). Obvious tendency to strong sclerotization of all legs and gnathosome segments. Galeala copiously branched (Ga = B). Chelicera powerful, chelostyle with the usual tricuspid cap and a prominent dorso-subapical biting-tooth.

L : N. Africa and S. Europe (Palearctic mediterranean sub-region : Pm).

H : Rodents (Mr).

1 — *Euschoengastia (Brunehaldia) brunehaldi*  
(Vercammen-Grandjean, 1956).

= *Brunehaldia brunehaldi* Vercammen-Grandjean, 1956 (1).

= *Euschoengastia (Brunehaldia) brunehaldi*, Vercammen-Grandjean, 1960 (2).

(Pl. 1 & 2, figs. 1 to 6).

a) Hosts : *Eliomys mumbianus*, *Sylvoemus sylvaticus hayi*. (Mr).

PT : ears & genital area.

Loc. : Forest of the Nefifik River, 30 Km. N. of Casablanca (Morocco). (Pm).

Dates : 14 February 1956, 2 February 1956.

Type material : Holotype in Museum of Central Africa, Tervuren (Belgium).

b) SIF = 7B.S-B-3-2111.0000 and fPp = (B)-(B)-(B).B.B.

(ST, pST, PT' & PT'') = N ; fsp = 7/7/7.

fCx = 1/1/3 and fSt = 2/2 ; fBT = b. sb. — b. sb. — b. sb.

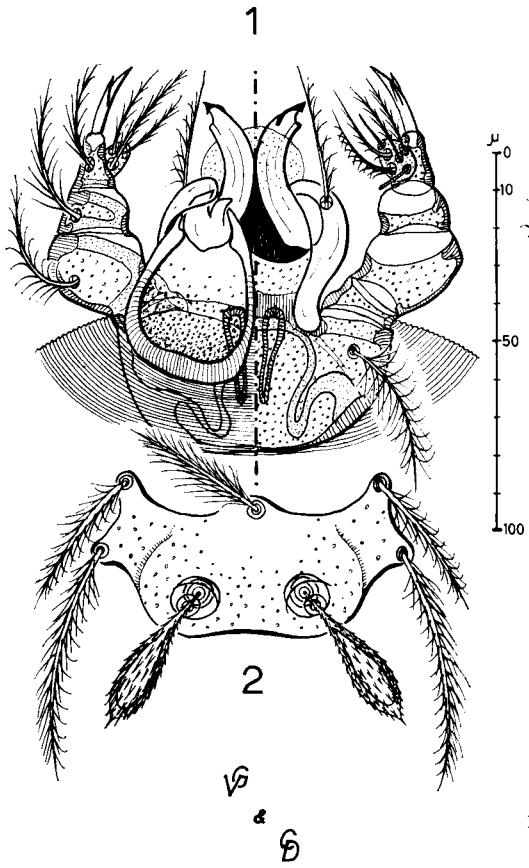
fD = 2(2H) + 8.12.14.12.8.6.4 = 68

fV = (16.6).16.12.12.12.10.8.6.4 = 102 and NDV = 68 + 102 = 170

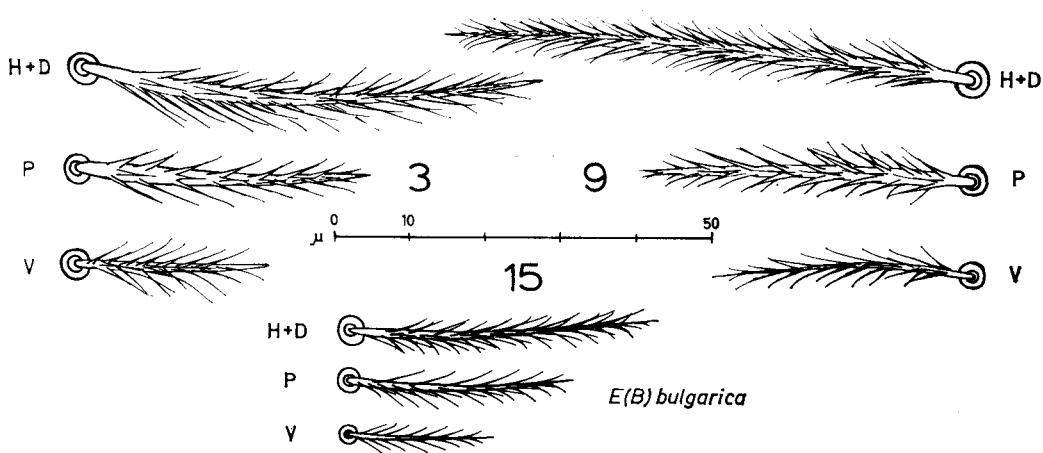
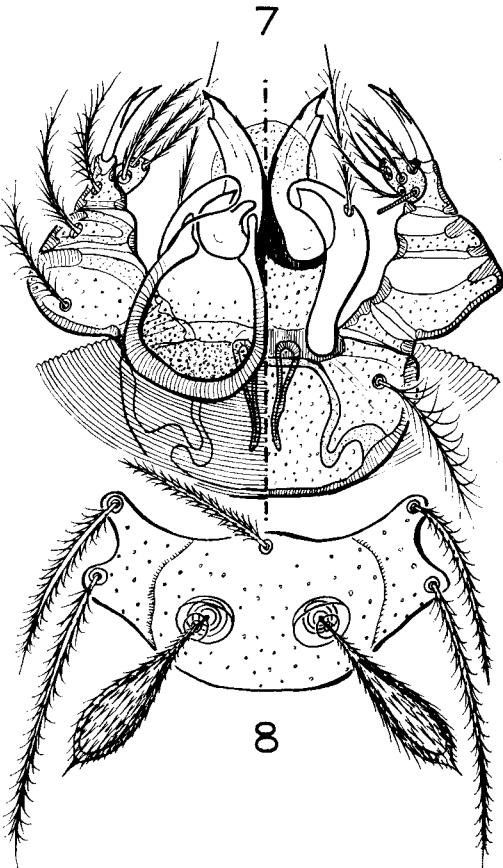
AW	PW	SB	ASB	PSB	SD	AP	AM	AL	PL	S	H	D	P <sup>1</sup>	V	pa	pm	pp	Ip
67	79	29	30	12	43	19	37	44	63	40	61	63/56	38	26/38	244	227	262	733

I. P stands for "pygosomala" or "pygosomal seta". "Pygosoma" is a neologism proposed by Vercammen-Grandjean to designate the hemispheric surface at the posterior extremity of the opisthosoma. On many occasions, this surface shows special features (often setal differentiations) in nymphal and adult as well as in larval stages. Therefore a precise term was desirable.

*Euschoengastia (Brunehaldia)*  
*brunehaldia* V.G., 1956



*Euschoengastia (Brunehaldia)*  
*aegypti* n.sp.



- c) *Obs.* : species of intermediate size ( $Ip = 733$ ) between *aegypti* ( $Ip = 897$ ) and *bulgarica* ( $Ip = 596$ ). Body hirsute ( $NDV = 170$ ), clothed with heavily branched setae (fig. 3); 2 pairs of humeral setae; 3 coxalae 3.
- i) — *Scutum* : (fig. 2), punctuation conspicuous but sparse. Sensilla fusiform, covered with barbs. No eyes.
- ii) — *Legs* : (fig. 4, 5 & 6), powerful. Setation stout, heavily branched; segments with thick walls (very sclerotized).  $f''$  before S".
- iii) — *Gnathosome* : (fig. 1), very sclerotized and powerful. Galeala branched. Chelostyle with the usual tricuspid cap and a dorso-subapical butting-tooth. Palpotibial claw with 3 sharp prongs.

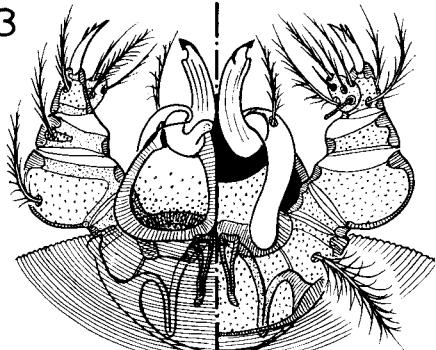
2 — **Euschoengestia (Brunehaldia) aegypti** n. sp.

(Pl. I & 2, figs. 7 to 12).

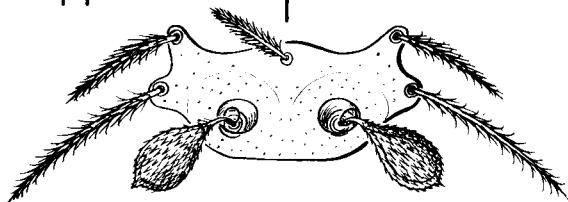
- a) *Hosts* : *Acomys cahirinus dimidiatus*. (Mr).  
*PT* : ?  
*Loc.* : St. Catherine's Monastery, Sinai Province, Egypt. (Pm).  
*Date* : 13 November 1952.  
*Type material* : Holotype no 131152/1 (Hoogstraal no HH. 7910-7916, Traub no B-15335) in U. S. Nat. Mus., Washington, D. C.
- b)  $SIF = 7B.S-B-3-2111.0000$  and  $fPp = (B)-(B)-(B).B.B.$   
(ST, pST, PT' & PT") = N;  $fsp = 7/7/7$ .  
 $fCX = 1/1/4$  and  $fSt = 2/2$ ;  $fBT = s. sb - s. sb - s. sb$ .  
 $fD = 2(5H) + 14.16.16.16.14.8.6.4.2 = 96$ ,  
 $fV = 4.8.12.12.12.14_4.14.4.10.8.6.4 = 96$  and  $NDV = 96 + 96 = 192$ .
- |    |    |    |     |     |    |    |    |    |    |    |       |       |    |       |     |     |     |     |
|----|----|----|-----|-----|----|----|----|----|----|----|-------|-------|----|-------|-----|-----|-----|-----|
| AW | PW | SB | ASB | PSB | SD | AP | AM | AL | PL | S  | H     | D     | P  | V     | pa  | pm  | pp  | Ip  |
| 79 | 89 | 31 | 33  | 19  | 52 | 20 | 46 | 51 | 77 | 51 | 68/62 | 70/60 | 43 | 34/51 | 308 | 271 | 318 | 897 |
- c) *Obs.* : The largest species known ( $Ip = 880-910$ ). Body very hirsute ( $NDV = 192$ ), clothed with very strong and heavily branched setae (fig. 9); 5 pairs of humeralae; 4 coxalae 3.
- i) — *Scutum* : (fig. 8), punctuation very conspicuous but sparse; sensilla fusiform. No eyes.
- ii) — *Legs* : (fig. 10, 11 & 12), very powerful with a profuse setation abundantly branched (thin, long barbs); segments with very thick walls.
- iii) — *Gnathosome* : (fig. 7), considerably sclerotized; chelicera powerful, strong chelostyle with the usual tricuspid cap and a dorso-subapical butting-tooth. Galeala branched. Palpotibial claw with 3 sharp and long prongs.

*Euschoengastia (Brunehaldia) bulgarica* n.sp.

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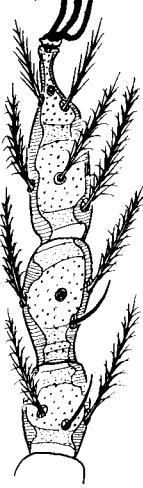


14



μ 10 50 100

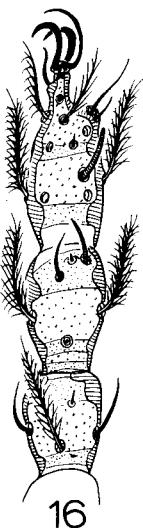
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18

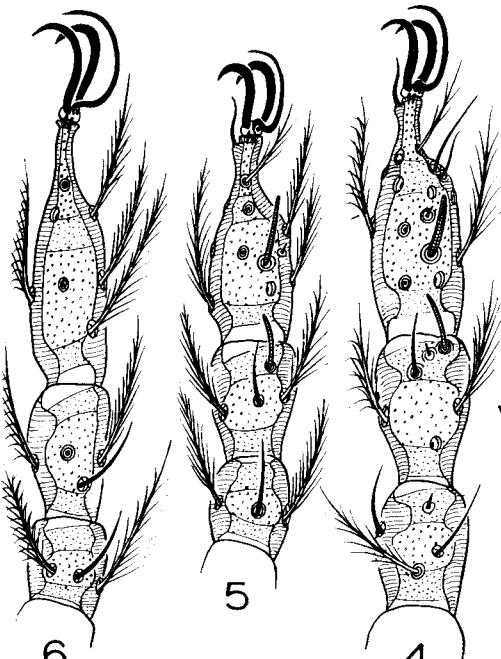


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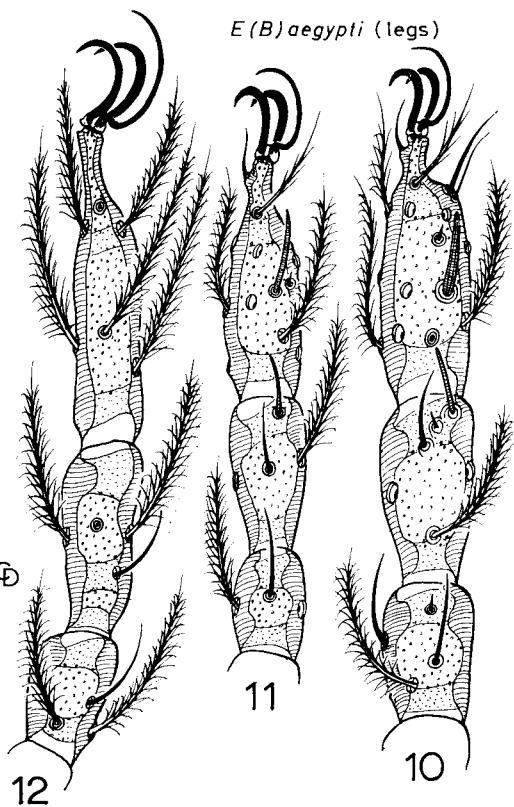


16

*E(B) brunehaldia* (legs)



*E(B) aegypti* (legs)



3 — **Euschoengastia (Brunehaldia) bulgarica** n. sp.

(Pl. I & 2, figs. 13 to 18).

a) *Host* : *Apodemus sylvaticus*, *Mus musculus*. (Mr.).

*PT* : ears, back, genital area.

*Loc.* : Fields, 5 km N. W. of the town Stara-Zagora, fields near Assennovgrad.

*Date* : 24 July 1961, 2 October 1961, 18 July 1961, 26-27 September 1961.

*Type material* : Holotype n° 58 a/32, in the Zoological Institute with Museum at the Bulgarian Academy of Sciences, Sofia.

b) SIF = 7B.S-B-3-2111.0000 and fPp = (B)-(B)-(B).B.B.

(ST, pST, PT' & PT") = N ; fsp = 7/7/7.

fCx = 1/1/3 to 5 and fSt = 2/2 ; fBt = b. sb — b. sb — b. sb.

fD = 2(2H) + 8.10.10.8.8.6.4.4 = 58,

fV = 6.6.10.10.8w8.6.4.4 = 62 and NDV = 58 + 62 = 120.

AW	PW	SB	ASB	PSB	SD	AP	AM	AL	PL	S	H	D	P	V	pa	pm	pp	Ip
57	66	27	27	11	38	15	24	37	48	33	42/36	41/36	27	20/33	212	179	205	596

c) *Obs.* : The smallest species known (Ip = 570-620). Body less hirsute (NDV = 120) than that of *brunehaldi* (NDV = 170) and *aegypti* (NDV = 192), but well clothed with heavily barbed setae as seen in fig. 15 ; 2 pairs of humeralae ; 3 to 5 coxalae 3 (mean is 4).

i — *Scutum* : (fig. 14), punctuation conspicuous but sparse ; two eyebrowlike crests delimit anteriorly the two sensillary depressions. Sensilla pyriform, clothed with numerous spicules.

ii — *Legs* : (figs. 16, 17 & 18), strong, heavily branched setation ; f" before S".

iii — *Gnathosome* : (fig. 13), narrower than in *brunehaldi*, but well sclerotized and powerful. Chelostyle with usual tricuspid cap and a dorso-subapical butting-tooth. Palpotibial claw bifurcate. Galeala branched.

REFERENCES

- (1) VERCAMMEN-GRANDJEAN (P.-H.), 1956. — "Les *Heaslipia* Ewing, 1944 et les *Neotrombicula* Hirst, 1915, sont-ils congénères ? Description de cinq *Trombiculidae* originaires du Maroc", *Arch. Inst. Pasteur, Maroc*, 5, 75-86.
- (2) VERCAMMEN-GRANDJEAN (P.-H.), 1960. — "Introduction à un essai de classification rationnelle des larves de *Trombiculinae* Ewing, 1944 (Acarina : Trombiculidae)", *Acarologia*, 2, 469-471 (+ one chart).

SUMMARY.

The subgenus *Brunehaldia* (in the genus *Euschoengastia*) is revised. The type of the subgenus *E. (B.) brunehaldi* is redescribed and two new species, *E. (B.) aegypti* and *E. (B.) bulgarica* are presented. *Brunehaldia* seems to be restricted to the palearctic mediterranean zoogeographical subregion (Pm).

RÉSUMÉ.

Le sous-genre *Brunehaldia* (dans le genre *Euschoengastia*) est révisé. Le type du sous-genre : *E. (B.) brunehaldi* est redécrit et deux nouvelles espèces : *E. (B.) aegypti* et *E. (B.) bulgarica* sont décrites. Les *Brunehaldia* semblent confinés à la sous-région zoogéographique palearctique-méditerranéenne (Pm).

RIASSUNTO

Il sotto-genere *Brunehaldia* (nel genere *Euschoengastia*) è riesaminato. Il tipo del sotto-genere : *E. (B.) brunehaldi* è ridescritto ugualmente due nuove specie : *E. (B.) aegypti* è *E. (B.) bulgarica* sono descritte. Le *Brunehaldia* sembrano confinati a la sotto-regione zoogeografica paleartica-mediterranea (Pm).

ZUSAMMENFASSUNG.

Die Untergattung *Brunehaldia* (in der Gattung *Euschoengastia*) wird revisiert. Der Typus der Unterart : *E. (B.) brunehaldi* wird neubeschrieben und zwei neue Arten : *E. (B.) aegypti* und *E. (B.) bulgarica* werden beschrieben. Wie es den Anchein hat sind die Arten *Brunehaldia* auf das palaearktische, mittelmeerländisch-zoogeographische Untergebiet beschränkt. (Pm).

Editor's Note :

Since this article went to press, a publication of Dr. OTTO KEPKA entitled "Trombiculidae (Acari) aus der Türkei. II" (Z. f. Parasitenkunde 27, 43-63 (1966)) has been received. Dr. KEPKA introduces therein a new species, *Euschoengastia (B.) curtinae*, that is definitely different in several respects from the species presently described. At the same time he includes in the subgenus *Brunehaldia* the former *Euschoengastia spalaxia* RADFORD, 1957.