Neophyllobius communis and its developmental stages (Acari: Camerobiidae)

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KOÇ, K., 1999. *NEOPHYLLOBIUS COMMUNIS* AND ITS DEVELOPMENTAL STAGES (ACARI: CAMEROBIIDAE). – *ENT. BER., AMST.* 59 (8): 119-123.

Abstract: Male, protonymph and larva of *Neophyllobius communis* are described and the female is redescribed. The species is reported for the first time for the Turkish fauna.

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Introduction

With 36 species described thus far the genus *Neophyllobius* Berlese is one of the largest in the family Camerobiidae (Bolland, 1986, 1991; Koç & Ayyildiz, 1996). It has a worldwide distribution (Bolland, 1986, 1991). The species of *Neophyllobius* are known to feed on first-instar nymphs of armoured scale insects and on various plant-inhabiting mites (Gerson, 1971; Gerson & Smiley, 1990; Bolland, 1983; De Leon, 1958; Smith Meyer, 1962).

So far, only one species of this genus is known from Turkey (Koç & Ayyildiz, 1996: *Neophyllobius turcicus*). This paper is a continuation of our study of Camerobiidae and deals with the redescription of the female and the description of male, protonymph, and larva of *Neophyllobius communis* Gerson, a new species for the Turkish fauna, thus far only known from Israel (Gerson, 1968; Bolland, 1991).

Material and methods

Mites were collected from litter and soil samples using a Berlese funnel. The material originates from the Erzincan province. The mites were fixed and preserved in 75 % ethanol. Morphological terminology follows that of Gerson (1968). The material is deposited at the Zoological Museum of Celal Bayar University (CBZM), Manisa.

Results

Neophyllobius Berlese, 1886

Type species: *Neophyllobius elegans* Berlese, 1886

Diagnosis

Dorsum with 9 pairs of dorso-lateral setae and 5-6 pairs of dorso-central setae. Basal parts of the chelicerae are fused, stylets short. Two doubled-lensed eyes are present.

There are three pairs of ventral setae.

Trochanters I-IV each with a single seta. Genua setae often whiplike. Genua I and II with an additional spine. Tibial setal formula I-IV: 9-8-7-7. Each tibia has a solenidion on the distal end. Tarsi with one or two medioventral setae. Tarsi I-II each with a subbasal solenidion. Two pairs of genital and three pairs of anal setae.

Material examined

Turkey, Erzincan, 1180 m, 7.v.1997, litter and soil from under *Pinus sylvestris* 7♀, 1 protonymph; 7.v.1997, 1180 m, litter and soil from under *Pinus nigra* 1♀; 14.v.1997, 1180 m, litter and soil from under *Ulmus* sp., 1♀; 16.vii.1997, litter and soil from under *Populus* sp., 1 protonymph; 16.vii.1997, litter from under *Tamarix* sp., 5♀, 4♂.

Neophyllobius communis Gerson, 1968

Female (fig. 1A-N)

Body length 362 (333-400) μm, width 267

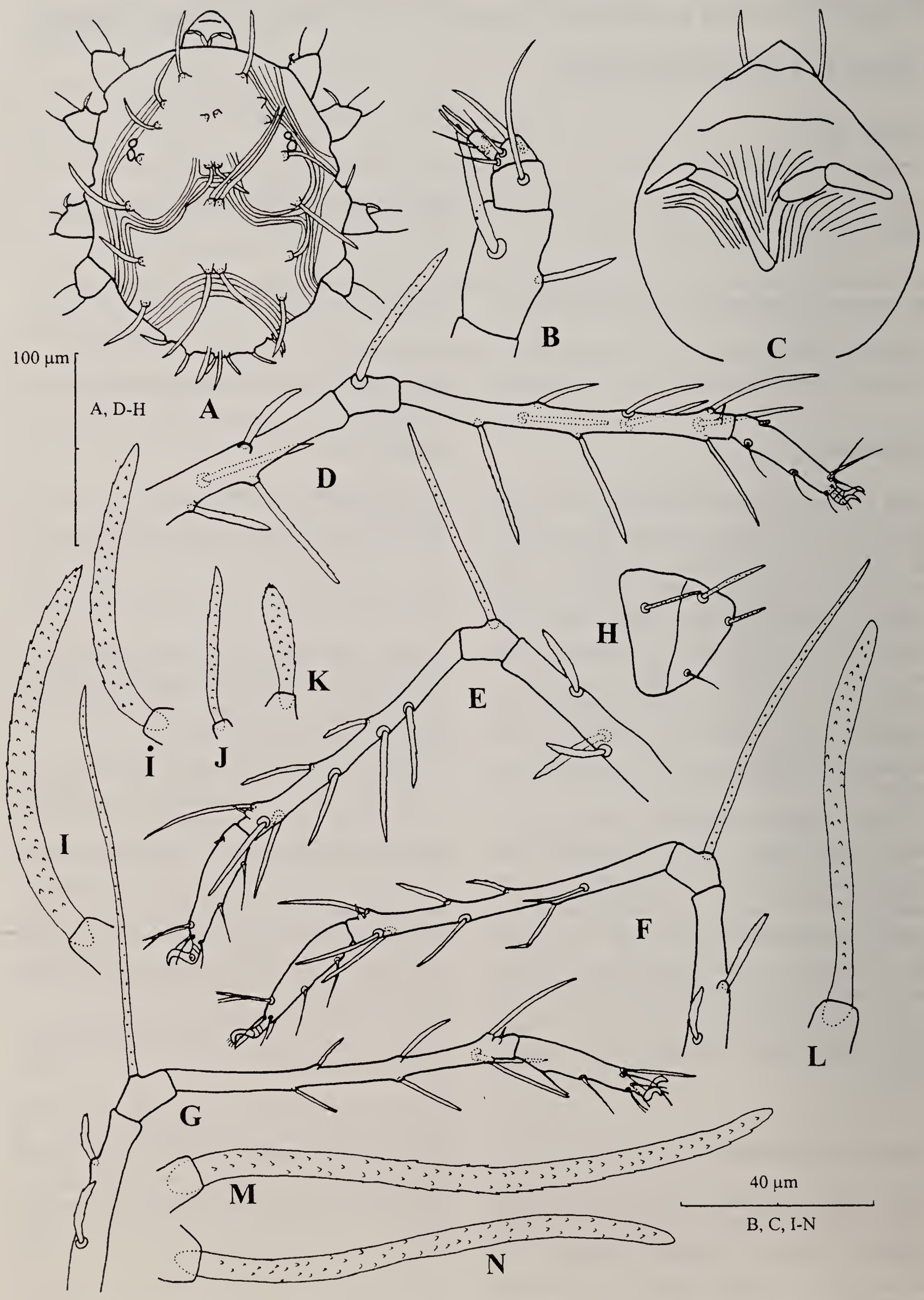


Fig. 1. *Neophyllobius communis*, ♀. A, dorsum of idiosoma; B, pedipalp; C, dorsum of gnathosoma; D, leg I; E, leg II; F, leg III; G, leg IV; H, coxae I-II; I, seta l_5; i, seta mc_2; J, seta mc_1; K, seta mc_6; L, seta mc_5; M, seta mc_3; N, seta mc_4.

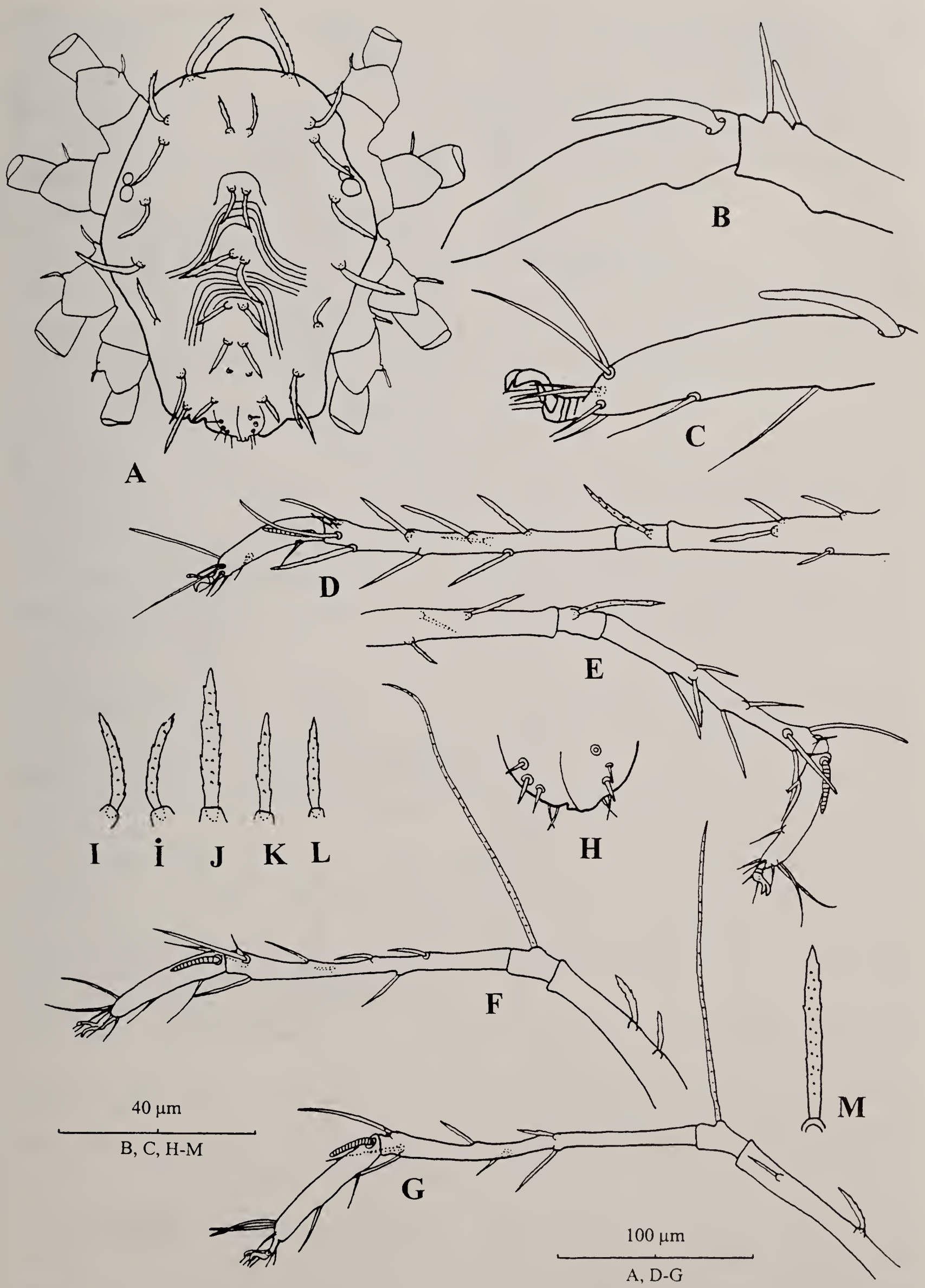
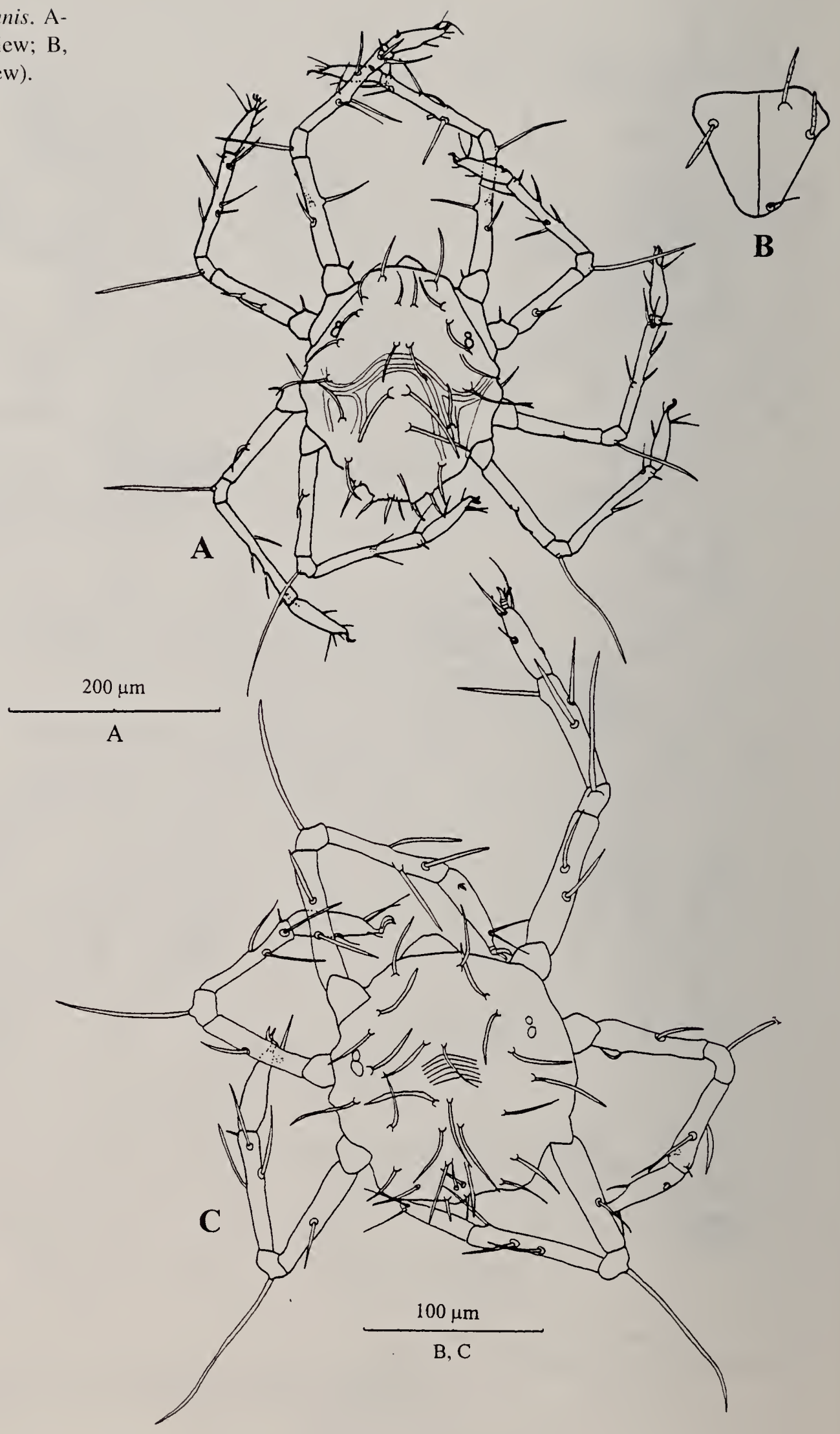


Fig. 2. *Neophyllobius communis*, ♂. A, dorsum of idiosoma; B, tarsus I; C, tarsus II; D, leg I; E, leg II; F, leg III; G, leg IV; H, anogenital region; I, seta mc_1; i, seta mc_2; J, seta mc_3; K, seta mc_4; L, seta mc_5; M, seta l_5.

Fig. 3. *Neophyllobius communis*. A-B, protonymph. A, dorsal view; B, coxae I-II. C, larva (dorsal view).



(227-307) µm. Length of legs: 465 (440-520); 406 (387-453); 438 (427-467); 471 (453-520) µm. Six pairs of *mc*: 47 (43-50); 55 (53-57); 124 (116-137); 105 (97-113); 77 (70-87); 31 (27-33) µm. Nine pairs of *l*: 72 (67-77); 62 (57-67); 57 (50-60); 58 (57-60); 83 (73-90); 53 (47-63); 63 (54-67); 33 (30-37); 28 (23-33) µm. Leg setation: coxae 3-1-2-2, trochanters 1-1-1-1, femora 4-3-2-2, genua 1-1-1-1, tibiae 9(+1)-8(+1)-8(+1)-7(+1), tarsi 10(+1)-10(+1)-8-8. Pedipalp setation: femur 2, genua 1, tibia 3+1 sword-like seta, tarsus 2+2 eupathidia.

Dorsum of idiosoma with a band of coarse striae as in figure 1 A.

Male (fig. 2A-M)

Body length 241 (200-273) Tm, width 172 (160-200) μm. Body smaller than in female. Mc_4, mc_5 and mc_6 reduced in length. Mc_3 the longest *mc* seta. L_5 the longest *l* seta. Two solenidia distal on tibia I. Genua setae I and II shorter. Genua III and IV seta whiplike. Length of legs: 473 (413-546); 367 (334-387); 390 (360-413); 430 (400-453) μm. Six pairs of *mc*: 26 (23-30); 27 (23-30); 34 (30-40); 27 (23-30); 21 (20-23); 20 μm. Nine pairs of *l*: 38 (27-47); 38 (33-43); 32 (27-33); 34 (33-37); 45 (37-53); 31 (30-33); 26 (23-27); 29 (27-30); 18 (17-20) μm. Leg setation: coxae 3-1-2-1, trochanters 1-1-1-1, femora 4-3-2-2, genua 1-1-1-1, tibiae 9(+2)-8(+1)-8(+1)-7(+1), tarsi 9(+w♂)-9(+w♂)-8(+w♂)-8(+w♂). All four tarsi proximally with solenidion. There are four pairs of anal setae.

Protonymph (fig. 3 A-B)

Six pairs of *mc*. Nine pairs of *l*. Leg setation: coxae 3-1-2-0, trochanters 1-1-1-0, genua 1-1-1-1, tibiae 6(+1)-6(+1)-4(+1)-3(+1), tarsi 7 (+1)-7 (+1)-6-6.

Larva (fig. 3 C)

Five pairs of *mc* setae. Nine pairs of *l* setae. Leg setation: coxae 1-0-0, trochanters 0-0-0, femora 2-2-1, genua 1-1-1, tibiae 3(+1)-3(+1) -3(+1), tarsi 1-1-1 (midventral).

Concluding Remarks

Neophyllobius communis was collected from pine litter, leaf litter and straw in Israel (Bolland, 1991; Gerson, 1968). Our specimens were collected from litter and soil of *Pinus sylvestris*, *Pinus nigra*, *Populus* sp., *Ulmus* sp. and *Tamarix* sp.

Females from Turkey are somewhat larger compared to those Israel measured by Gerson (1968) and Bolland (1991): body length 362 (333-400) against 300 Tm and body width 267 (227-307) against 265 Tm.

Acknowledgements

I am grateful to Dr H. R. Bolland (University of Amsterdam) for his help and comments during the prepation of this manuscript. Thanks are also due to Dr N. Ayyildiz for his helpful suggestion and critical remarks.

References

BOLLAND, H. R., 1983. A description of Neophyllobius aesculi n. sp. and its developmental stages (Acari: Camerobiidae). – *Entomologische Berichten, Amsterdam* 43: 42-47.

BOLLAND, H. R., 1986. Review of the systematics of the family Camerobiidae (Acari, Raphignathoidea). I. The genera Camerobia, Decaphyllobius, Tillandsobius and Tycherobius. – *Tijdschrift voor Entomologie* 129: 191-215.

BOLLAND, H. R., 1991. Review of the systematics of the family Camerobiidae. II. The genus Neophyllobius Berlese, 1886 (Acari: Raphignathoidea). – *Genus* 2: 59-226.

GERSON, U., 1968. Some raphignathoid mites from Israel. – *Journal of Natural History* 2: 429-437.

GERSON, U., 1971. The mites associated with Citrus in Israel. – *Israel Journal of Entomology* 6: 4-21.

GERSON, U. & R. L. SMILEY, 1990. *Acarina Biocontrol Agents; an illustration key and manual*: i-ix, 1-174. Chapman & Hall, New York.

KOÇ, K. & N. AYYILDIZ, 1996. A new species of Neophyllobius Berlese (Acari: Camerobiidae) from Turkey. – *International Journal of Acarology* 22: 291-294.

LEON, D. DE, 1958. The genus Neophyllobius in Mexico (Acarina: Neophyllobiidae). – *Florida Entomologist* 42: 173-181.

SMITH MEYER, M. K. P., 1962. Two new mite predators of red scale (Aonidiella aurantii) in South Africa. – *South African Journal of Agricultural Science* 5: 411-417.

Accepted 12.i.1999.