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The Terrestrial Isopod Genus *Porcellio* in Western Asia (Oniscidea: Porcellionidae)

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With 105 figures

Summary

The Asiatic representatives of the genus *Porcellio* are revised. Autochthonous records of the genus are known only from southwestern Asia, east to Iran. In all dubious cases type-material was examined. The following 15 taxa are recognized as valid species: *Porcellio laevis, P. olivieri, P. inconspicuus, P. yemenensis, P. barroisi, P. evansi, P. curti, P. obsoletus, P. palaestinus, P. ficulneus, P. deganiensis, P. chuldahensis, P. cilicius, P. pseudocilicius, P. insignis. Porcellio penicilliger* Verhoeff, 1917, *Haloporcellio abbreviatus* Verhoeff, 1933, *Haloporcellio jordanis* Verhoeff, 1933 and *Porcellio assimilis* Strouhal, 1957 are considered as **synonyms** of *P. barroisi* Dollfus, 1892; *Porcellio frontsignatus* Verhoeff, 1943 and *Trachelipus triaculeatus* Vandel, 1980 as **synonyms** of *P. evansi* Omer-Cooper, 1923; *Porcellio syriacus* Brandt, 1833, *P. griseus* Brandt, 1833, *P. fissifrons* Dollfus, 1892, *P. contractus* Dollfus, 1892, *P. anatolicus* Arcangeli, 1938, *P. hatayensis* Verhoeff, 1949 and *P. iskenerunus* Verhoeff & Strouhal, 1967 as **synonyms** of *P. obsoletus* Budde-Lund, 1885; *Porcellio kislarensis* Verhoeff, 1941 and *P. almanus* Verhoeff, 1949 as **synonyms** of *P. cilicius* Verhoeff, 1907. *Porcellio pseudocilicius* is described as **new species.** Drawings or SEM-photographs of the diagnostic characters are given for every treated species, for part of the species the records are mapped.

Zusammenfassung

Die asiatischen Vertreter der Gattung *Porcellio* werden revidiert. Autochthone Nachweise der Gattung liegen nur für das südwestliche Asien östlich bis zum Iran vor. In allen unklaren Fällen wurde Typen-Material untersucht. Die folgenden 15 Taxa werden als gültige Arten anerkannt: *Porcellio laevis, P. olivieri, P. inconspicuus, P. yemenensis, P. barroisi, P. evansi, P. curti, P. obsoletus, P. palaestinus, P. ficulneus, P. deganiensis, P. chuldahensis, P. cilicius, P. pseudocilicius, P. insignis. Porcellio penicilliger* Verhoeff, 1917, *Haloporcellio abbreviatus* Verhoeff, 1933, *Haloporcellio jordanis* Verhoeff, 1933 und *Porcellio assimilis* Strouhal, 1957 werden als **Synonyme** von *P. barroisi* Dollfus, 1892 betrachtet; *Porcellio frontsignatus* Verhoeff, 1943 und *Trachelipus triaculeatus* Vandel, 1980 als **Synonyme** von *P. evansi* Omer-Cooper, 1923; *Porcellio syriacus* Brandt, 1833, *P. griseus* Brandt, 1833, *P. fissifrons* Dollfus, 1892, *P. contractus* Dollfus, 1892, *P. anatolicus* Arcangeli, 1938, *P. hatayensis* Verhoeff, 1949 und *P. iskenderunus* Verhoeff & Strouhal, 1967 als **Synonyme** von *P. obsoletus* Budde-Lund, 1885; *Porcellio kislarensis* Verhoeff, 1941 und *P. almanus* Verhoeff, 1949 als **Synonyme** von

P. cilicius Verhoeff, 1907. *Porcellio pseudocilicius* wird als **neue Art** beschrieben. Die diagnostischen Merkmale aller Arten werden auf Zeichnungen oder REM-Aufnahmen abgebildet, für einen Teil der Arten sind die Nachweise kartiert.

Contents

1. Introduction

During the past 160 years a great number of nominal species of the genus *Porcellio* have been described from the Near East. The descriptions were often inappropriate, and species described formerly from the same region were frequently ignored. This led to multiple descriptions of the same species, in extreme cases up to eight times (*P. obsoletus*). For some species not a single figure was ever published, and a safe identification was often impossible, which means that all records of the species subsequent to the original description are doubtful. So when I tried to identify recently collected material from the Near East it became apparent that only by re-examination and re-description of the types this would make any sense. I investigated most available type specimes and I give sets of figures of the diagnostic characters of each species to enable future identification. Additionally all subsequent records were critically revised. With these prerequisites fulfilled I could determine numerous *Porcellio*-samples from recent and older unidentified collections that were at my disposal, coming from Turkey, Syria, Lebanon, Israel, Jordan, Iraq and Iran. Beyond these countries to the north and east the genus *Porcellio* does not occur autochthonously, as far as we know today. Thus a reasonably realistic picture of the Asiatic species of *Porcellio* can be presented.

A list of all nominal species described under the genus *Porcellio* (which formerly included other porcellionid genera) is added, if possible with ascription to a valid species viz. their present-day systematic position. In the maps only safe identifications are considered.

2. Abbreviations

BML	=	British Museum (Natural History) London;
MCSNV	=	Museo civico di Storia naturale Verona;
MNHNP	=	Musée National d'Histoire Naturelle Paris;
SMF	=	Senckenberg-Museum Frankfurt/Main;
SMNS	=	Staatliches Museum für Naturkunde Stuttgart (with isopod collection numbers);
ZMB	=	Zoologisches Museum der Humboldt-Universität Berlin;
ZMK	=	Zoologisk Museum København;
ZSM	=	Zoologische Staatssammlung München.

3. Acknowledgments

I am greatly indebted to the following persons for the loan of type-material and other *Porcellio*-samples: Dr. H. Dalens (Toulouse), J. Ellis (BML), Prof. J. Forest (MNHNP), Dr. H.-E. Gruner (ZMB), Dr. L. Tiefenbacher (ZSM), Dr. M. Türkay (SMF) and Dr. T. Wolff (ZMK). My sincere thanks are due to the following colleagues, who provided isopod collections from the Near East: Dr. R. Grimm (Tübingen), C.-P. Herrn (Marbach/Neckar), Prof. R. Kinzelbach (Darmstadt) and co-workers, D. Liebegott (Frankfurt/Main), Dr. G. Osella (L'Aquila), Dr. T. Osten (SMNS), Dr. A. Rachinsky (Tübingen), Dr. W. Rähle (Tübingen), Dr. W. Schawaller (SMNS), Dr. P. Tschorsnig (SMNS), and Prof. M. Warburg (Haifa), whom I also wish to thank for help and guidance in Israel. Field work in Israel was financially supported by the Israel Institute of Technology (Haifa). Dr. S. Taiti (Florence) provided drawings of the types of *Porcellio ficulneus*. To him and Dr. F. Ferrara (Florence) thanks are due for critically reading the manuscript, as well as to S. Fiechtner (SMNS) who operated the stereoscan electron microscope and produced the photographs.

4. The genus *Porcellio* Latreille, 1804

Type-species: *Porcellio scaber* Latreille, 1804.

The family Porcellionidae is in the recent literature commonly defined by the number and structure of the respiratory organs ("pseudotracheae" = lungs) in the pleopod-exopodites: The first and second exopodite possess deep invaginations with one tube-like entrance and a multiple branching into small tubuli inside the exopodite. They function as lungs for air-breathing. In the living animal these organs can be recognized as white patches on the pleopod-exopodites. The specific number, structure and position of these organs are a convincing synapomorphic character to prove the Porcellionidae a monophyletic taxon. The genera *Periscyphis*, *Somalodillo* and *Koweitoniscus* possess comparable unitracheal lungs in the first two pleopod-exopodites, but the morphology of the exopodites is completely different from that exhibited by the Porcellionidae, and other derived characters show them to belong to the family Eubelidae.

For the genus *Porcellio* the following characters are generally used as diagnostic inside the family Porcellionidae:

I. Pleon-epimera enlarged to form a continuous outline with the pereon.
II. Pereon-epimera I with concave hind-margin.
III. Head with pronounced side-lobes.
IV. Eyes of adults with more than 20 ommatidia.
V. Telson with concave sides.
VI. No conglobation ability.

The last character must be cancelled, since the species of "*Atlantidium*" from the Madeira archipelago are nothing else but conglobating species of *Porcellio* (Schmal-

FUSS 1989b: 21 ff.). The remaining diagnose is still not satisfactory, because it excludes e. g. *P. provincialis* (France) by character no. II, while the species is certainly closely related to other species of *Porcellio* from the same region. On the other hand the diagnose includes *"Porcellio" lamellatus* which is obviously a close relative of *Proporcellio quadriseriatus* and should be included in that genus. The question of monophyly of the group united in the genus *Porcellio* remains open, convincing common derived characters (synapomorphies) have yet to be worked out. The North African *laevis-hoffmannseggi*-group, defined by elongated male pleopod-exopodites, probably should be considered a separate genus (which then must be called *Rogopus* Budde-Lund, 1908). This group is presently under taxonomic revision (see SCHMALFUSS 1989a), the mentioned questions will be treated in future papers of that series.

Three of the Asiatic species belong to the *laevis-hoffmannseggi*-group (*P. laevis, olivieri* and probably *inconspicuus*). With *P. oliveri* this group reaches in southern Israel the easternmost part of its autochthonous distribution, where it overlaps with species of the *obsoletus*-group. The remaining 12 species treated in the present paper are members of this not very well-defined species-group which is distributed in the northeastern Mediterranean region.

5. Nominal species of *Porcellio* described from western Asia
(Valid ***species*** are printed in **bold type**)

abbreviatus (Verhoeff, 1933) (*Haloporcellio a.*) = *P. barroisi* Dollfus, 1892
aharonii Verhoeff, 1917 = *Agabiformius obtusus* (Budde-Lund, 1909) (compare STROUHAL 1965: 619)
almanus Verhoeff, 1949 = *P. cilicius* Verhoeff, 1907
anatolicus Arcangeli, 1938 = *P. obsoletus* Budde-Lund, 1885
assimilis Strouhal, 1957 = *P. barroisi* Dollfus, 1892
barroisi Dollfus, 1892: chapter **6.2.2.**
blattarius in OMER-COOPER 1923: identity uncertain, specimens not available
calmani Omer-Cooper, 1923 = *P. laevis* Latreille, 1804
chuldahensis Verhoeff, 1923: **6.2.9.**
ciliatus Brandt, 1833 = *Leptotrichus panzeri* (Audouin, 1825)
cilicius Verhoeff, 1907: **6.2.10.**
contractus Dollfus, 1892 = *P. obsoletus* Budde-Lund, 1885
curti (Vandel, 1980) (*Trachelipus c.*): **6.2.4.**
deganiensis Verhoeff, 1923: **6.2.8.**
evansi Omer-Cooper, 1923: **6.2.3.**
extinctus Verhoeff, 1923 = *Porcellionides trifasciatus* (Dollfus, 1892)
ficulneus Budde-Lund, 1885: **6.2.7.**
ficulneus var. *palaestinus* Verhoeff, 1931 = *P. palaestinus* Verhoeff, 1931
fissifrons Dollfus, 1892 = *P. obsoletus* Budde-Lund, 1885
frontsignatus Verhoeff, 1943 = *P. evansi* Omer-Cooper, 1923
griseus Brandt, 1833 = *P. obsoletus* Budde-Lund, 1885
hatayensis Verhoeff, 1949 = *P. obsoletus* Budde-Lund, 1885
inconspicuus Dollfus, 1892: **6.1.3.**
insignis Brandt, 1833: **6.2.12.**
iskenderunus Verhoeff & Strouhal, 1967 = *P. obsoletus* Budde-Lund, 1885
jordanis (Verhoeff, 1933) (*Haloporcellio j.*) = *P. barroisi* Dollfus, 1892
kislarensis Verhoeff, 1941 = *P. cilicius* Verhoeff, 1907
laevis Latreille, 1804: **6.1.1.**
lenta in OMER-COOPER 1923 = *Agabiformius* sp.
obsoletus Budde-Lund, 1885: **6.2.5.**
obsoletus ficulneus Budde-Lund, 1885 = *P. ficulneus* Budde-Lund, 1885

olivieri (Audouin, 1825) (*Oniscus o.*): **6.1.2.**
palaestinus Verhoeff, 1931: **6.2.6.**
penicilliger Verhoeff, 1917 = *P. barroisi* Dollfus, 1892
pruinosus Brandt, 1833 = *Porcellionides pruinosus* (Brandt, 1833)
pseudocilicius **n. sp.: 6.2.11.**
pulchellus Dollfus, 1892 = *Agabiformius lentus* (Budde-Lund, 1885) 1 ♀ syntype examined (MNHNP Is. 2134), see STROUHAL 1965: 618.
punctatus Brandt, 1833: identity uncertain, specimens not available
quadriseriatus Verhoeff, 1917 = *Proporcellio quadriseriatus* Verhoeff, 1917
rufobrunneus Omer-Cooper, 1923 ≠ *Porcellio*
subterraneus Verhoeff, 1923 = *Porcellionides myrmecophilus* (Stein, 1859)
syriacus Brandt, 1833 = *P. obsoletus* Budde-Lund, 1885
tiberianus Verhoeff, 1923 = juvenile of *P. ficulneus* or *P. deganiensis*, type specimen (♂ 8 × 3.5 mm + slide preparation) examined (ZSM).
triaculeatus (Vandel, 1980) (*Trachelipus t.*) = *P. evansi* Omer-Cooper, 1923
yemenensis Barnard, 1941: **6.2.1.**

6. Valid species of *Porcellio* from western Asia

6.1. The *laevis-hoffmannseggi*-group

6.1.1. *Porcellio laevis* Latreille, 1804

Porcellio laevis: BUDDE-LUND 1885: 140;
DOLLFUS 1892: 9; 1905: 163;
RICHARDSON 1926: 205;
VERHOEFF 1949: 46;
STROUHAL 1968: 351;
SCHMALFUSS 1990: 3;
TAITI & FERRARA 1991: 218.
Porcellio (*Regopus*) *laevis:* OMER-COOPER 1923: 101.
Porcellis (*Rogopus*) *Calmani:* OMER-COOPER 1923: 101, pl. IV, figs. 1–11.
Porcellio laevis bürücekensis: VERHOEFF 1941: 238.
Porcellio laevis vesaniae: VERHOEFF & STROUHAL 1967: 492.
Porcellio laevis var. *vesaniae:* STROUHAL 1968: 356, figs. 55–63;
PRETZMANN 1974: 445.

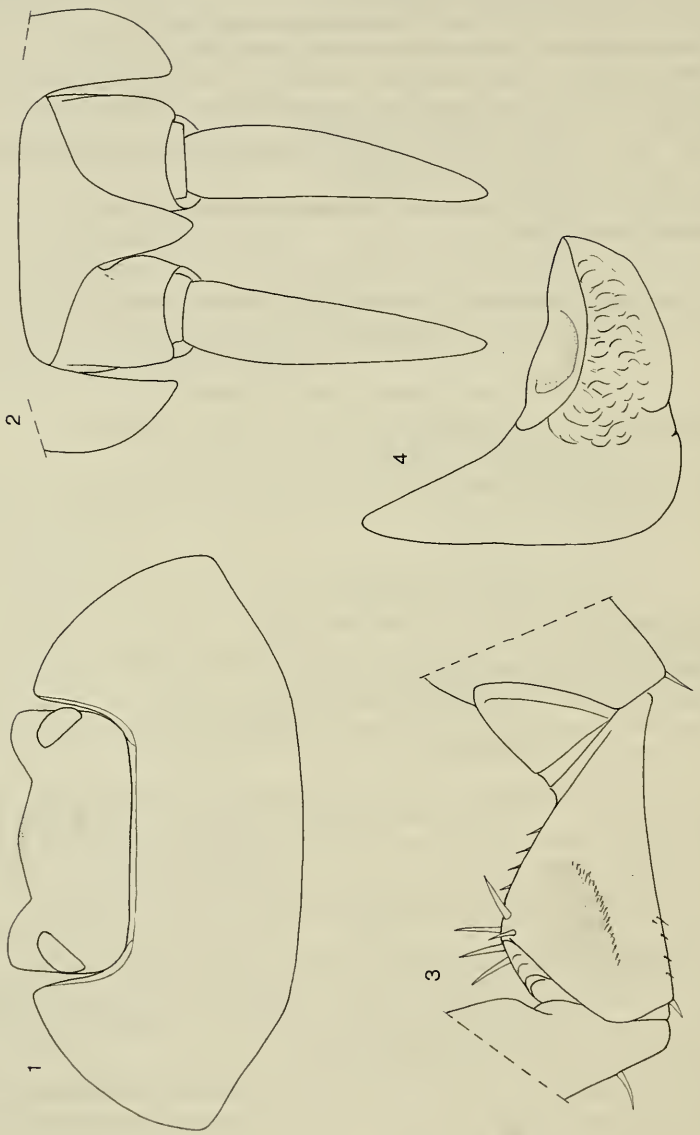
Material examined: 2 ♀♀ (syntypes of *P. calmani*), Baku (Azerbaidjan), leg. BUXTON 1919 (BML 1922:5:18:4–5). — 3 specimens, Cyprus, Larnaka, leg. HESSE 1896 (SMNS 11184). — 2 ♀♀, Cyprus, Perivolia, leg. OSTEN 2. VI. 1988 (SMNS 11270). — 2 ♀♀, SW-Cyprus, Pafos, leg. GRIMM & RACHINSKY 5.–21. XII. 1988 (SMNS 11301). — 7 specimens, SE-Cyprus, Ayia Napa, leg. GRIMM & RACHINSKY 10. XII. 1988 (SMNS 11304).

Further records: Turkey (BUDDE-LUND 1885, VERHOEFF 1941, 1949, VERHOEFF & STROUHAL 1967, STROUHAL 1968). — Cyprus (DOLLFUS 1905, STROUHAL 1968). — Syria (BUDDE-LUND 1885, Dollfus 1892, RICHARDSON 1926). — Lebanon (VANDEL 1955). — Israel (PRETZMANN 1974). — Iraq (OMER-COOPER 1923). — Kuwait (TAITI & FERRARA 1991). — Ukraine: Crimea (= "Tauria") (BUDDE-LUND 1885). — Azerbaidjan (OMER-COOPER 1923 as *P. calmani*). — Georgia (Caucasus) (SCHMALFUSS 1990).

Distribution: Originally probably NW-Africa, today cosmopolitan, introduced by human activities to all parts of the world. Occurs only in anthropogenous biotopes.

Dimensions: Up to 18 mm long.

Diagnostic characters: Coloration: Brownish grey, with groups of light streaks on pereon-tergites (muscle-spots) and light blotches on bases of epimera. — Cuticular structures: Tergal parts with very faint granulation. — Triangular median lobe on frontal part of head, side-lobes laterally straight (fig. 1, difference towards



Figs. 1–4. *Porcellio laevis*, ♂, 14 × 7.7 mm (Cyprus, SMNS 11304). – 1. Dorsal view of head and pereon-tergite I; – 2. Dorsal view of telson and uropods in situ; – 3. Ischium VII, frontal (ventral) face; – 4. Pleopod-exopodite I, caudal (dorsal) face.

P. inconspicuus). Hind-margin of pereon-epimera I with only a very slight sinuosity (fig. 1), in juvenile individuals not visible. Young specimens rather similar to *Leptotrichus*-species in overall appearance. Telson short with concave sides (fig. 2). — Ischium VII ♂ with a deep impression on frontal side (fig. 3). Pleopod-exopodite I ♂ with median lobe elongated backwards, surpassing genital papilla, with apex forming an acute triangle (fig. 4). Uropods (fig. 2) with slight sexual dimorphism, longer in ♂♂ than in ♀♀.

Remarks: An examination of type-specimens of *Porcellio calmani* Omer-Cooper, 1923 from Baku (Caspian Sea) proved *P. calmani* to be a synonym of *P. laevis*.

6.1.2. *Porcellio olivieri* (Audouin, 1825)

Porcellio olivieri: Strouhal & Pretzmann 1975: 624.

Material examined: 2 ♂♂, S-Israel, Negev, 30 km S Be'er Sheva, leg. Warburg 19. XII. 1987 (SMNS 11393).

Further records: Israel: Negev: Mashabim; Dimona; Nahal Lavan; Sede Boqer (Strouhal & Pretzmann 1975). — Egypt: Sinai: 15 km NE El-Arish; Wadi Zelequ (Strouhal & Pretzmann 1975).

Distribution: Desert and semi-deserts from Algeria to S-Israel.

Dimensions: Maximal length 21 mm.

Diagnostic characters: Coloration: White with 4 variable dark bands on tergal parts. — Cuticular structures: Tergal parts very slightly granulated. — Head with triangular median lobe, lateral lobes twice as long as median lobe, external margin slightly bent outwards (fig. 5). Pereon-epimera I caudally only very faintly sinuate (fig. 5). Telson with distal part longer than in *P. laevis*, surpassing uropod-protopodites (fig. 6). Antennal flagellum with distal article slightly shorter than proximal one. Ischium VII ♂ (fig. 7) very similar to that of *P. laevis*. Pleopod-exopodite I ♂ with long median lobe (fig. 8) ending in a truncate and sinuate apex.

Remarks: *P. olivieri* differs from *P. laevis* by its specific coloration, longer side-lobes of head, longer telson and truncate pleopod-exopodite I ♂. For a list of synonymies referring to the north African populations and a discussion of taxonomic questions see Strouhal & Pretzmann 1975.

6.1.3. *Porcellio inconspicuus* Dollfus, 1892

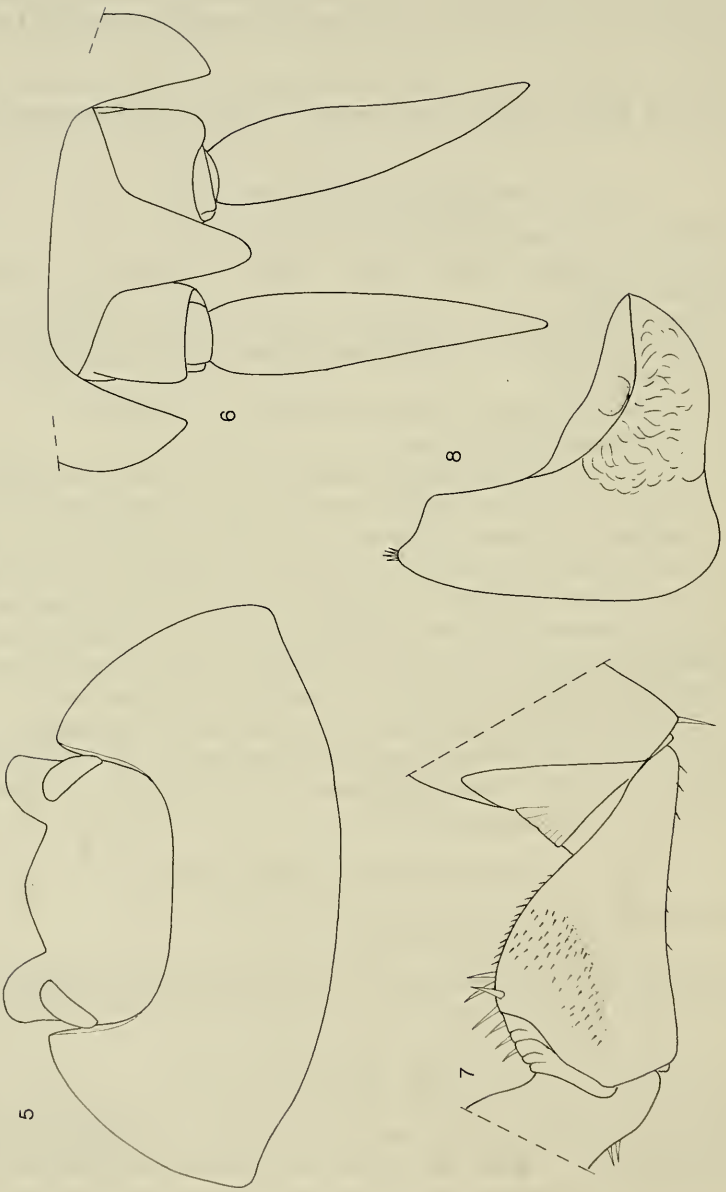
Porcellio inconspicuus: Dollfus 1892: 5, figs. 4A–4C;
Verhoeff 1923: 218.

Material examined: 1 ♀ with marsupium (11 × 4.8 mm, hololectotype), "Ouadys de la Mer Morte" (so in today's Jordan or Israel), leg. Barrois 1890 (MNHNP Is. 2132, Dollfus 1892).

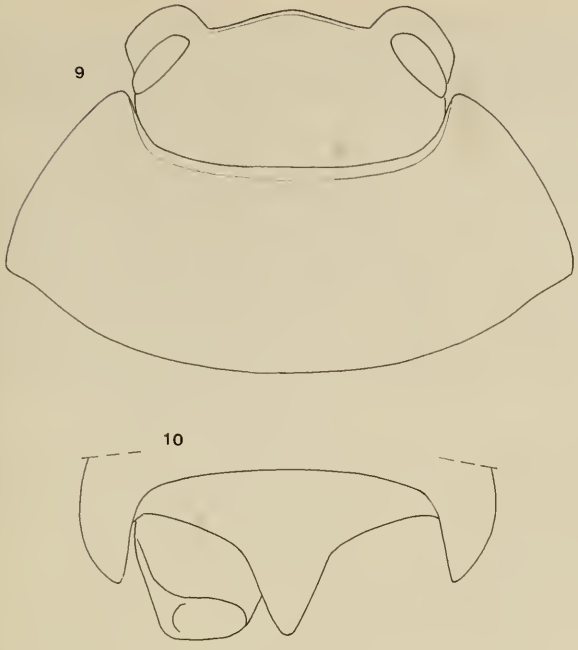
Distribution: Known only from the type locality (5 ♀♀).

Diagnostic characters: Coloration: Greyish brown with many light spots, epimera whitish (color possibly faded by long conservation). — Cuticular structures: Tergites with flat granules. — Head with median lobe rounded, reaching as far as the short side-lobes (fig. 9). Telson see fig. 10. Antennal flagellum with articles of the same length.

Remarks: The species is very similar to *P. laevis*, but the side-lobes of the head show distinctive differences which seem to indicate that it is a separate species. Since only ♀♀ are known it is impossible to ascribe *P. inconspicuus* with certainty to one of the two groups of *Porcellio* treated in this paper.



Figs. 5–8. *Porcellio olivieri*, ♂, 17 × 9 mm (Israel, Negev, SMNS 11393). – 5. Head and pereon-tergite I; – 6. Telson and uropods in situ; – 7. Ischium VII, frontal face; – 8. Pleopod-exopodite I, caudal face.



Figs. 9–10. *Porcellio inconspicuus*, holotectotype, ♀, 11 × 4.8 mm. – 9. Head and pereontergite I; – 10. Telson.

6.2. The *obsoletus*-group

6.2.1. *Porcellio yemenensis* Barnard, 1941

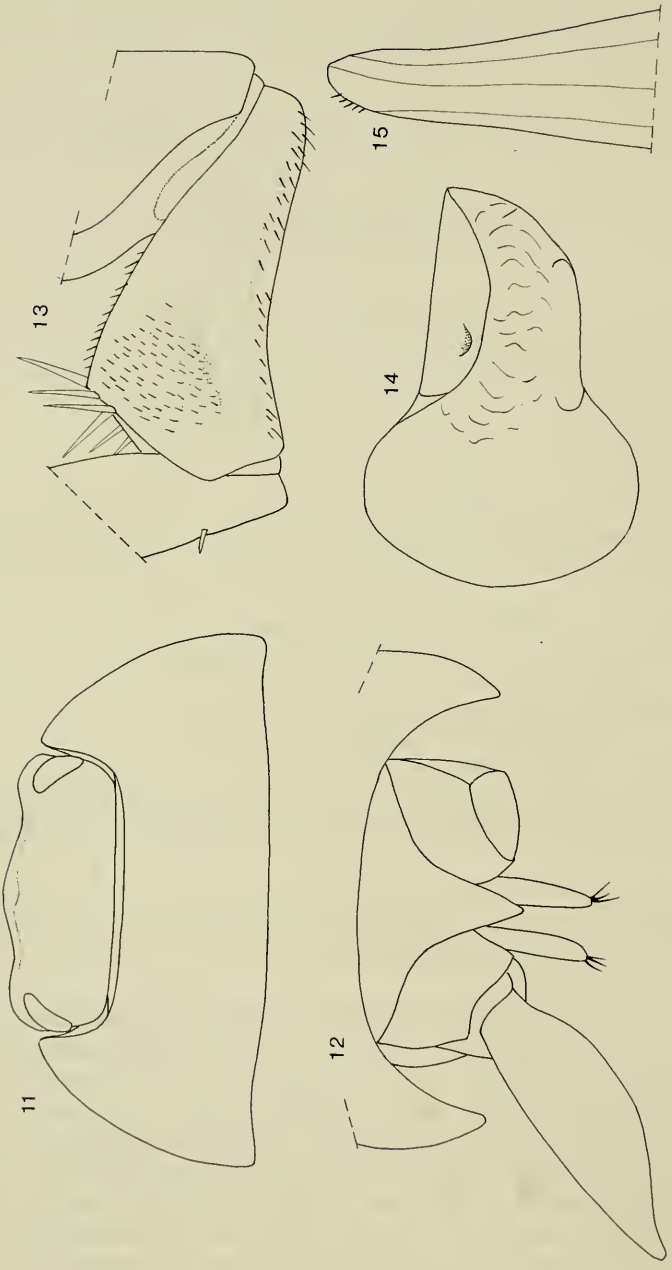
Porcellio yemenensis: Barnard 1941: 57, fig. 1;
Ferrara & Taiti 1985: 95, figs. 3a–3j;
Taiti & Ferrara 1989: 79.

Material examined: 1 ♂, 1 ♀, W-Yemen, 26 km WNW Sa'ah, Wadi Maqsala, 2000 m (17°05′ N, 43°32′ E), leg. Lanza, Borri & Poggesi XI. 1979 (SMNS 15255, Ferrara & Taiti 1985).

Distribution: Known from western part of Yemen and from the surroundings of Jiddah in Saudi Arabia. For exact localities and a distribution map see Ferrara & Taiti (1985), additional records from around Jiddah see Taiti & Ferrara (1989).

Dimensions: 12 × 5.5 mm.

Diagnostic characters: Coloration: Yellowish with dark pigmentation in five rows, yellow line on base of epimera, margins of epimera without pigmentation. Noduli laterales marked by yellow spots. — Cuticular structures: Tergites slightly granulated. — Head with weakly developed rounded median protrusion without incision, side-lobes varying, of small to moderate size (compared with other species of the genus) (fig. 11, see also figs. 3a and 3b in Ferrara & Taiti 1985). Pereon-tergite I with only slight sinuosity on hind-margin (fig. 11). Telson triangular with pointed apex and concave sides, not surpassing uropod-protopodites (fig. 12). Ischium VII ♂ ventrally sinuate (fig. 13). Pleopod-exopodite I ♂ with slightly protruding hind-lobe, length-width-ratio about 1 : 1.5 (fig. 14). Pleopod-endopodite I ♂ with apex rounded and equipped with a series of small spines (fig. 15). Uropod-exopodite in ♂ (fig. 12) about twice as long as telson, in ♀ slightly shorter.



Figs. 11–15. *Porcellio yemenensis*, ♂, 12 × 5.5 mm (Yemen, SMNS 15255). – 11. Head and pereon-tergite I; – 12. Telson and uropod in situ; – 13. Ischium VII, frontal face; – 14. Pleopod-exopodite I, caudal face; – 15. Apex of pleopod-endopodite I.

6.2.2. *Porcellio barroisi* Dollfus, 1892

Porcellio Barroisi: Dollfus 1892: 7, figs. 6A–6C; 1894: 3.
Porcellio (Haloporcellio) penicilliger: Verhoeff 1917: 170, figs. 12–14; 1931: 535.
Porcellio barroisi: Verhoeff 1923: 217;
Pretzmann 1974: 446;
Strouhal & Pretzmann 1975: 658.
Haloporcellio penicilliger: Verhoeff 1933: 109.
Haloporcellio abbreviatus: Verhoeff 1933: 109.
Haloporcellio jordanis: Verhoeff 1933: 109 f., figs. 18–19.
Porcellio (Porcellio) Barroisi: Arcangeli 1936b: 266.
Porcellio penicilliger: Vandel 1955: 514, 515.
Porcellio (Haloporcellio) assimilis: Strouhal 1957: 305, figs. 1–5.
Haloporcellio assimilis: Strouhal & Pretzmann 1975: 635, figs. 10–13.
Porcellio assimilis: Ferrara & Taiti 1985: 95, figs. 4a–4e;
Taiti & Ferrara 1989: 79.

Material examined: 5 ♀♀ (syntypes), Dead Sea, "Ouady-Hafaf et Ouady-Embaggha", leg. Barrois 1890 (MNHNP Is. 2112, Dollfus 1892). — 2 ♀♀ (syntypes), Dead Sea, "ouadys de la Mer Morte", leg. Barrois 1890 (MNHNP Is. 2113 + 2114, Dollfus 1892). — 1 ♂, 2 ♀♀, Syria, "Tadmur-Palmyre, Tal der Gräber", leg. Kinzelbach et alii 14.–16. III. 1980 (SMNS 11177 + 11193). — 3 ♀♀, NW-Jordan, ruins of "Umm Qais", leg. Krupp & Schneider 29. XI. 1980 (SMNS 11171). — W-Jordan, "Balqa, Wad al-Mujib S Dhiban, King's Highway", leg. Kinzelbach et alii 16. III. 1977 (SMNS 11052). — W-Jordan, "Balqa, Hot Springs", leg. Scheuern 14. III. 1977 (SMNS 11065). — 9 specimens, Westbank, Jordan valley, N Argaman, leg. Schawaller, Schmalfuss & Warburg 10. II. 1987 (SMNS 11290). — 1 ♀, Westbank, Jordan valley, Mehola, leg. Schawaller, Schmalfuss & Warburg 10. II. 1987 (SMNS 11286). — 6 ♀♀, Westbank, Jordan valley, 10 km E Jericho, leg. Schawaller & Schmalfuss 20. II. 1987 (SMNS 11280). — 3 specimens, Israel, E Qiryat Gat, SW Bet Guvrin, leg. Schawaller, Schmalfuss & Warburg 12. II. 1987 (SMNS 11289). — 3 specimens, Israel, N Be'er Sheva, NW Lahav, leg. Schawaller, Schmalfuss & Warburg 12. II. 1987 (SMNS 11284). — 6 specimens, Israel, 45 km E Be'er Sheva, SE Arad, leg. Schawaller & Schmalfuss 18. II. 1987 (SMNS 11279). — 3 specimens, Israel, Negev, N Sede Boqer, leg. Schawaller & Schmalfuss 12. II. 1987 (SMNS 11288). — 1 ♀, Israel, Negev, valley S Sede Boqer, leg. Schawaller & Schmalfuss 13. II. 1987 (SMNS 11287). — 22 specimens, Israel, Negev, Avdat, leg. Schawaller & Schmalfuss 13. II. 1987 (SMNS 11284). — 7 specimens, Israel, Negev, Ramon crater, leg. Schawaller & Schmalfuss 14. II. 1987 (SMNS 11282 + 11283). — 1 ♂, Israel, Negev, SE Shizzafon, leg. Schawaller & Schmalfuss 15. II. 1987 (SMNS 11281).

Further records: Lebanon: "Deir Mar Maroun" and Bekaa-plain near "Zabboud" (Vandel 1955 as *P. penicillliger*). — Israel: Rehovot (Verhoeff 1917 as *P. penicilliger*); Jerusalem and N "Ras Umm Jurfan" in the Negev (Strouhal 1956 as *P. assimilis*); "El Mrar" (Verhoeff 1933 as *Haloporcellio abbreviatus*); Jericho (Verhoeff 1933 as *Haloporcellio jordanis*); Jaffa (= Tel Aviv); "Mar Saba"; Jerusalem (Dollfus 1894); 20 localities in Israel (Mt. Carmel doubtful) (Pretzmann 1974). — Dead Sea: "Souk-et-Teameh" (Dollfus 1892). — Saudi Arabia: "Khashm Khafs" (25°36'N 46°27'E) (Ferrara & Taiti 1985 as *P. assimilis*); "Wadi Tumeir" (25°43'N 45°51'E) (Taiti & Ferrara 1989 as *P. assimilis*).

Distribution: Deserts and semi-deserts in Syria, Lebanon, Israel, Jordan and Saudi-Arabia (records see map fig. 29). It seems probable that the desert area between the northwestern records in Lebanon and Israel and southeastern records in Saudi Arabia is also populated by the species.

Dimensions: Maximal size (♀) 14.5 × 4.7 mm.

Diagnostic characters: Coloration: Yellowish, tubercles pigmented, tergites with four rows of more or less pronounced spots. — Cuticular structures: Head with around 40, pereon-tergites with three rows and pleon-tergites with one row of very pronounced pointed tubercles (figs. 17–22). — Overall appearance of the animal

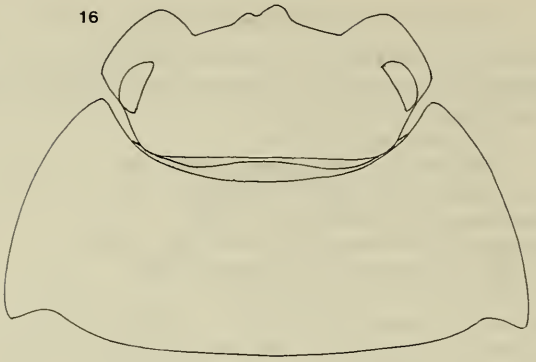


Fig. 16. *Porcellio barroisi*, syntype, ♀, head and pereon-tergite I.

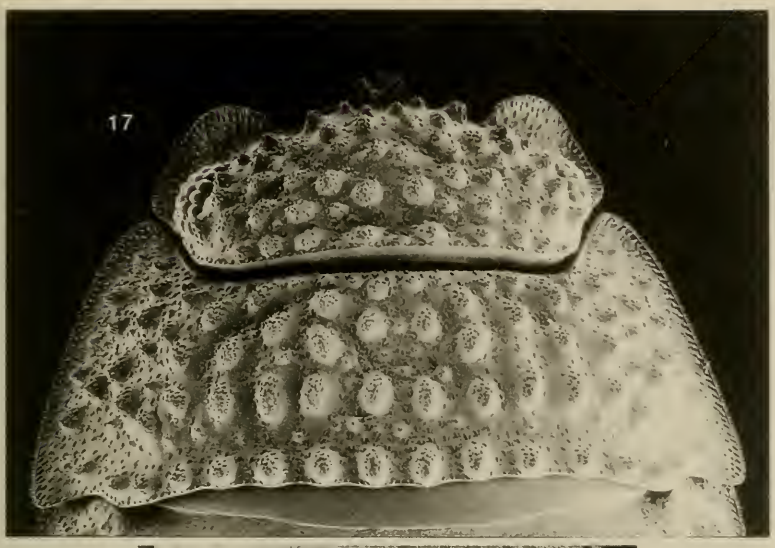
rather narrow, compared with other species of *Porcellio*. Head with well-developed side-lobes, median part of frons with incision, below this with a nose-like process. This median part can be variable, sometimes the incision is very moderate (figs. 16, 19, 20, 23). Pereon-tergite I with concave hind-margin (figs. 16, 17, 23). Telson short, not surpassing uropod-protopodites, with concave sides and pointed apex (figs. 18, 24). Distal article of antennular flagellum much shorter – in adult specimens – than proximal article, ratio about 1 : 1.7 (fig. 25). Ischium VII ♂ stout, with ventral margin sinuate (fig. 26). Pleopod-exopodite I ♂ without hind-lobe, medial margin completely rounded (fig. 27). Apex of pleopod-endopodite I ♂ with a brush of ± 5 long plumose setae (fig. 28). Uropod-exopodite in ♂ about twice the length of the telson (fig. 24), in ♀ shorter (fig. 18).

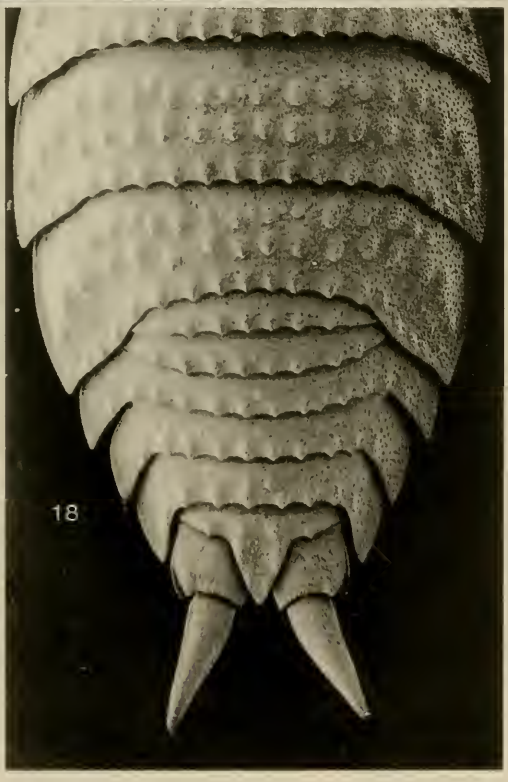
Remarks: Strouhal obviously realized that his *Porcellio assimilis* was a junior synonym of *P. barroisi* Dollfus, 1892 (see posthumous publication of his identifications by Pretzmann 1974: 446). Ferrara & Taiti (1985: 95) suspect a conspecifity of *P. assimilis* with *P. penicilliger* Verhoeff, 1917. I had the opportunity to investigate type-material of *P. barroisi* and numerous recently collected specimens from Israel, Jordan and Syria. This leads me to the conclusion that not only *P. penicilliger* and *P. assimilis* are junior synonyms of *P. barroisi* but also *Haloporcellio abbreviatus* Verhoeff, 1933 and *Haloporcellio jordanis* Verhoeff, 1933. The differences pointed out by Verhoeff (1933: 109 f.) between *penicilliger*, *abbreviatus* and *jordanis* are due to the variability of the head morphology in this species, and to the fact that *jordanis* was described on a juvenile ♂.

The ascription of these forms to the genus *Haloporcellio* is certainly wrong and was probably evoked by a similar coloration. The head morphology is, at a close look, rather different, and so are the other diagnostic characters. The only "true" member of *Haloporcellio* is the species *lamellatus* which is obviously a close relative of *Proporcellio quadriseriatus* and should be included in that genus.

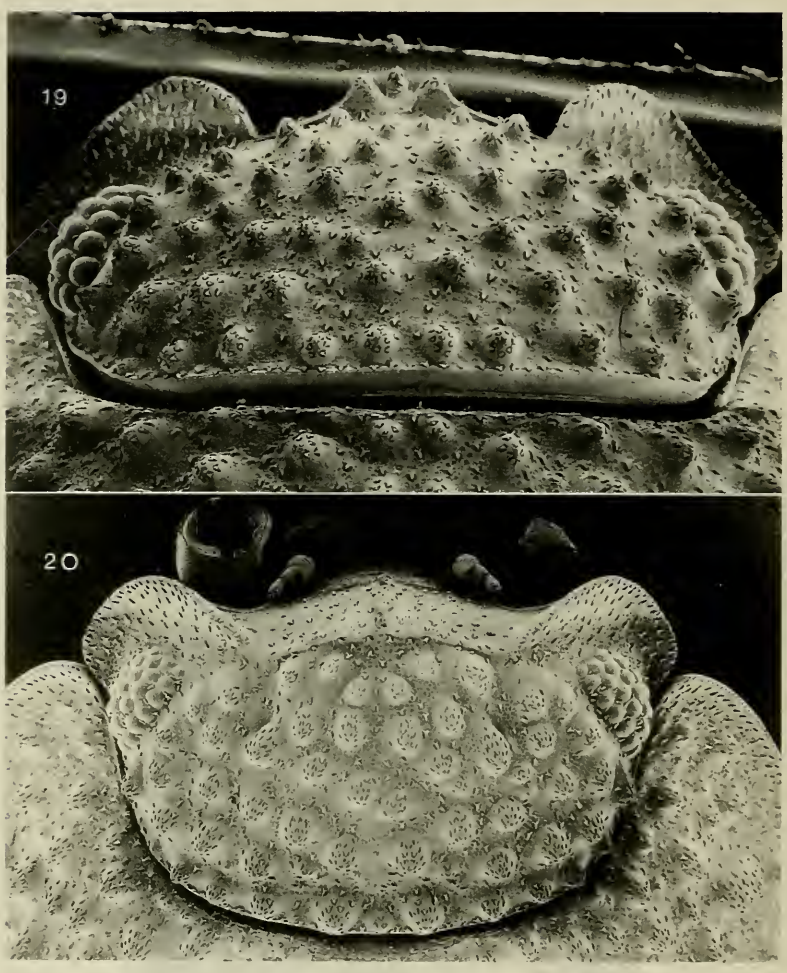
6.2.3. *Porcellio evansi* Omer-Cooper, 1923

Porcellio Evansi: Omer-Cooper 1923: 100, plate III, figs. 1–11.
Porcellio evansi: Frankenberger 1939: 26;
Ferrara & Taiti 1985: 96, figs. 5a–5g; 1988: 395;
Taiti & Ferrara 1989: 79; 1991: 218.
Porcellio (Porcellio) frontsignatus: Verhoeff 1943: 10, figs. 20–22.





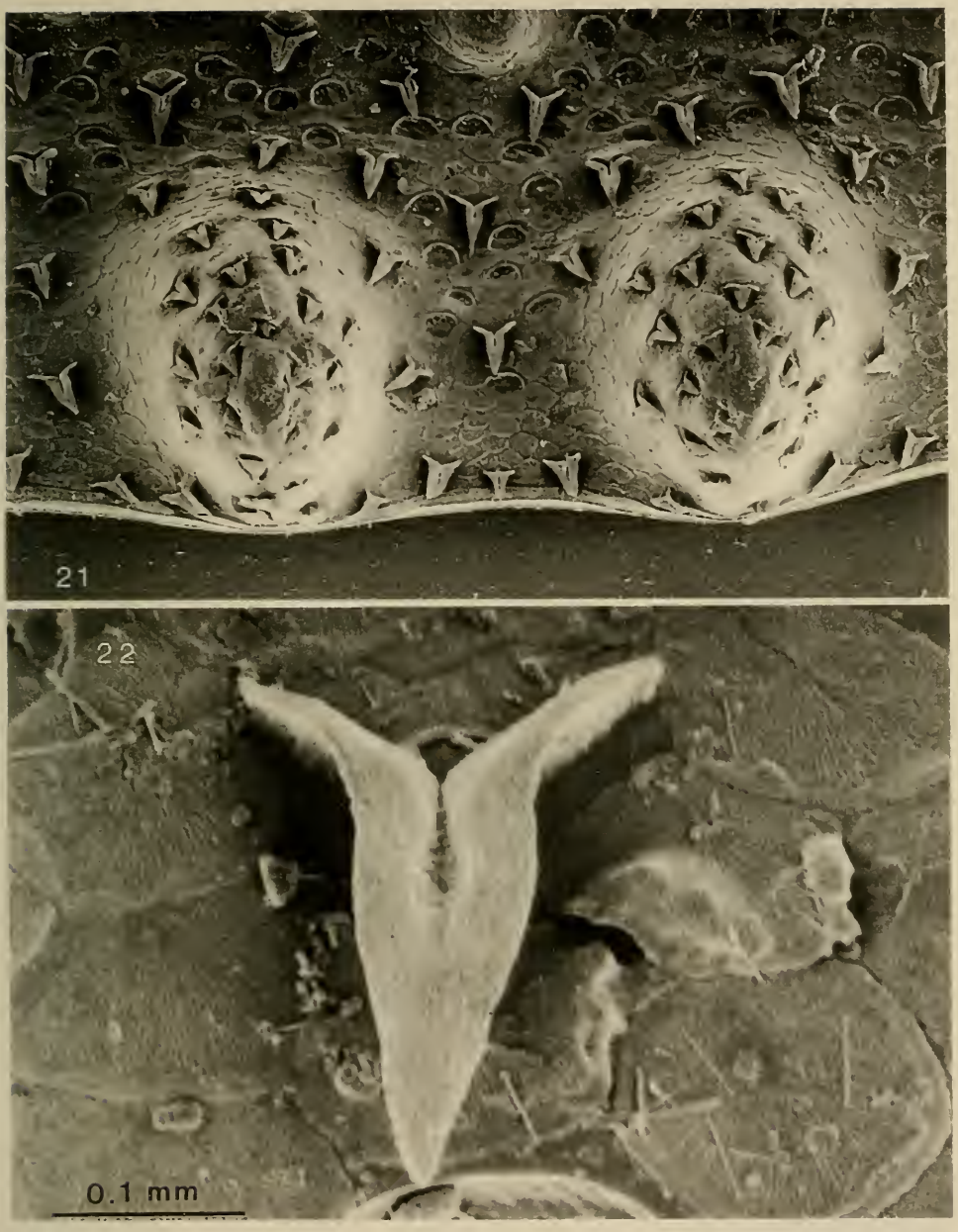
Figs. 17–18. *Porcellio barroisi*, ♀ with marsupium, 13 × 4 mm (Jordan valley, SMNS 11290). – 17. Head and pereon-tergite I; – 18. Pereon-tergites VI + VII and pleon.



Figs. 19–20. *Porcellio barroisi*, ♀ as before. – 19. Head, dorsal view; – 20. Head, dorsofrontal view.

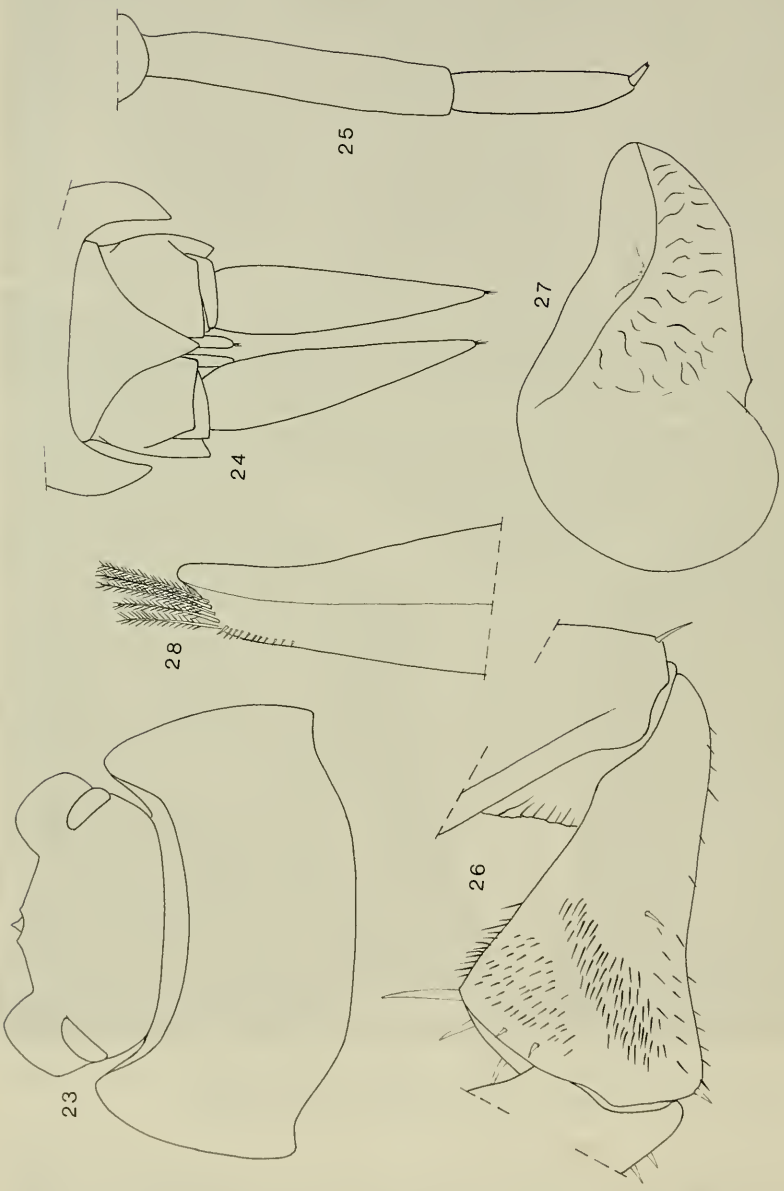
Porcellio frontsignatus: Verhoeff & Strouhal 1967: 491.
Trachelipus triaculeatus: Vandel 1980: 103, figs. 6A–6D.

Material examined: 3 ♀♀ (types of *Trachelipus triaculeatus*), Iraq, Eufrates valley, Haditha, leg. Kosswig (MNHNP, Vandel 1980). — 1 ♂, 2 ♀♀ (types of *Trachelipus triaculeatus*), SE-Turkey, Siirt SW Lake of Van, leg. Kosswig 1952 (MNHNP, Vandel 1980). — 2 ♂♂, 2 ♀♀ (types of *Trachelipus triaculeatus*), SE-Turkey, Siirt SW Lake of Van, leg. Kosswig 1972 (MNHNP, Vandel 1980). — 5 specimens, S-Turkey, Eufrates valley, Birecek, leg. Kinzelbach et alii 23. IX. 1982 (SMNS 11200). — 1 ♂, 1 ♀, S-Turkey, Gaziantep district, Kilis, leg. Liebegott 11. IV. 1987 (SMF). — 1 ♀, S-Turkey, Gaziantep district, Oguzeli, leg. Liebegott 10. IV. 1987 (SMF). — 4 ♀♀, S-Turkey- Urfa district, 3 km NNW Birecek, Eufrates valley, leg. Kinzelbach et alii 6. VIII. 1988 (SMF). — 1 ♀, NW-Syria, road Maharda – Hama, river Sarut, leg. Kinzelbach et alii 25. III. 1979 (SMNS 11085). — 1 ♂, NW-Syria, Maharda, leg. Kinzelbach et alii 23. III. 1980 (SMNS 11157). — 2 ♀♀, NW-Syria, Hama, leg. Kinzelbach et alii 7. VIII. 1978 (SMNS 11159). — 2 ♀♀, NW-Syria, between Aleppo and Jisr-ech-Choghur, leg. Kinzelbach et alii 20. III. 1978 (SMNS 11097). — 1 ♂, 4 ♀♀, N-Syria, Eufrates valley between Dair-ez-Zur and Raqqa, ruins of the ancient town Halabiye, leg. Kinzelbach et alii 15. III. 1979 (SMNS 11105). — 4 specimens, N-Syria, Eufrates, 22 km



Figs. 21–22. *Porcellio barroisi*, ♀ as before. – 21. Tubercles on posterior margin of pereon-tergite I; – 22. Sensory seta ("tricorn") on pereon-tergite.

SE Raqqa, leg. KINZELBACH et alii 12. III. 1980 (SMNS 11153). — 13 specimens, NE-Syria, Nahr al-Habur, Tall Junaidiya (36°44'N 40°05'E), leg. KRUPP, KOCK & EPPLER 6. X. 1988 (SMF). — 2 ♂♂, 3 ♀♀, NE-Syria, Nahr al-Habur, Tall Saih Hamad (35°37'N 40°45'E), leg. KRUPP, KOCK & EPPLER 21. IX.–14. XI. 1988 (SMF). — 3 ♀♀, NE-Syria, Khabur river, Suar, leg. KINZELBACH et alii 15. III. 1979 (SMNS 11073). — 1 ♂, 2 ♀♀, ? Iraq, "Central Mesopotamien", "Tell Halaf am Kebbes", leg. KOHL 21. III. 1913 (ZMB, record could not be



Figs. 23–28. *Porcellio barroisi*, ♂, 12.5 × 3.8 mm (Israel, Avdat, SMNS 11284). – 23. Head and pereon-tergite I; – 24. Telson and uropods in situ; – 25. Antennal flagellum; – 26. Ischium VII, frontal face; – 27. Pleopod-exopodite I, caudal face; – 28. Apex of pleopod-endopodite I.

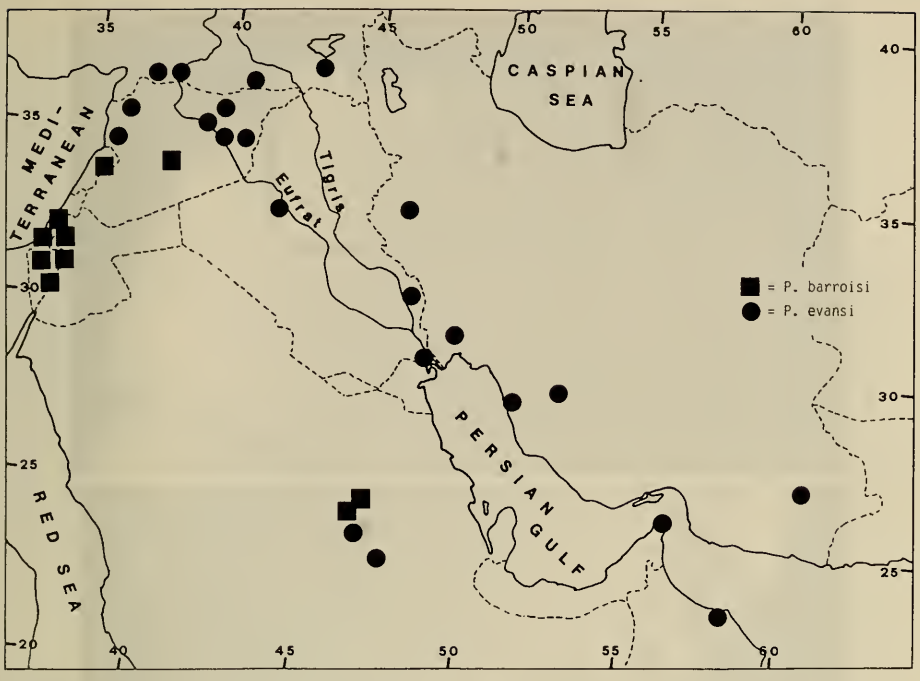


Fig. 29. Records of *Porcellio barroisi* and *P. evansi*.

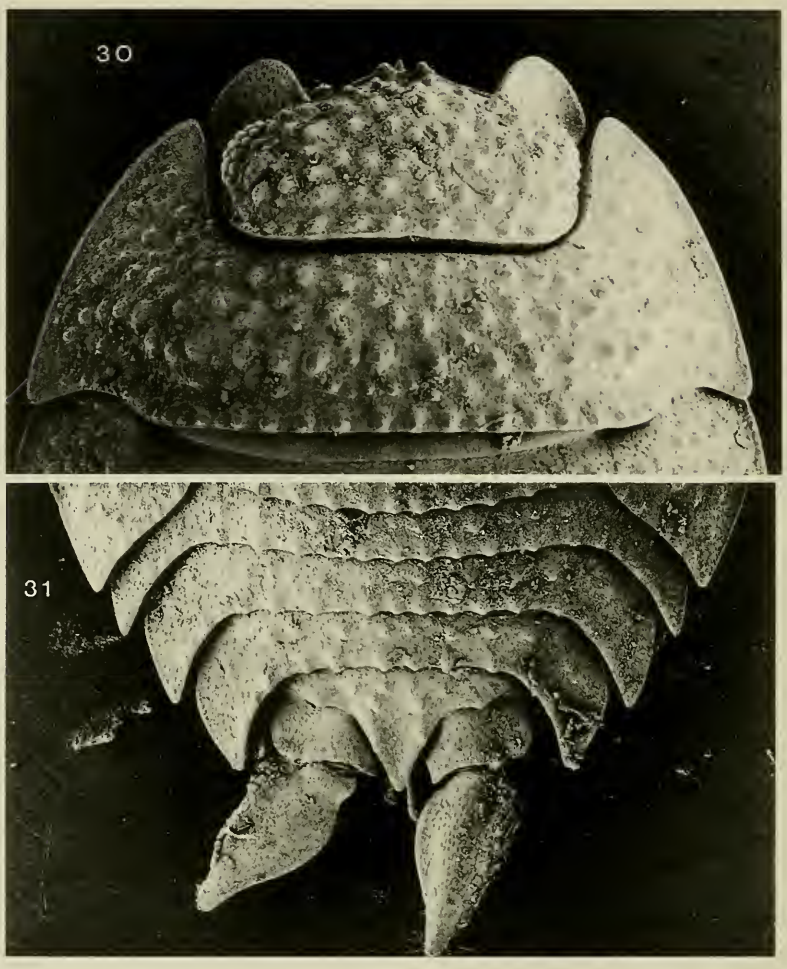
localized). — 1 ♂, 4 ♀♀, ? Iraq, "Central Mesopotamien", "Tell Halaf, Chabus", leg. KOHL 14. I. 1913 (ZMB, record could not be localized). — 7 specimens, NW-Iran, Kermanshah, II. 1937 (ZMK), — 62 specimens, Iran, "Nadjun", leg. KAISER 10. V. 1937 (ZMK, SMNS 11351, record could not be localized). — 52 specimens, "Shah Bajan", leg. KAISER 15. IV. 1937 (ZMK, record could not be localized). — 1 ♀, W-Iran, "Khuzistan, 18 km NE Shadegan, Jarrahi, Ufergebiet", leg. RICHTER & SCHÄUFELE 6. IV. 1956 (SMNS 11196). — 15 specimens, Iran, Persian Gulf, Busher, leg.? 22. II. 1937 (ZMK). — 13 specimens, Iran, Shiraz, 16. II. 1937 leg.? (ZMK, SMNS 11352). — 1 ♀, SE-Iran, Beluchistan, NW Iranshar, leg. RICHTER & SCHÄUFELE 31. III. 1954 (SMNS 11195).

Further records: SE-Turkey: Mardin (VERHOEFF 1943 as *P. frontsignatus*); Gaziantep (VERHOEFF & STROUHAL 1967 as *P. frontsignatus*). — Iraq: Amara; Bagdad; Kisil Robat N Bagdad (OMER-COOPER 1923); surroundings of Bagdad (FRANKENBERGER 1939). — Kuwait (TAITI & FERRARA 1991). — Saudi Arabia: Al Kardj E Riad (24°21′N 47°11′E) (FERRARA & TAITI 1985); Dar Arida (24°27′N 46°51′E); Wadi Araida near Hair (24°26′N 46°52′E); Sudus (24°59′N 46°13′E) (TAITI & FERRARA 1989). — Oman: Al-Khasab on the Strait of Hormus (FERRARA & TAITI 1988); Wattayah (23°36′N 58°30′E); near Seeb, Batinah (23°38′N 58°11′E) (TAITI & FERRARA 1991).

Distribution: Mesopotamia and the region around the Persian Gulf. The known records of the species (see map fig. 29) suggest its existence in the regions between the reported localities. *Porcellio evansi* is obviously the vicariant sister-species of *P. barroisi* which is distributed southwest of *P. evansi*.

Dimensions: Maximal size 17 × 8 mm (VANDEL 1980: 103 for "*Trachelipus triaculeatus*" = *Porcellio evansi*).

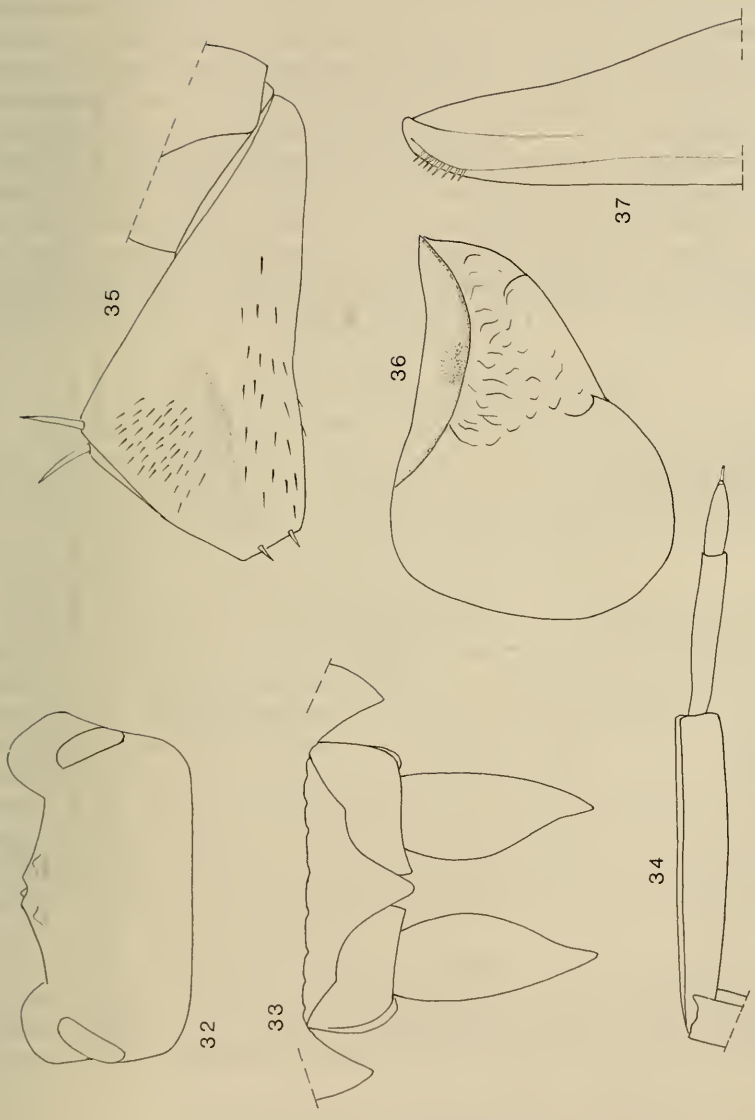
Diagnostic characters: Coloration: Yellowish with variable pigmentation, usually head and pleon-tergites black, pereon-tergites with three or five more or less pronounced dark lines, tubercles usually with dark pigmentation. — Cuticular structures: As in *P. barroisi*, but tubercles less pronounced and not pointed, and pleon-



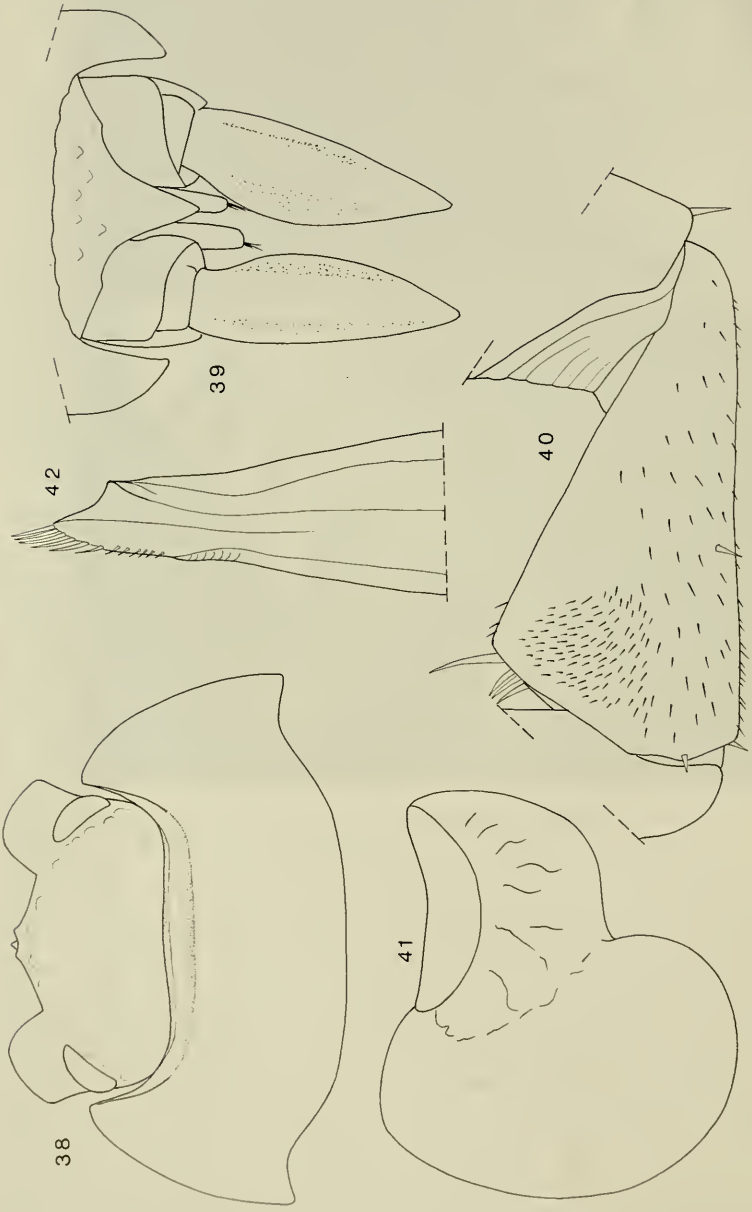
Figs. 30–31. *Porcellio evansi*, ♀ without marsupium, 13 × 5 mm (Syria, S Aleppo, SMNS 11101). – 30. Head and pereon-tergite I; – 31. Pleon.

tergites with two rows of tubercles. — Body wider than in *P. barroisi*, ♀ with marsupium of 13 mm length 4 mm wide in *P. barroisi*, 6 mm wide in *P. evansi*. Head very similar to that of *P. barroisi*, side-lobes narrower, considerable individual variation in frontal morphology (figs. 30, 32, 38, see also figs. 5a and 5b in FERRARA & TAITI 1985). Pereon-tergite I with concave hind-margin (figs. 30, 38). Telson as in *P. barroisi*, but somewhat shorter (figs. 31, 33, 39), obviously correlated with shorter uropods. Distal article of antennal flagellum still shorter than in *P. barroisi*, ratio about 1 : 2 (fig. 34). Pleopod-exopodite I ♂ without hind-lobe, length-width ratio between 1 : 1.1 and 1 : 1.3 (figs. 36, 41) while in *P. barroisi* it is 1 : 1.7–1.8. Apex of pleopod-endopodite I ♂ exhibits two different formations (figs. 37, 42, see remarks below). Uropods shorter than in *P. barroisi*, exopodite only about 1.5 times the length of the telson (figs. 31, 33, 39), in ♂♂ from southern Iran the exopodites are longer than those of the ♀♀, reaching about twice the length of the telson.

Remarks: An examination of type-material of *Trachelipus triaculeatus* Vandel, 1980 from southeastern Turkey proved these specimens to belong to *Porcellio evansi*.



Figs. 32–37. *Porcellio evansi*. – 32. ♀, 13.5 mm long (NE-Syria, SMNS 11073), head; – 33. ♀ as before, telson and uropods in situ; – 34. ♀ as before, distal part of antenna; – 35. ♂, 10 mm long (N-Syria, Raqqa, SMNS 11105), ischium VII, frontal face; – 36. ♂ as before, pleopod-exopodite I, caudal face; – 37. ♂ as before, pleopod-endopodite I, apex.



Figs. 38–42. *Porcellio evansi*, ♂, 12 mm long (S-Turkey, Gaziantep, SMF). – 38. Head and pereon-tergite I; – 39. Telson and uropods in situ; – 40. Ischium VII, frontal face; – 41. Pleopod-exopodite I, caudal face; – 42. Pleopod-endopodite I, apex.

The ascription to the genus *Trachelipus*, also recognized to be certainly wrong by FERRARA & TAITI (1985: 96) was not the only basic error in that last publication of VANDEL. The description of *Porcellio frontsignatus* Verhoeff, 1943, which does not consider a possible conspecifity with *P. evansi*, and the reported localities allow the conclusion that also *P. frontsignatus* is a junior synonym of *P. evansi*.

In a number of samples ♂♂ with two different modifications of the pleopod-endopodite I are present. The sample SMNS 11200 from Birecek in S-Turkey contains one ♂ of 10 mm length with the apex of endopodite I pointed and medially equipped with a comb of long spines, while the second ♂ of 12 cm length has the rounded apex with a row of short spines as it is figured for this species also in other publications, e. g. in FERRARA & TAITI 1985, fig. 5f. The differences are obviously depending on different stages of the reproductive cycle. The formation with the long spines seems to be the sexually active modification, which is either reached by a moult preceding the breeding period, or it might even be achieved without a moult by some sort of pneumatic process induced by hormonal activity. A similar case of seasonal variability of the pleopod-endopodite I ♂ has been proved by DOMINIAK (1970) für *Protracheoniscus politus* (C. L. Koch, 1841).

6.2.4. *Porcellio curti* (Vandel, 1980)

Trachelipus curti: VANDEL 1980: 105, figs. 7A, 7B, 8A–8D.

Material examined: 1 ♂, 2 ♀♀, parts of a second ♂ as slide preparations (syntypes), E-Turkey, Siirt SW Lake of Van, leg. KOSSWIG 15. VI. 1972 (MNHNP, VANDEL 1980).

Distribution: Known only from the type-locality Siirt SW Lake of Van in eastern Turkey.

Dimensions: ♂ 13.5 × 8 mm, largest ♀ 18 × 10 mm.

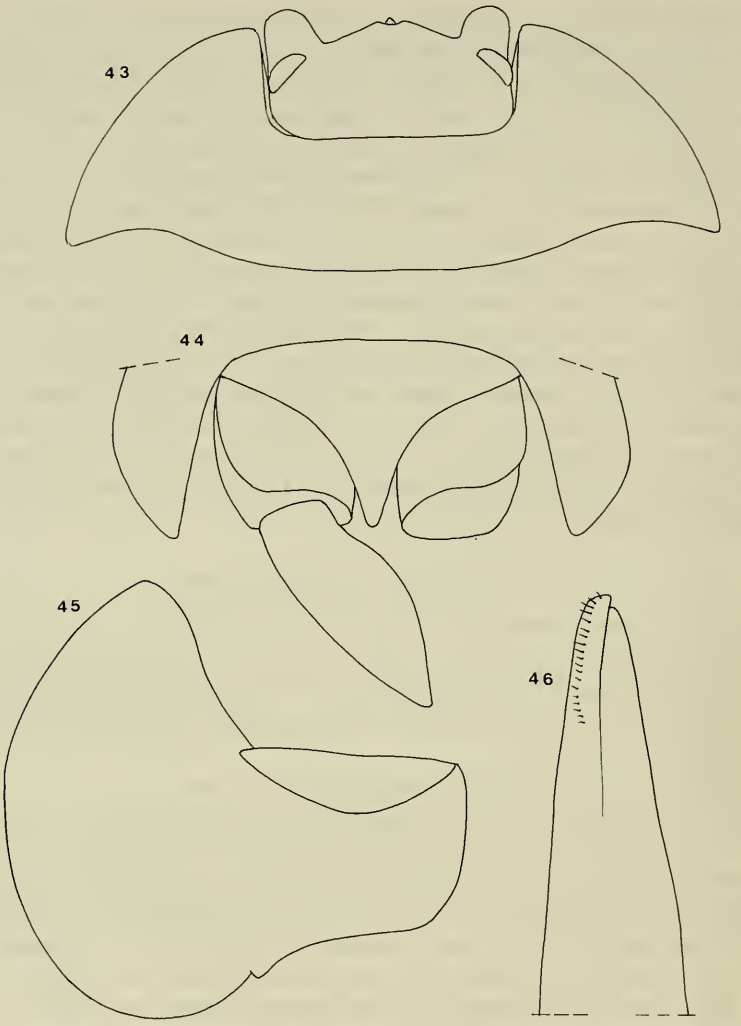
Diagnostic characters: Unmistakable by coloration and strongly enlarged epimera. — Coloration: Very conspicuous, epimera, head, telson and a broad median stripe on pereon-tergites white, lateral parts of pereon-tergites and pleon-tergites black. — Cuticular structures: Tergites with flat tubercles. — Median lobe of head with incision, side-lobes well developed (fig. 43). Pereon-epimera strongly enlarged, hind-margin of epimeron I deeply sinuate (fig. 43). Telson short with pointed apex (fig. 44). Proximal article of antennal flagellum about 2.5 times the length of distal article. Ischium VII ♂ ventrally slightly concave. Pleopod-exopodite I ♂ with triangular hind-lobe (fig. 45). Pleopod-endopodite I ♂ with rather pointed apex equipped with a row of fine spinules (fig. 46). Uropods with short exopodite hardly longer than telson (fig. 44).

Remarks: Concerning VANDEL's ascription of this species to the genus *Trachelipus* see remarks under *P. evansi*. The conspicuous species exhibits a surprising convergent similarity to *Porcellio flavomarginatus* Lucas, 1853 from the southern Aegaen islands, concerning both coloration and extreme enlargement of epimera.

6.2.5. *Porcellio obsoletus* Budde-Lund, 1885

The following bibliography treats only records from Asia.

Porcellio syriacus: BRANDT 1833: 178.
Porcellio griseus: BRANDT 1833: 178.
Porcellio (Porcellio) obsoletus: BUDDE-LUND 1879; 3; 1885: 116.
Porcellio fissifrons: DOLLFUS 1892: 7, figs. 5A–5C;
VERHOEFF 1923: 217.



Figs. 43–46. *Porcellio curti.* – 43. Syntype, ♀, 15 × 8.7 mm, head and pereon-tergite I; – 44. Syntype, ♀ as before, telson and uropod in situ; – 45. Syntype, ♂, VANDEL-preparation, pleopod-exopodite I; – 46. Syntype, ♂ as before, apex of pleopod-endopodite I.

Porcellio contractus: DOLLFUS 1892: 8, figs. 7A–7C;
VERHOEFF 1923: 218.
Porcellio obsoletus: VERHOEFF 1907: 270; 1941: 23;
VANDEL 1965: 825;
STROUHAL 1968: 357;
non: PRETZMANN 1974: 445 (= *P. ficulneus*);
STROUHAL & PRETZMANN 1975: 630;
SCHMALFUSS 1986: 382, figs. 25–26;
FERRARA & TAITI 1986: 472.
Porcellio (*Porcellio*) *contractus:* ARCANGELI 1938: 30.
Porcellio (*Porcellio*) *anatolicus:* ARCANGELI 1938: 31, figs. 1–5.
Porcellio obsoletus nitidus: VERHOEFF 1941: 239;
STROUHAL 1968: 358, 361, fig. 72.

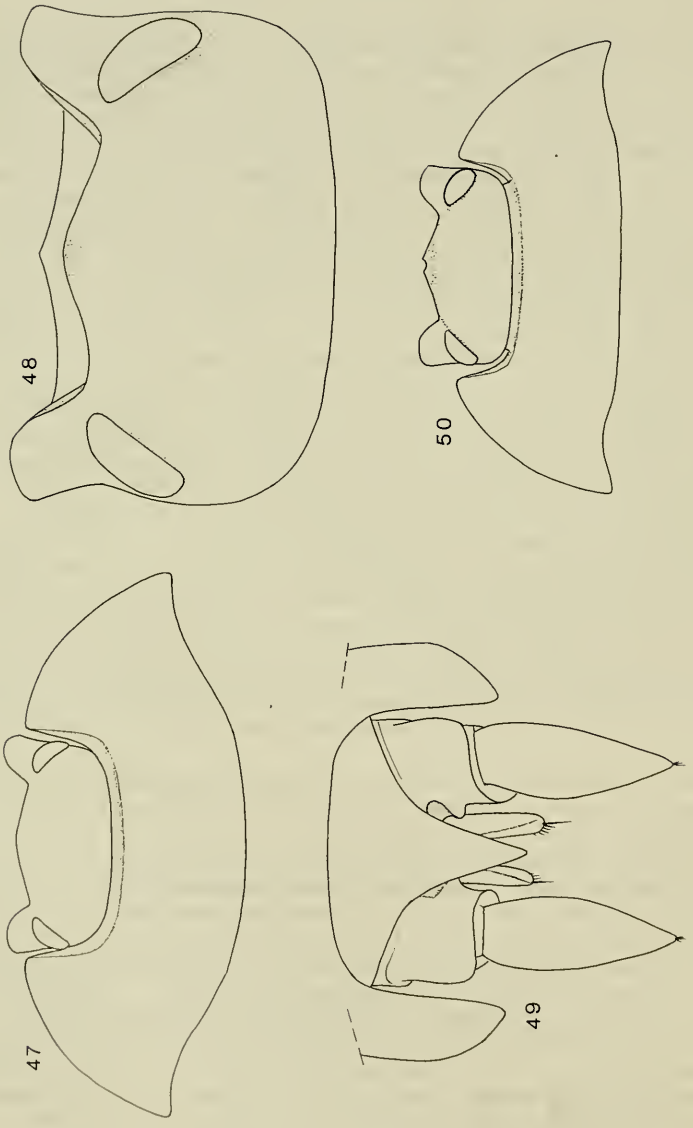
Porcellio obsoletus tauricus: VERHOEFF 1941: 239;
STROUHAL 1968: 361.
Porcellio hatayensis: VERHOEFF 1949: 37.
Porcellio obsoletus libanicus: VANDEL 1955: 511;
STROUHAL 1968: 361.
Porcellio iskenderunus: VERHOEFF & STROUHAL 1967: 491.
Porcellio obsoletus obsoletus: STROUHAL 1968: 357, figs. 64–65.
Porcellio obsoletus mavromoustakisi: STROUHAL 1968: 361, figs. 66–71.

Material examined: 1 ♀ (type of *P. syriacus*), "Syria" (ZMB, BRANDT 1833). — 1 ♀ (type of *P. griseus*), "Syria vel Aegyptus" (ZMB, BRANDT 1833). — 1 ♂ (type of *P. fissifrons*), Syria, "Tell-el-Kadi, près de Banias" S Latakia, leg. BARROIS 1890 (MNHNP Is. 2131, DOLLFUS 1892). — 1 ♂, 1 ♀ (syntypes of *P. contractus*), Lebanon, Saida, leg. BLEUSE, no date (MNHNP Is. 2116, DOLLFUS 1892). — 1 ♀ (type of *P. hatayensis*), S-Turkey, district Antakya, "Elma Dağı (Hatay)", leg. KOSSWIG II. 1942 (ZSM, VERHOEFF 1949). — 1 ♀ (type of *P. iskenderunus*), S-Turkey, "Hatay im Alma Dag", leg. KOSSWIG II. 1942 (ZSM, VERHOEFF & STROUHAL 1967). — 1 ♂, 1 ♀, N-Iran, prov. Masandaran, Elburs Mts., S Alamdeh, 760 m, deciduous forest, leg. MARTENS & PIEPER 28. V. 1978 (SMNS 11183, SCHMALFUSS 1986). — 2 ♀♀, W-Syria, N Borj Safita 20 km E Tartous, leg. KINZELBACH et alii 23. III. 1980 (SMNS 11154). — 5 ♀♀, W-Syria, Homs, leg. SCHEUERN 11. III. 1977 (SMNS 11050). — 1 ♂, 2 ♀♀, NW-Syria, Banias, Marqab, leg. KINZELBACH et alii 7. III. 1979 (SMNS 11110). — 3 specimens, W-Cyprus, Ayiu Neofitu N Pafos, leg. GRIMM & RACHINSKY 8. XII. 1988 (SMNS 11312). — 13 specimens, W-Cyprus, surroundings of Polis, leg. GRIMM & RACHINSKY XII. 1988 (SMNS 11308, 11309, 11310). — 2 specimens, W-Cyprus, N Peyia, leg. GRIMM & RACHINSKY 5. XII. 1988 (SMNS 11307). — 2 specimens, S-Turkey, district Antakya, Döver S Harbiye, leg. LIEBEGOTT 6. IV. 1987 (SMF). — 1 ♀, S-Turkey, district Antakya, mountain Habib Neccar, leg. KINZELBACH et alii 18. IX. 1982 (SMNS 11188). — 3 specimens, S-Turkey, district Antakya, Mağaraçik, ruins, leg. KINZELBACH et alii 19. IX. 1982 (SMNS 11202). — 7 specimens, S-Turkey, district Iskenderun, Belen-pass, leg. LIEBEGOTT 31. III. 1987 (SMF). — 1 ♀, SW-Turkey, Alanya, leg. TSCHORSNIG 15. X. 1985 (SMNS 11210). — 1 ♂, SW-Turkey, 60 km SSW Antalya, valley SW of the ruins of Olympos, 50 m, leg. RÄHLE 1. X. 1986 (SMNS 11221). — 1 ♀, SW-Turkey, district Muğla, 7 km W Fethiye, leg. KINZELBACH et alii 6. III. 1977 (SMNS 11037). — 1 ♂, W-Turkey, Menderes river W Söke, leg. HERRN VII. 1969 (SMNS 11001). — 2 ♀♀, W-Turkey, district Aydin, Efesos, leg. OSELLA 1. VII. 1973 (MCSNV). — 3 ♀♀, W-Turkey, Izmir, leg. KINZELBACH et alii 5. III. 1977 (SMNS 11033). — 1 ♀, W-Turkey, district Çanakkale, Truva, leg. OSELLA 29. VI. 1973 (MCSNV). — 2 specimens, NE-Aegaen, Turkish island Gökce Ada, Merkaz, leg. LIEBEGOTT 12. VI. 1989 (SMNS 11388).

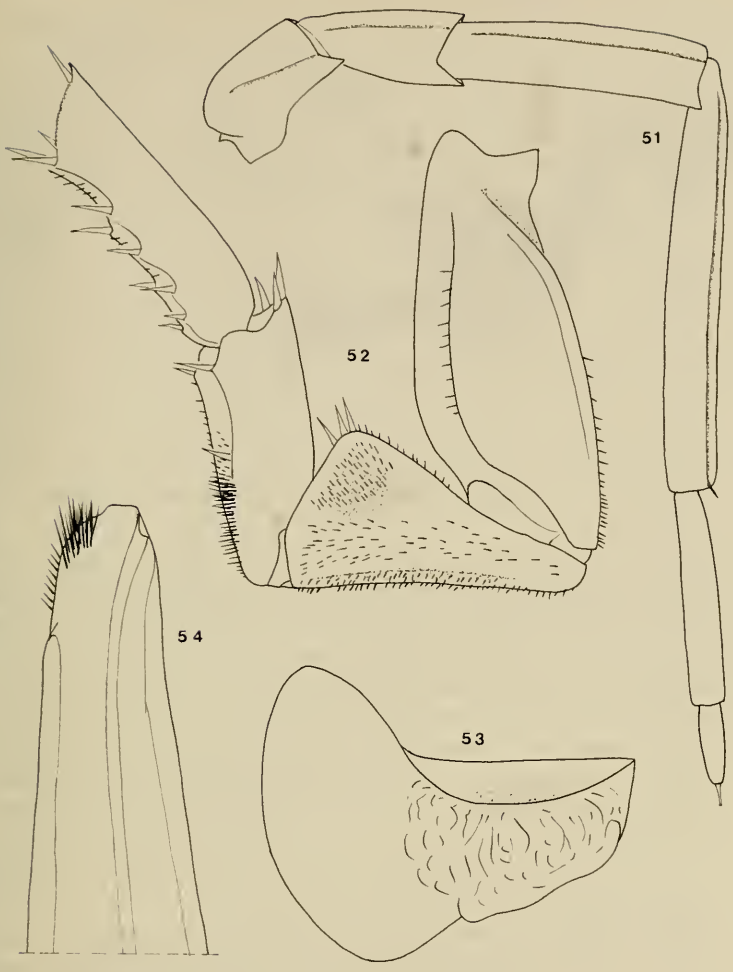
Material of *P. obsoletus* from the Greek islands in the eastern Aegaen (biogeographically belonging to Asia minor) has not been considered, it will be dealt with in a future paper on the genus *Porcellio* in Greece.

Further records: Israel: ? "Aqua Bella" (2 ♀♀, STROUHAL & PRETZMANN 1975). I have seen these specimens (Haifa collection), they are not *Porcellio ficulneus,* the telson morphology agrees with that of *P. obsoletus*; since no ♂♂ are known the identity with *P. obsoletus* cannot be ascertained. The fact that the locality lies inside the distribution area of *P. ficulneus* leaves the possibilites of an introduction by human activities or of the existence of a different undescribed species. — Lebanon: "Ard el Mezrab", 3000 m (VANDEL 1955). — Cyprus: Without locality (BUDDE-LUND 1879, 1885); Erimi; "Polimedia Hills" (STROUHAL 1968). — Turkey: Iskenderun (STROUHAL 1968); Pompeiopolis SW Mersin; Taurus Mts., Bürücek, 900 m, coniferous forest (VERHOEFF 1941); Izmir (ARCANGELI 1938 as *P. contractus*); "Belgrader Wald" on western shore of Bosporus (VERHOEFF 1941); Istanbul (= Konstantinopel) (BUDDE-LUND 1885); "Armutlu, asiatische Marmaraküste" (FERRARA & TAITI 1986). — Ukraine: Crimea ("e littore meridionali Chersonesi Tauricae") (BUDDE-LUND 1885).

Distribution (maps figs. 55, 65): The species is known from northern Iran, northern Syria, Lebanon, ?Israel, southern and western Turkey, the Crimea Peninsula, Greece (details see SCHMALFUSS 1979), Yugoslavia (details see KARAMAN 1966) and Italy (described as *P. napolitanus* Verhoeff, 1930 and *P. ficorum* Verhoeff, 1931).



Figs. 47–50. *Porcellio obsoletus*. – 47. ♀, 19 × 11 mm (NW-Syria, Banias, SMNS 11110), head and pereon-tergite I; – 48. ♀ as before, head, dorsal view; – 49. ♀ as before, telson and uropods in situ; – 50. ♂, 15 × 7 mm, holotype of *P.* „*fissifrons*“ (NW-Syria, near Banias), head and pereon-tergite I.



Figs. 51–54. *Porcellio obsoletus*, ♂, 17 × 9 mm (NW-Syria, Banias, SMNS 11110). – 51. Antenna; – 52. Pereopod VII, frontal face; – 53. Pleopod-exopodite I, caudal face; – 54. Pleopod-endopodite I, apex.

The populations from northern Iran and the Crimea seem to be separated from the main distribution area by ecological barriers (desert or steppe, or temperature factors). In Italy the species seems at least partly restricted to heavily anthropogenous biotopes, suggesting an introduction by human activities (Ferrara & Taiti 1986: 471). In the southern mediterranean vegetation zone of the Near East *P. obsoletus* is substituted by the closely allied vicariant *P. ficulneus*. Records of *P. obsoletus* from Israel lie inside the distribution area of *P. ficulneus* and could be human introductions. An exact analysis of the contact area of the two species (which might eventually prove *P. ficulneus* to be a subspecies of *P. obsoletus*) is still lacking.

Dimensions: Maximal size 20 × 10 mm (♀).

Diagnostic characters: Coloration: Most populations with uniformly blackish tergal parts. Juveniles often with whitish spots or lines. Specimens from Cyprus very variable in coloration, many specimens with tergites distinctly striped black and

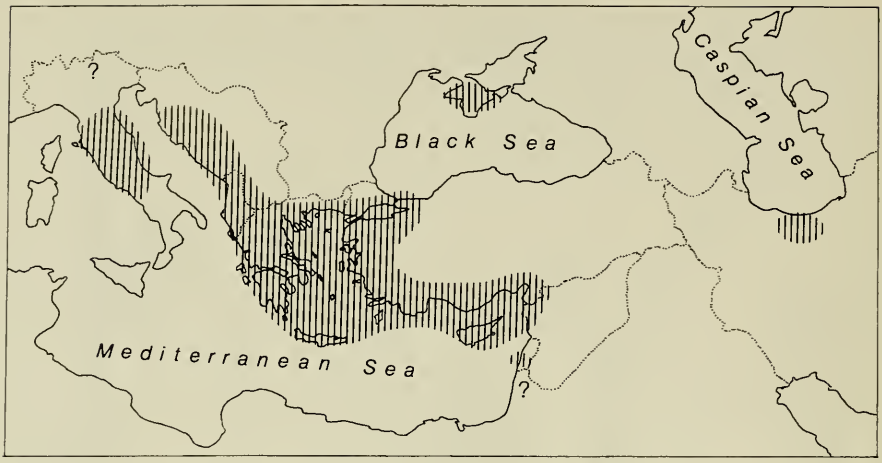


Fig. 55. Distribution of *Porcellio obsoletus*, as far as it is presently known.

white, very similar to the color pattern occurring in *P. palaestinus*. — Cuticular structures: Some populations with pronounced tuberculation on tergites, others only faintly granulated. — Median lobe of head can have a sharp conspicuous incision or no trace of an incision or any intermediate form (figs. 47, 48, 50). This character varies geographically and individually inside samples from the same locality. Hindmargin of pereon-epimeron I sinuate (figs. 47, 50). Telson with acutely pointed apex (fig. 49) with the exception of *P. obsoletus libanicus* where it is narrowly rounded (compare VANDEL 1955: 512, fig. 29B). Antennal flagellum with proximal article about 2.5 times the length of distal one (fig. 51). Ischium VII ♂ ventrally straight, carpus VII ♂ without dorsal ridge (fig. 52). Pleopod-exopodite I ♂ see fig. 53, endopodite I ♂ with a brush of long setae and a row of short spines (fig. 54). Uropod-exopodite medially without sinuosity (fig. 49).

Remarks: The species differs from the otherwise very similar *P. ficulneus* in the shape of the telson and uropod-exopodites and by the setal brush at the apex of pleopod-endopodite I ♂. The same differences shows *P. palaestinus*, additionally the latter species has a different coloration and a rigde on carpus VII ♂.

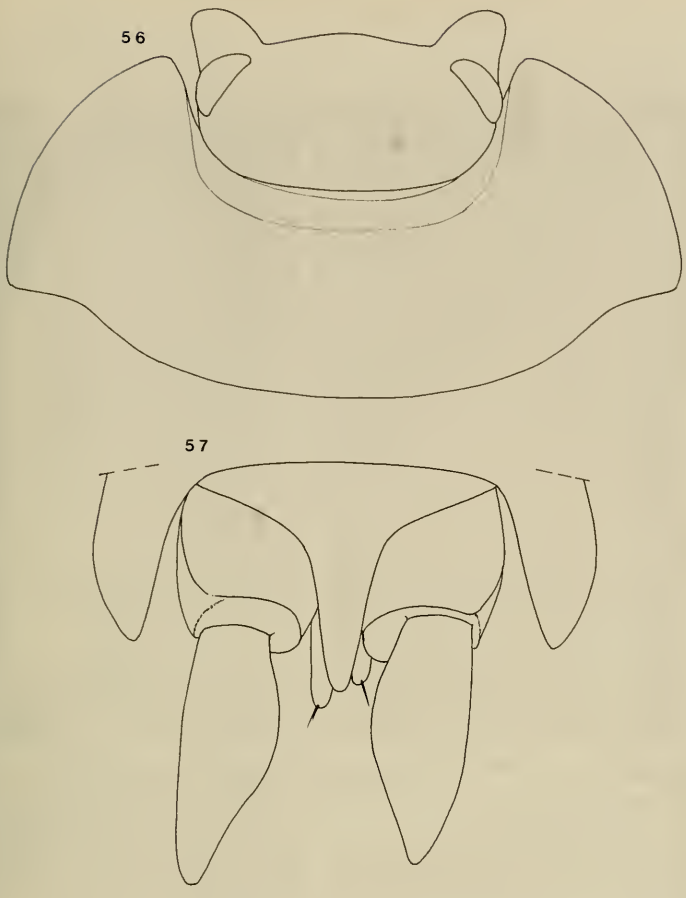
The considerable variability of the frontal morphology and of the tergal granulation was certainly one reason for the creation of the numerous synonyms. The question whether these synonyms and the different subspecies described deserve a subspecific status has yet to be clarified by investigations of larger series of specimens.

While the name *obsoletus* Budde-Lund, 1885 has now been used for more than 100 years the older synonyms *syriacus* Brandt, 1833 and *griseus* Brandt, 1833 have never been used again after the original "descriptions" and should be considered nomina oblita.

6.2.6. *Porcellio palaestinus* Verhoeff, 1931

Porcellio ficulneus non Budde-Lund, partim: DOLLFUS 1892: 6 (see remarks).
Porcellio ficulneus var. *palaestinus:* VERHOEFF 1931: 41.

Material examined: 8 ♂♂, 37 ♀♀ (all with marsupium), SW-Jordan, Petra 30 km NE Ma'an, leg. KINZELBACH 17. III. 1977 (SMNS 11390). — 1 ♀ without marsupium, same locality, leg. RABIEN 30. XII. 1983 (SMNS 11178). — 3 ♀♀ without marsupium, W-Jordan, 18 km SW Madaba, leg. KRUPP & SCHNEIDER 21. II. 1980 (SMNS 11169). — 3 ♀♀ (all with



Figs. 56–57. *Porcellio palaestinus*, ♂, 16 × 7 mm (Jordan, Petra, SMNS 11390). – 56. Head and pereon-tergite I; – 57. Telson and uropods in situ.

marsupium), 20 km E Jerusalem, at sea-level point, semi-desert, leg. SCHAWALLER & SCHMALFUSS 20. II. 1987 (SMNS 11391). — 1 ♂, 1 ♀ without marsupium, Jerusalem, collector?, III. 1939 (SMNS 11392).

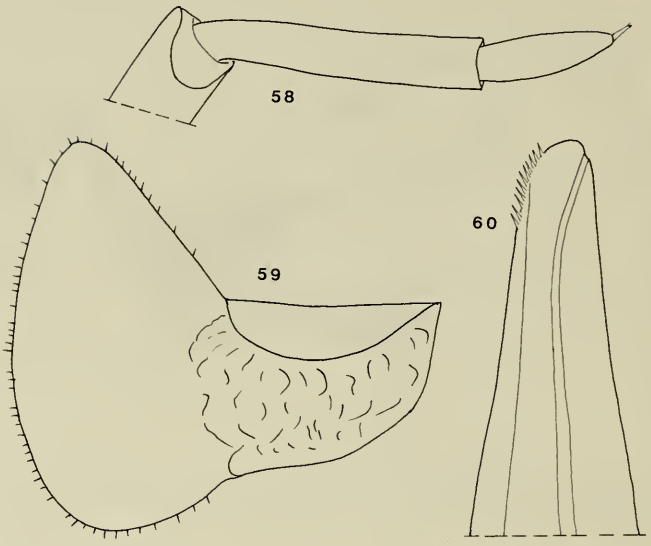
Further records: Palestine, surroundings of Jerusalem (VERHOEFF 1931); "Ouadys de la Mer Morte" (DOLLFUS 1892).

Distribution: This species seems to be an inhabitant of semi-desert biotopes around the Dead Sea and along the Arava-valley south of the Dead Sea (map fig. 65).

Dimensions: Maximal size 19 × 9 mm (♀ with marusupium).

Diagnostic characters: Coloration: Variable, a row of light spots on bases of pereon-epimera always present, margins of epimera pigmentless to a variable degree. Many ♀♀ from the Petra sample dark, with pigmentation appearing pronounced on 5 longitudinal stripes, while ♀♀ from other localities and most ♂♂ much lighter with whitish tergites, a line of dark patches along bases of pereon-epimera, and head and pleon strongly pigmented. — Cuticular structures: Faint granules on tergites.

The species is very similar to *P. ficulneus*. The differences are: Tergal parts with more or less extensive pigmentless regions (*ficulneus* is totally black or at least



Figs. 58–60. *Porcellio palaestinus*, ♂ as before. – 58. Antennal flagellum; – 59. Pleopod-exopodite I, caudal face; – 60. Apex of pleopod-endopodite I.

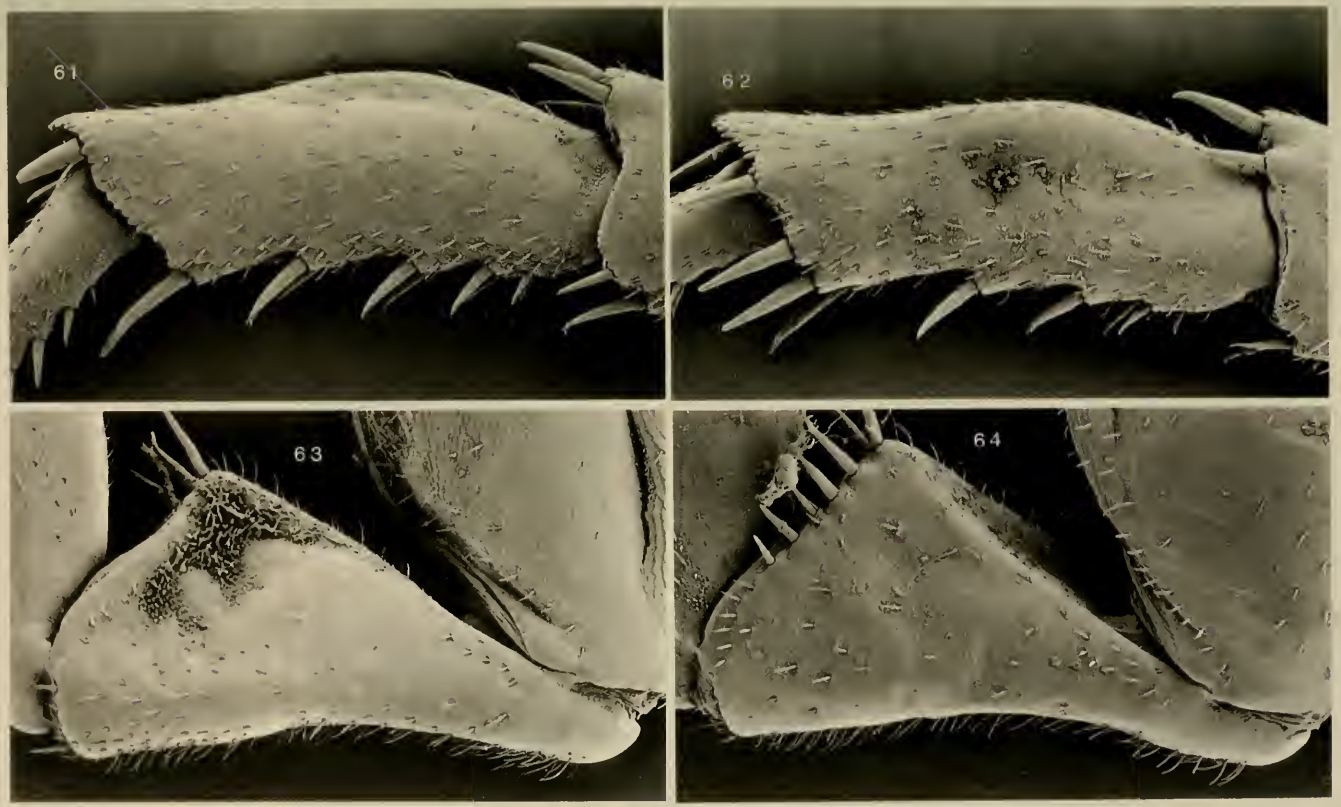
brownish); apex of telson narrower (fig. 5); carpus VII ♂ with a low but distinct ridge dorsally (figs. 61, 62) (in *P. ficulneus* and *P. obsoletus* without a ridge). Ischium VII ♂ ventrally variable, in some specimens sinuate (figs. 63, 64), in others straight.

Remarks: Dollfus (1892: 6) mentions, under *Porcellio ficulneus*, some ♀♀ from "Ouadys de la Mer Morte" with an aberrant coloration which corresponds to that of the investigated specimens of *P. palaestinus*. The collecting locality, even if it is not very precise, and the ecological context (a wadi means at least semi-desert) are also congruent with the data recorded for *P. palaestinus*.

6.2.7. *Porcellio ficulneus* Budde-Lund, 1885

Porcellio ficulneus: Budde-Lund 1885: 98;
Dollfus 1892: 6; 1894: 3;
Verhoeff 1923: 218, 219;
Richardson 1926: 205;
Vandel 1955: 509.
Porcellio ficulneus var. *ficulneus:* Verhoeff 1933: 112.
Porcellio ficulneus ficulneus: Pretzmann 1974: 446.
Porcellio obsoletus non Budde-Lund: Pretzmann 1974: 445;
Warburg, Rankevich & Chasanmus 1978: 159;
Warburg & Rosenberg 1978: 195.
Porcellio obsoletus ficulneus: Warburg 1991: 131.

Material examined: 1 ♀ Israel, Lower Galil, W Yodefat, 300 m, leg. Schawaller, Schmalfuss & Warburg 9. II. 1987 (SMNS 11345). — 12 specimens, Israel, SE Haifa, Mt. Karmel, monastery Muhraqa, 400 m, leg. Schawaller, Schmalfuss & Warburg 8. II. 1987 (SMNS 11342). — 6 specimens, Israel, SE Haifa, S Mt. Karmel, NW Elyaqim, 300 m, leg. Schawaller, Schmalfuss & Warburg 8. II. 1987 (SMNS 11344). — 7 specimens, same date, SW Elyaqim, 300 m, 10. II. 1987 (SMNS 11347). — 1 ♂, Israel, 30 km W Jerusalem, S Tirosh, 150 m, leg. Schawaller, Schmalfuss & Warburg 12. II. 1987 (SMNS 11346). — 5 specimens, Israel. 16 km N Be'er Sheva, NW Lahav, 350 m, leg. Schwaller, Schmalfuss & War-



Figs. 61–64. *Porcellio palaestinus*, ♂, 13.5 × 6.3 mm (Jordan, Petra, SMNS 11390). – 61. Carpus VII, frontal face; – 62. Carpus VII, caudal face; – 63. Ischium VII, frontal face; – 64. Ischium VII, caudal face.

Fig. 65. Safe records of *Porcellio palaestinus, P. ficulneus, P. deganiensis* and *P. obsoletus* (only southeastern part of distribution area, overall distribution see fig. 55).

BURG 12. II. 1987 (SMNS 11343). — 13 specimens, Israel, Gilboa Mts., SE Nurit, 400 m, leg. SCHAWALLER, SCHMALFUSS & WARBURG 10. II. 1987 (SMNS 11395).

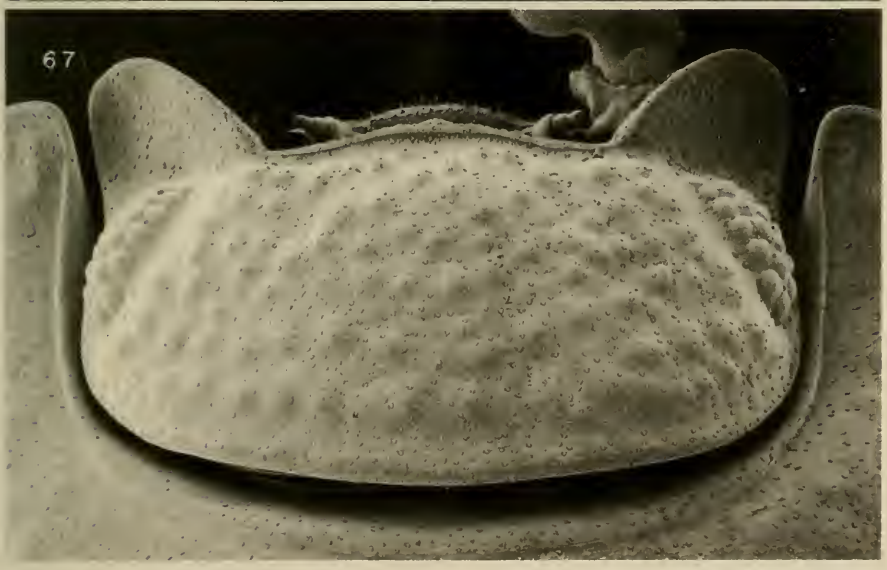
Further records: DOLLFUS (1894), RICHARDSON (1926) and VANDEL (1955) report *P. ficulneus* from a number of localities in Lebanon and southwestern Syria. It is, however, not clear whether these reports have to be ascribed to *P. ficulneus* or to *P. deganiensis*, which are presently considered two different species.

Israel: "Chuldah" ? = Hulda 25 km SES Tel Aviv; Gilboa Mts. (VERHOEFF 1933). The reports of *P. ficulneus* from Jerusalem (DOLLFUS 1892, 1894, PRETZMANN 1974) could also refer to *P. palaestinus*.

In the map fig. 65 only samples examined in the present investigation are considered to exclude possible misidentifications.

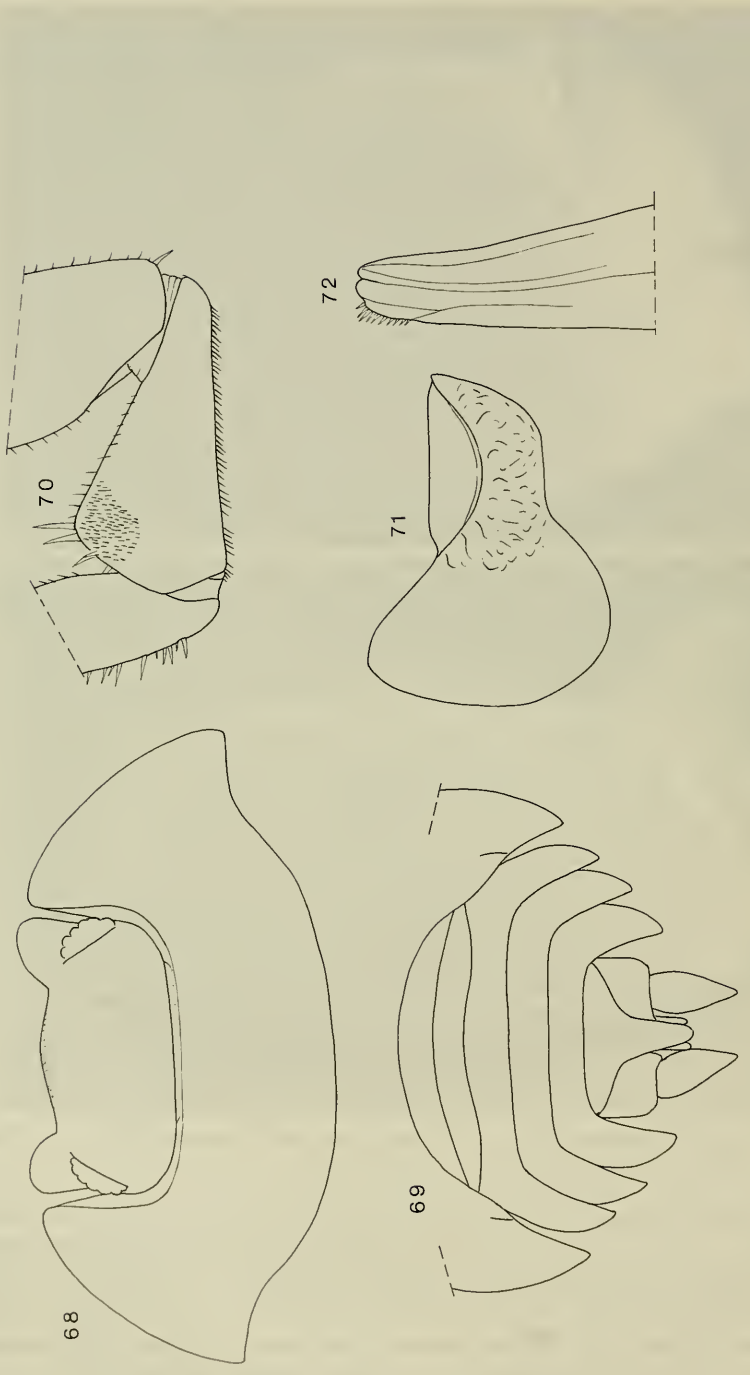
Distribution: Safe records are known only from Israel, where the species populates Mediterranean macchia- or garrigue-vegetation. The reports of *P. ficulneus* from the Lebanon need confirmation (map fig. 65).

Dimensions: Maximal size 19 × 9.5 mm.

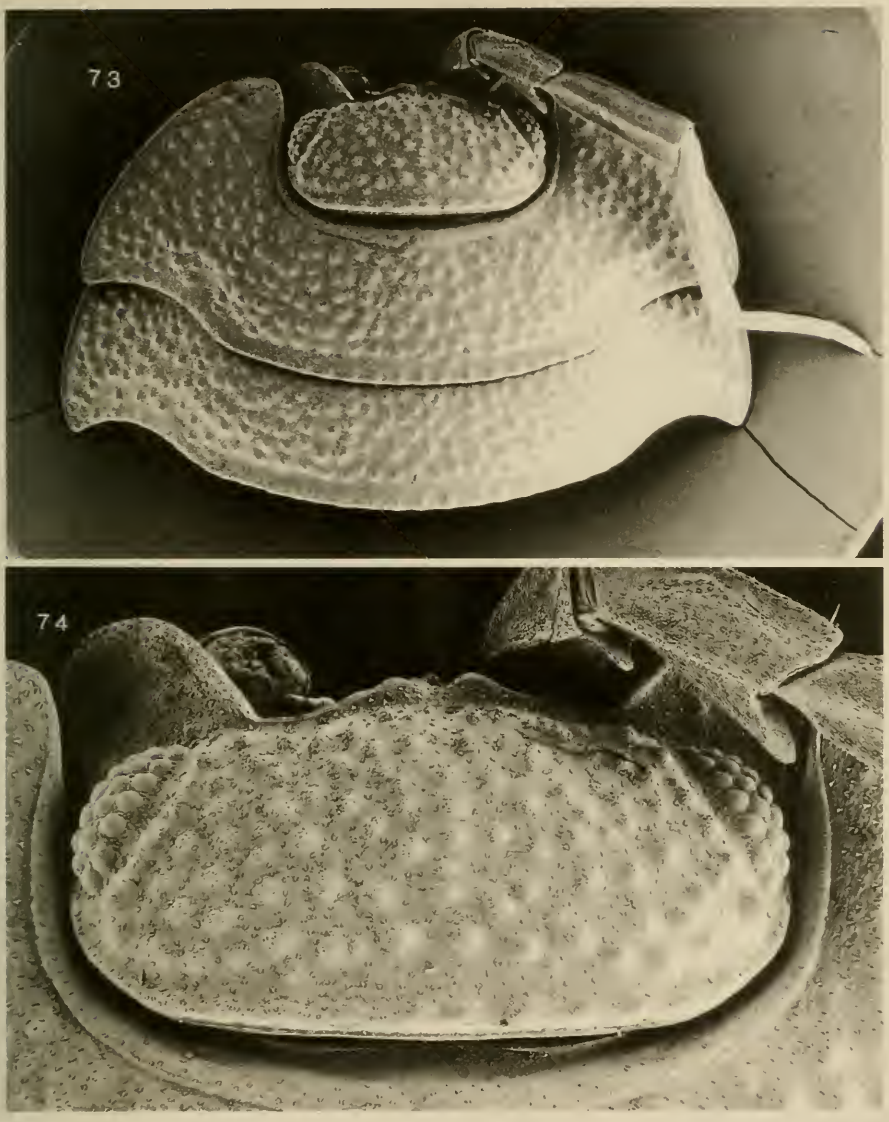


Figs. 66–67. *Porcellio ficulneus*, ♀, 16 × 7.7 mm (Israel, Mt. Karmel, SMNS 11344), head and pereon-tergites I + II.

Diagnostic characters: Coloration: Brownish or uniformly blackish without light markings. — Cuticular structures: Variable, some specimens with very faint tergal granulation, others with rather pronounced granules. — Median lobe of head rounded or with a very moderate trace of incision (figs. 67, 68). Pereon-tergites narrower, epimera steeper than in *P. deganiensis* (figs. 66, 68). Telson with rounded apex (fig. 69). — Antennal flagellum with relation distal/proximal article 1 : 3. — Ischium VII ♂ very similar to that of *P. obsoletus*, ventrally straight and equipped with short setae (fig. 70). Pleopod-exopodite I ♂ with rounded triangular hind-lobe slightly broader and shorter than in *P. obsoletus* (fig. 71). Pleopod-endopodite I ♂ terminally with row of short spines (fig. 72), lacking the tuft of thin and long setae



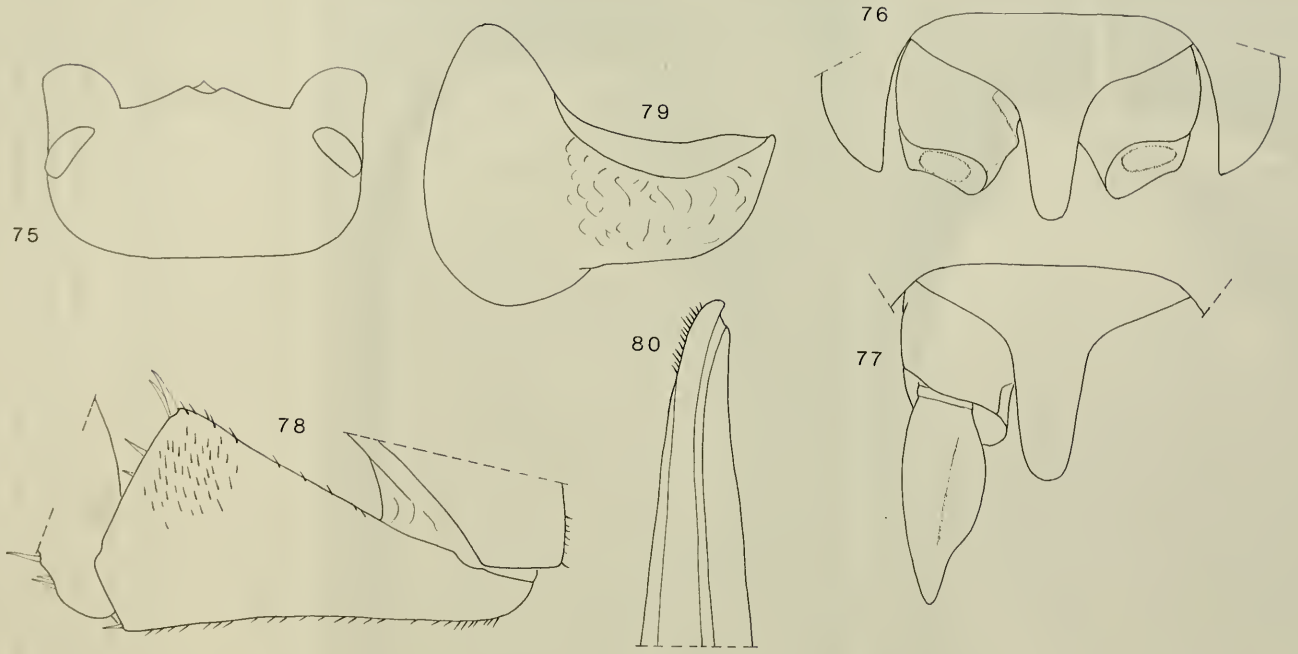
Figs. 68–72. *Porcellio ficulneus*, syntype, ♂ (BML, original drawings made by S. Taiti). – 68. Head and pereon-tergite I; – 69. Pleon; – 70. Ischium VII, frontal face; – 71. Pleopod-exopodite I, caudal face; – 72. Apex of pleopod-endopodite I.



Figs. 73–74. *Porcellio deganiensis*, ♀, 16 × 9 mm (SW-Syria, SMNS 11056), head and pereon-tergites I + II.

present in *obsoletus*. Uropod-exopodites slightly broader than in *obsoletus*, terminal part medially with concave outline.

Remarks: Vandel (1955: 509) considers *P. contractus* Dollfus, 1892 and *P. deganiensis* Verhoeff, 1923 as sub-species of *P. ficulneus*. An examination of type-specimens proved *P. contractus* to be synonymous with *P. obsoletus*, while *P. deganiensis* seems to be a different species from *ficulneus*. The identification of the *ficulneus*-samples was ascertained by drawings of type-specimens made by S. Taiti in the British Museum.



Figs. 75–80. *Porcellio deganiensis.* – 75. Syntype, ♀, 17 mm long, head; – 76. Syntype, ♀ as before, telson and uropod-protopodites in situ (exopodites missing); – 77. ♀, 16 mm long (SW-Syria, SMNS 11056), telson and uropod in situ; – 78. ♂, 14 mm long (SW-Syria, SMNS 11056), ischium VII, frontal face; – 79. ♂ as before, pleopod-exopodite I, caudal face; – 80. ♂ as before, apex of pleopod-endopodite I.

Fig. 81. Safe records of *Porcellio cilicius* and *P. pseudocilicius*.

6.2.8. *Porcellio deganiensis* Verhoeff, 1923

Porcellio deganiensis: Verhoeff 1923: 217, 218; 1943: 11.

Material examined: 1 damaged ♂ (± 13 mm long), 1 ♀ with marsupium (17 mm long) (syntypes), Israel, Deganya on southern tip of Lake Tiberias, leg. Aharoni 4. IV. 1920 (ZSM, Verhoeff 1923). — 4 ♀♀ SW-Syria, 30 km SW Damaskus, leg. Kinzelbach et alii 20. IX. 1980 (SMNS 11175). — 11 specimens, SW-Syria, 25 km N Deraa, leg. Kinzelbach et alii 25. III. 1977 (SMNS 11056). — 2 ♀♀, SW-Syria, 6 km N Salkhad, leg. Kinzelbach et alii 6. IV. 1979 (SMNS 11077). — 2 ♂♂, 5 ♀♀, SW-Syria, 15 km E Bosra, leg. Kinzelbach et alii 6. IV. 1979 (SMNS 11072). — 1 ♀, NW-Jordan, Ajlun, leg. Kinzelbach 13. III. 1977 (SMNS 11059).

Further records: Some of the records of *P. ficulneus* given for northern Israel and for Lebanon (Dollfus 1894, Richardson 1926, Vandel 1955) could refer to this species.

Distribution: SW-Syria, NW-Jordan, NE-Israel, perhaps Lebanon. Seems to be vicariant to *P. ficulneus*. Exact location of and systematic situation in contact area not known (map fig. 65).

Dimensions: Maximal size 16 × 9 mm.

Diagnostic characters: Coloration: Dark grey, edges of epimera whitish, light spots on bases of pereon-epimera. — Cuticular structures: Tergites with very pronounced granulation, tubercles more accentuated than in any population of *P. ficulneus*, *P. obsoletus* or *P. palaestinus*. — Frontal part of head (= median lobe) with pronounced incision in all individuals (figs. 74, 75). Pereon-tergites broader and flatter than in *P. ficulneus* (fig. 73). Telson with rounded apex (figs. 76, 77). Articles of antennal flagellum with ratio distal/proximal 1 : 2.5. Ischium VII ♂ (fig. 78) and pleopod-exopite I ♂ (fig. 79) as in *P. obsoletus*. Pleopod-endopodite I ♂ (fig. 80) with narrower apex (compared with *ficulneus* and *obsoletus*), terminal row of short spines, no tuft of long setae. Terminal part of uropod-exopodite medially concave (fig. 77).

Remarks: Verhoeff (1923: 219) considers the possibility of *deganiensis* to be a subspecies of *ficulneus*, for Vandel (1955: 509) *deganiensis* is a subspecies of *ficul-*

neus. I have examined numerous specimens of both taxa, including type-material, and found differences in the morphology of the frontal part of the head, in the length-width-ratio of the pereon-tergites and consequently in the steepness of the epimera, in the coloration and granulation of the tergal parts, and in the shape of pleopod-exopodite I ♂ and endopodite I ♂. These differences are constant in the material I have investigated, so at present I consider the two forms as separate vicariant species. Their situation in the contact area has still to be analysed.

6.2.9. *Porcellio chuldahensis* Verhoeff, 1923

Porcellio (*Euporcellio*) *chuldahensis:* Verhoeff 1923: 217–218.

Material examined: 1 ♂, 2 ♀♀, SW-Syria, 25 km N Dar'a (Deraa), river Nahr al-Harir, leg. Kinzelbach 25. III. 1977 (SMNS 11056). — 4 ♀♀, Israel, Haifa, leg. Warburg 22. II. 1974 (SMNS 11371).

Further records: Israel: Lake Tiberias; "Chuldah" = ? Hulda 25 km SES Tel Aviv (Verhoeff 1923).

Distribution: Known from northern Israel and SW-Syria.

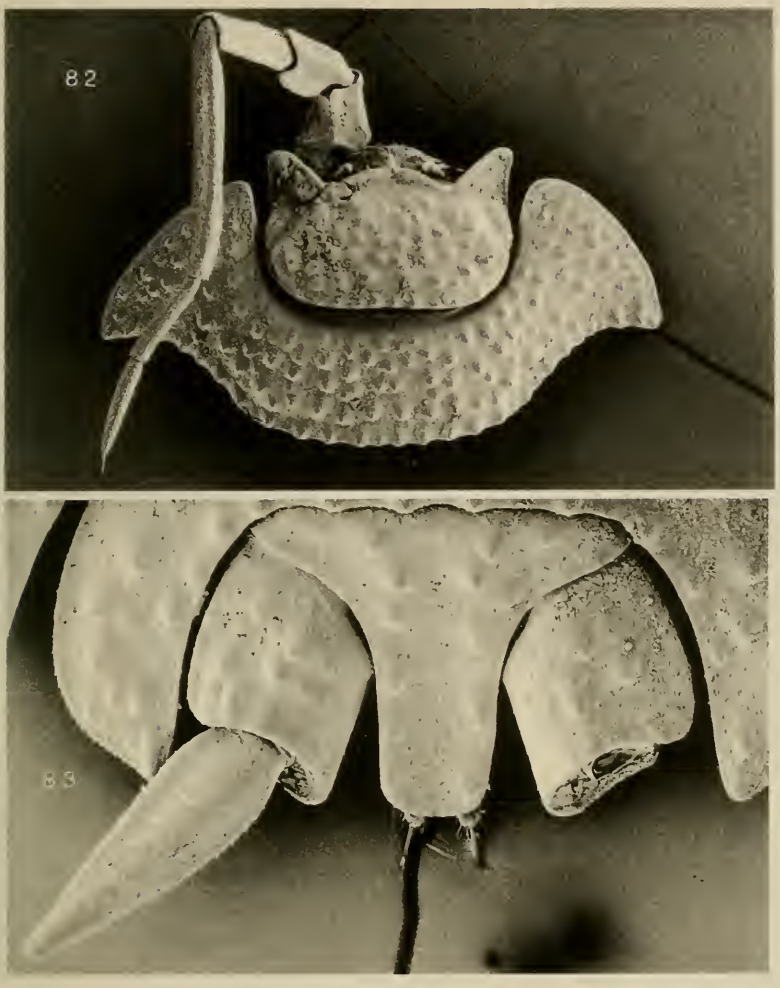
Dimensions: Maximal length 12 mm.

Diagnostic characters: Coloration: Light brownish grey. — Cuticular structures: Tergal part with pronounced tuberculation (figs. 82, 83). — Median lobe of head with deep incision, below the incision with long nosy protrusion much more developed than in *P. cilicius* and always visible in dorsal view (figs. 82, 84). Hind-margin of pereonite I deeply sinuate (fig. 82). Telson with broadly truncated apex, distal part with parallel sides (fig. 83). Second article of antenna with lateral ridge wider than in other species (fig. 85). Ischium VII ♂ without any conspicuous sexual modifications (fig. 86), if the single ♂ investigated is adult. Medial part of pleopod-exopodite I ♂ shorter than in *cilicius* (fig. 87), so width-length ratio greater. Pleopod-endopodite I ♂ terminally with row of short spines and a tuft of longer setae (fig. 88), so similar to *P. obsoletus*. The overall appearance of the species is very similar to that of *P. cilicius*, the two species show, however, consistent differences in coloration, size, frontal morphology of head, second article of antenna, Ischium VII ♂, and pleopod I ♂.

6.2.10. *Porcellio cilicius* Verhoeff, 1907

Porcellio cilicius: Verhoeff 1907: 263, 269; 1941: 239.
Porcellio (*Porcellio*) *cilicius:* Frankenberger 1950: 4, figs. 10–14.
Porcellio kislarensis: Verhoeff 1941: 238.
Porcellio almanus: Verhoeff 1949: 38;
Verhoeff & Strouhal 1967: 490.

Material examined: 1 ♀ with marsupium (formerly dried and pinned, 13 × 7.5 mm, hololectotype, herewith designated), Turkey, Taurus Mts., "aus dem cilicischen Küstengebiet, Bürücek" (locality not found), leg. Holtz (ZSM, Verhoeff 1907). — 1 ♀ (formerly pinned, paralectotype), Turkey, "Cilicien", Adana, leg. Holtz (ZSM, Verhoeff 1907). — 2 ♀♀ (syntypes of *P. kislarensis*), S.-Turkey, Taurus Mts., "Ulu Kislar, 1800 m an der Taurusbahn", leg. Kosswig & De Latin (ZSM, Verhoeff 1941). — 2 ♀♀ (syntypes of *P. almanus*), S-Turkey, Hatay, "Elma Dagi", leg. Kosswig II. 1942 (ZSM, Verhoeff 1949). — 1 ♀, SW-Turkey, N Antalya, "Bunar Basi", 400 m, leg. Kosswig & De Lattin (ZSM, Verhoeff 1941). — 1 ♀, SW-Turkey, SSW Antalya, 15 km W Kemer, Gedelme, 850 m, leg. Rähle 2. X. 1986 (SMNS 11222). — 25 specimens, SW-Turkey, N Alanya, 600–1200 m, macchia and *Pinus*, leg. Tschorsnig 13. X. 1985 (SMNS 11208). — 2 ♀♀, Turkey, "Taurus" without locality (ZSM). — 4 ♀♀, S-Turkey, Mersin (ZMB). — 2 ♂♂, S-Turkey, 60 km N Tarsos,



Figs. 82–83. *Porcellio chuldahensis*, ♀, 9.5 × 4.7 mm (SW-Syria, SMNS 11056). – 82. Head and pereon-tergite I; – 83. Telson and uropods in situ.

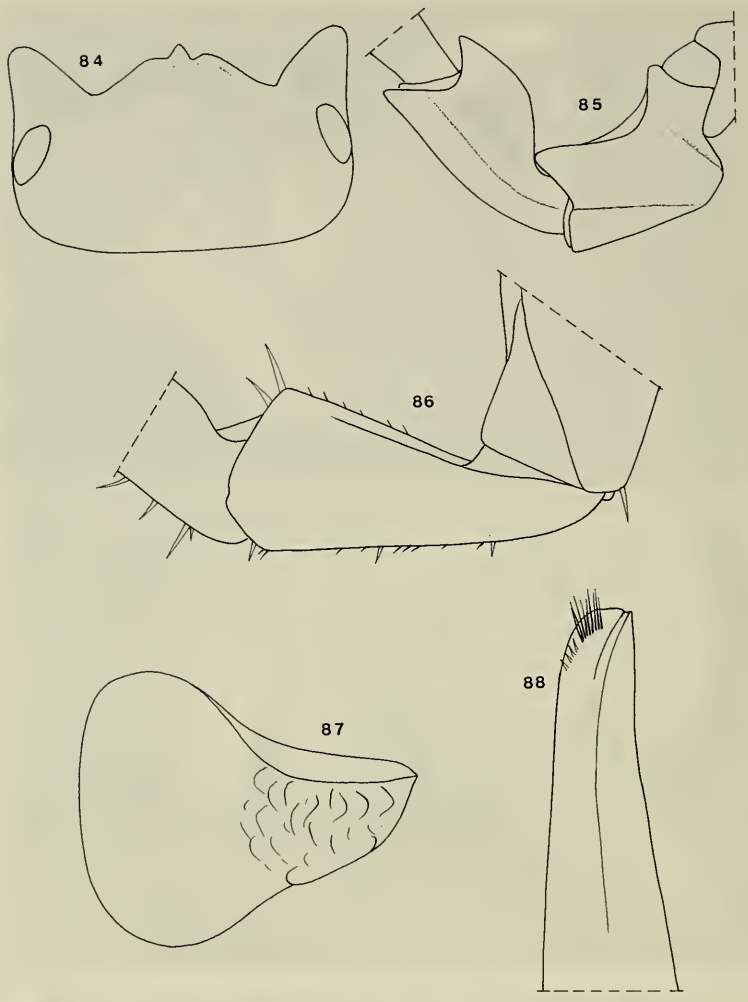
Pozanti, leg. Liebegott 21. IV. 1987 (SMF, SMNS 11349). — 1 ♀, S-Turkey, Adana, 4 km E Misis, leg. Kinzelbach et alii 15. IX. 1982 (SMNS 11192). — 2 ♂♂, 3 ♀♀, S-Turkey, SE Iskenderun, pass of Belen, leg. Liebegott 31. III. 1987 (SMF). — 1 ♀, S-Turkey, Antakya district, Döver S Harbiye, leg. Liebegott 6. IV. 1987 (SMF). — 1 ♀, S-Turkey, Antakya district, Harbiye, leg. Liebegott 6. IV. 1987 (SMF). — 1 ♂, 3 ♀♀, S-Turkey, Antakya district, Yayladagi, leg. Liebegott 8. IV. 1987 (SMNS 11350). — 1 ♀, NW-Syria, 13 km SW Jisr-ech-Choghur, Nahr al-Abyad, leg. Kinzelbach et alii 21. III. 1979 (SMNS 11095). — 1 ♀, NW-Syria, road from Jebel Ansari to Ghab valley, leg. Kinzelbach 21. III. 1979 (SMNS 11115).

Further record: Turkey, Taurus Mts., Yeniköy 20 km N Antalya (Frankenberger 1950).

Distribution: Taurus Mountains in southern Turkey to coastal mountain ridges in NW-Syria (localisable records see map fig. 81).

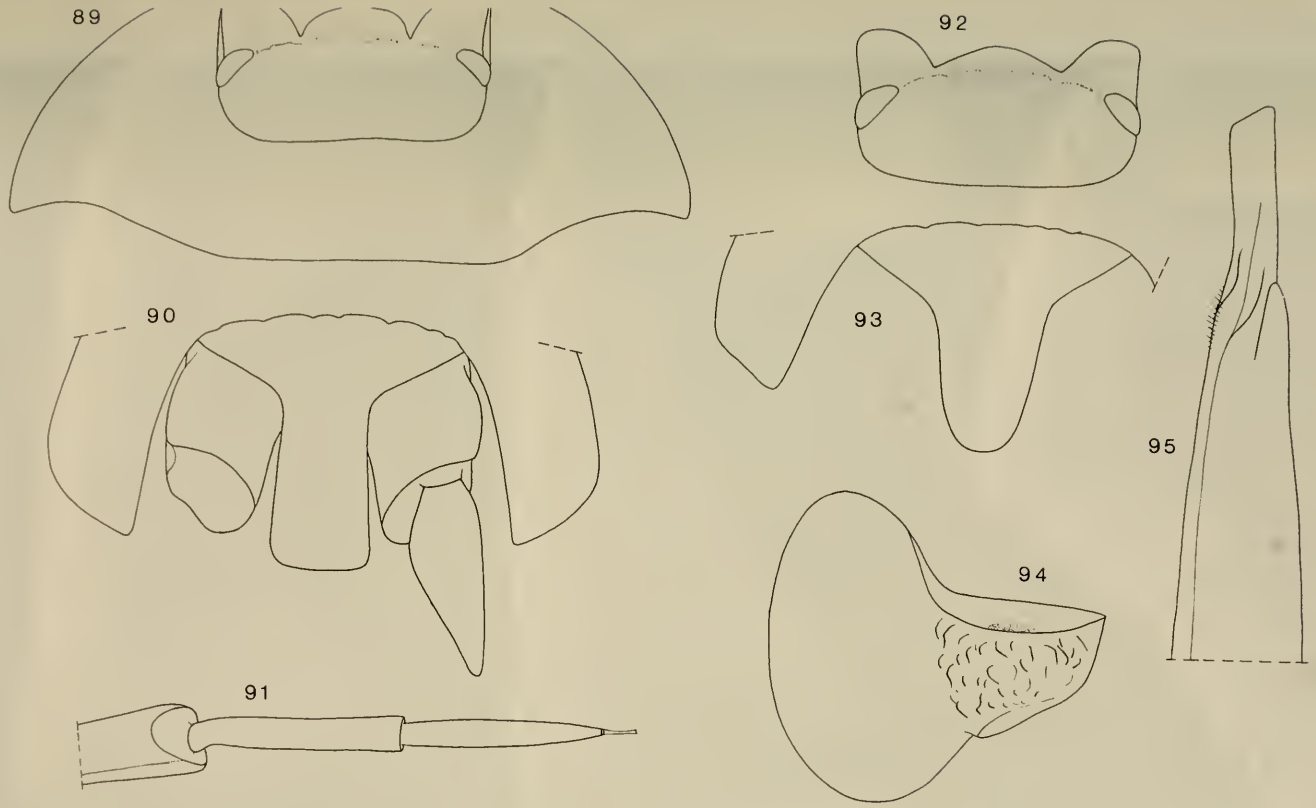
Dimensions: Maximal size 13 × 7.5 mm.

Diagnostic characters: Coloration: Lighter or darker greyish brown with inconspicuous whitish spots on bases of pereon-epimera, sometimes edges of epi-

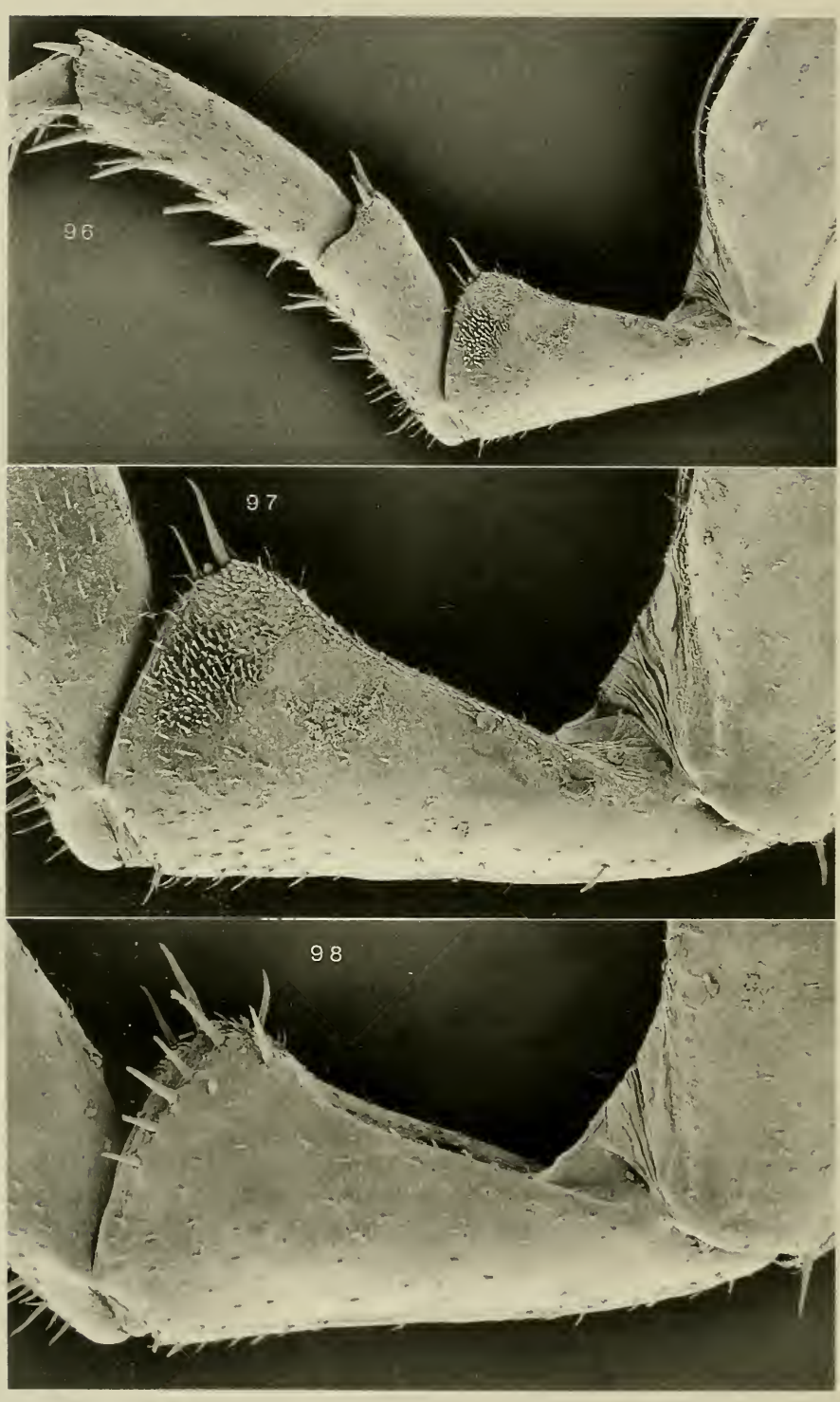


Figs. 84–88. *Porcellio chuldahensis* (SW-Syria, SMNS 11056). – 84. ♀, 9.5 mm long, head; – 85. ♀ as before, proximal antennal joints; – 86. ♂, 7.5 × 3.8 mm, ischium VII, caudal face; – 87. ♂ as before, pleopod-exopodite I, caudal face; – 88. ♂ as before, apex of pleopod-endopodite I.

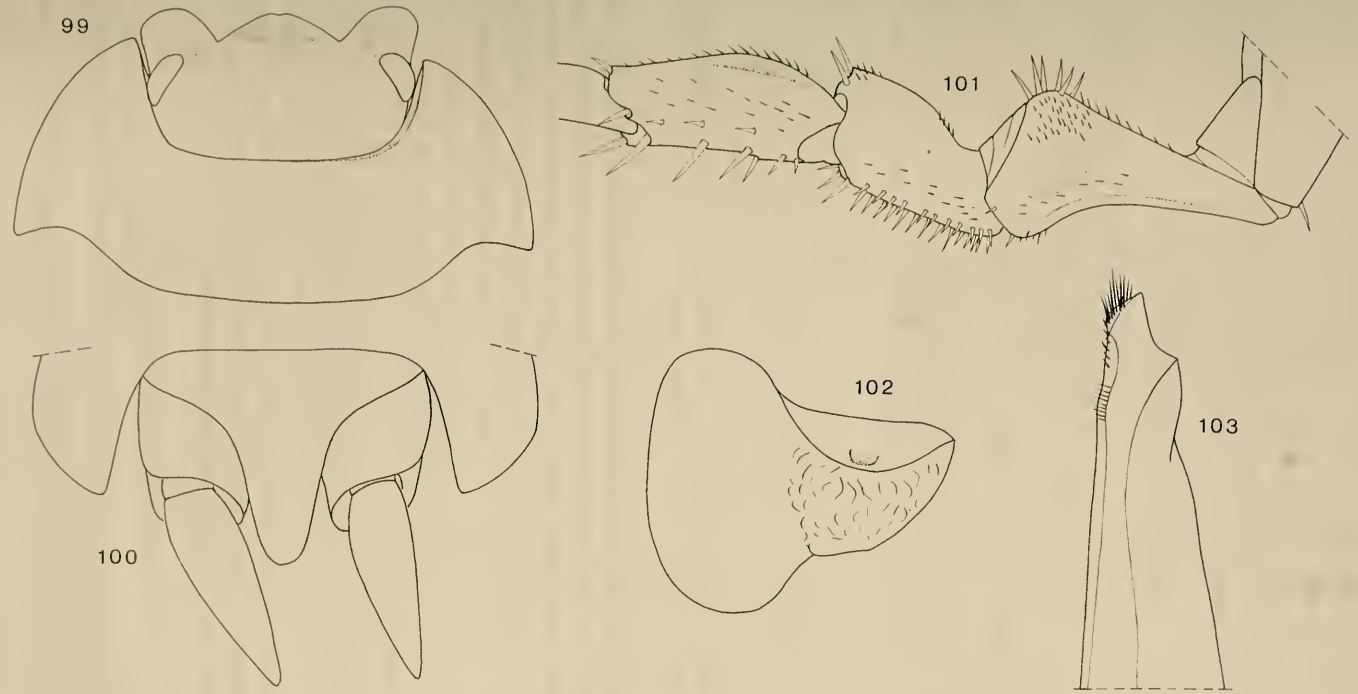
mera whitish. The ♀ from W Kemer (SMNS 11222) is greatly depigmented, with only two dark lateral bands on pereon tergites and a pigmented inner zone of the pleon. — Median lobe of head variable (figs. 89, 92), in large specimens protruding nearly as far as side-lobes and forming acute angles with the latter. In smaller specimens median lobe shorter and forming right angles with side-lobes. The frontal margin of the median lobe can be rounded, truncate, or slightly indented. The latter shape is the only difference of "*Porcellio kislarensis* Verhoeff, 1941", compared to the type-specimens of *P. cilicius* Verhoeff, 1907. Pereon-tergites comparatively broad (fig. 89), telson with truncate or rounded apex (figs. 90, 93). The peripheral parts (frontal lobes, epimera, telson) seem to be subject to allometric growth, so larger specimens have different proportions compared with smaller animals. Antennal fla-



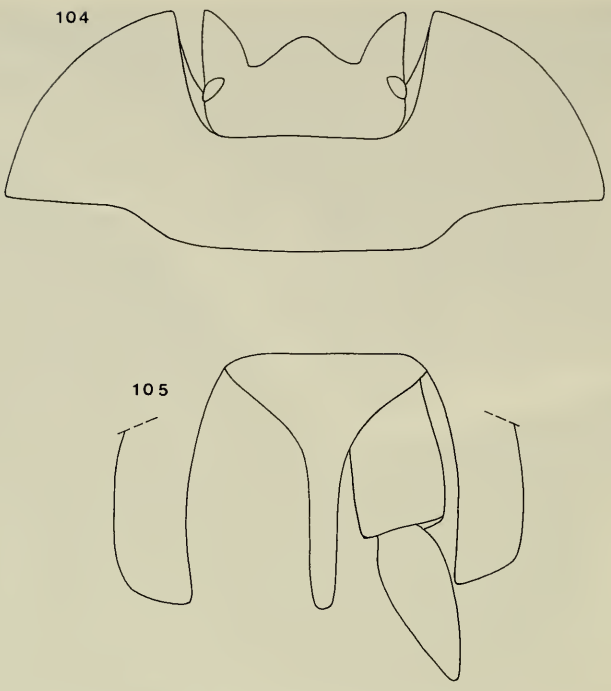
Figs. 89–95. *Porcellio cilicius*. – 89. Hololectotype, ♀ with marsupium, 13 × 7.5 mm, head and pereon-tergite I; – 90. As before, telson and uropod in situ; – 91. As before, antennal flagellum; – 92. Paralectotype, ♀, 11.5 × 6 mm, head; – 93. As before, telson; – 94. ♂, 9.5 × 5.5 mm (S-Turkey, Yayladağı, SMNS 11350), pleopod-exopodite I, caudal face; – 95. As before, apex of pleopod-endopodite I.



Figs. 96–98. *Porcellio cilicius*, ♂, 9.5 × 5.5 mm (S-Turkey, Yayladağı, SMNS 11350). – 96. Pereopod VII, frontal face; – 97. Ischium VII, frontal face; – 98. Ischium VII, caudal face.



Figs. 99–103. *Porcellio pseudocilicius* n. sp., holotype, ♂, 10 × 4.3 mm. – 99. Head and pereon-tergite I; – 100. Telson and uropods in situ; – 101. Pereopod VII, frontal face; – 102. Pleopod-exopodite I, caudal face; – 103. Apex of pleopod-endopodite I.



Figs. 104–105. *Porcellio insignis*, holotype, ♂, 16 × 9.5 mm. – 104. Head and pereon-tergite I; – 105. Telson and uropod in situ.

gellum (fig. 91) with articles of about equal length. Pereopod VII ♂ see figs. 96–98. Pleopod-exopodite I ♂ with rounded hind-lobe (fig. 94). Pleopod-endopodite I ♂ with a very peculiar prolongation of the apex (fig. 95) which seems to be an extrusion from the "normal" tip of the endopodite. This peculiar condition is probably not a seasonal character, since it shows the same configuration in all investigated adult ♂♂ and is, as a somewhat shorter appendix, also present in half-grown juveniles. Uropod-exopodites very short, compared with other species of *Porcellio*, shorter than length of telson (fig. 90).

Remarks: Re-examination of the type-material of *Porcellio kislarensis* Verhoeff, 1941 and *Porcellio almanus* Verhoeff, 1949 showed these names to be synonyms of *Porcellio cilicius* Verhoeff, 1907. "Errare humanum est", and it has to be considered one of the taxonomist's venial sins to create a synonym because of insufficient previous descriptions. But at least those species described by the author himself should be taken into consideration when new taxa are erected.

6.2.11. *Porcellio pseudocilicius* n. sp.

Holotype: ♂, 10 × 4.8 mm, S-Turkey, 35 km NNW Adana, leg. KINZELBACH et alii 29. III. 1977 (SMNS T255) (for locality see map fig. 81).

Paratypes: 15 specimens (mostly juveniles, 5–12 mm long), same date as holotype (SMNS T256).

Dimensions: Maximal size 12 × 5.8 mm (♀ without marsupium, adult?).

Diagnostic characters: Coloration: Light greyish brown with light muscle-spots on tergites and light streaks on bases of epimera. — Cuticular structures: Ter-

gites with pronounced granulation. — Overall appearance much like younger *P. cilicius*, but pereon narrower, and differing significantly in male characters: Ischium VII ♂ medially extremely sinuate (straight in *cilicius*), carpus VII ♂ with distinct ridge (missing in *cilicius*) (fig. 101). Pleopod-exopodite I ♂ with shorter and somewhat truncate median lobe (fig. 102), pleopod-endopodite without the peculiar extrusion present in *cilicius* (fig. 103). Telson with sides more convergent and apex more narrowly rounded than in *cilicius* (fig. 100). Head and pereon-tergite I see fig. 99.

6.2.12. *Porcellio insignis* Brandt, 1833

Porcellio insignis: Brandt 1833: 179;
Budde-Lund 1879: 2; 1885: 94;
Dollfus 1892: 5;
Verhoeff 1923: 218.

Material examined: 1 fragmentary ♂ (holotype), "Syria" (ZMB 7042, Brandt 1833).

Distribution: Only type-specimen known. "Syria" at that time may mean anywhere in today's Iraq, Syria, southeastern Turkey, Lebanon, Israel, or Jordan. The record from Dalmatia (Budde-Lund 1885: 95) is certainly an identification error.

Dimensions: 16 × 9.5 mm.

Diagnostic characters: Coloration: Faded by long conservation. — Cuticular structures: Tergal parts strongly tuberculated. — Peripheral parts extremely enlarged and elongated (figs. 104, 105). Most of pereopods and pleopods are missing in the specimen.

Remarks: The species shows an surprising similarity, concerning the enlargement of the peripheral parts, to *Porcellio werneri* Strouhal, 1929 from the Aegaen island of Naxos. There are, however, enough differences in the details to exclude the possibility of *insignis* and *werneri* to belong to the same species. This also invalidates the suspicion that the record of *insignis* from "Syria" might be a labelling error, considering the fact that the conspicuous species is known only from one specimen and has never been found again.

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