A NEW GENUS AND SPECIES, *TAUROPLOPHORA AUREONATATA*, FROM THE CRIMEA, UKRAINE, AND A NEW SPECIES, *CRYPTOPLOPHORA ASIATICA*, FROM TURKMENISTAN (ACARI, ORIBATIDA, PROTOPLOPHORIDAE).

BY E. GORDEEVA[1], R. NIEMI[2] and A. D. PETROVA-NIKITINA[3]

TAXONOMY
ORIBATIDA
CRIMEA
TURKMENISTAN

SUMMARY: One new genus, *Tauroplophora* n. g., with the type species *T. aureonatata* n. sp. from the Crimea, and a new species, *Cryptoplophora asiatica* n. sp., from Turkmenistan are described.

TAXONOMIE
ORIBATIDA
CRIMÉE
TURKMÉNISTAN

RÉSUMÉ : Le genre nouveau *Tauroplophora* n. g. avec pour espèce type *T. aureonatata* n. sp. de la Crimée, et l'espèce nouvelle *Cryptoplophora asiatica* n. sp. du Turkménistan, sont décrits.

TAXONOMIE
ORIBATIDA
KRIM
TURKMENISTAN

ZUSAMMENFASSUNG: Eine neue Gattung, *Tauroplophora* n. g., mit der Typart, *T. aureonatata* n. sp. aus Krim und eine neue Art, *Cryptoplophora asiatica* n. sp., aus Turkmenistan werden beschrieben.

Until now, nine genera have been listed in the family Protoplophoridae (BALOGH & BALOGH, 1992). Most of these genera have been reported from the Holarctic Region. The presently described genus *Tauroplophora* n. g. has also been found from this same zoogeographical area, the Crimea in the Ukraine. GRANDJEAN (1932) created the genus *Cryptoplophora* with the type species, *C. abscondita* Grandjean, 1932. This widespread genus has also been found in the Holarctic Region, Mediterranean countries (GRANDJEAN, 1932, 1954; TRAVÉ, 1958), Japan (AOKI, 1980) and now this new species found in Turkmenistan; in addition, this genus has been reported from the Neotropical Region (GRANDJEAN, 1932, 1954) and from the Oriental Region, Java (HAMMER, 1979).

For the description, chaetotaxic notation and other taxonomic characteristics, we follow the terminology of BALOGH & BALOGH (1992), EVANS (1991), GRANDJEAN (1940) and MAHUNKA & ZOMBORI (1985). The illustrations have been made with the aid of a camera lucida attached to a compound microscope, and the micrographs with a SEM (JEOL JSM-5200).

Tauroplophora gen. nov.

Type species: *Tauroplophora aureonatata* n. sp.

Dorsal side: Rostrum wide and round. Apex with some flexible teeth. Sensillus phylliform, with thin bristles on the borders. Notogaster divided by three

1. Karadag Natural Reserve, Nauka Str. 24, Kurortnoe, 334876 Feodosia, Crimea, Ukraine.
2. Zoological Museum, University of Turku, FIN - 20014 Turku, Finland.
3. Department of Entomology, Faculty of Biology, Moscow Lomonosov State University, Moscow, 119899 Russia.

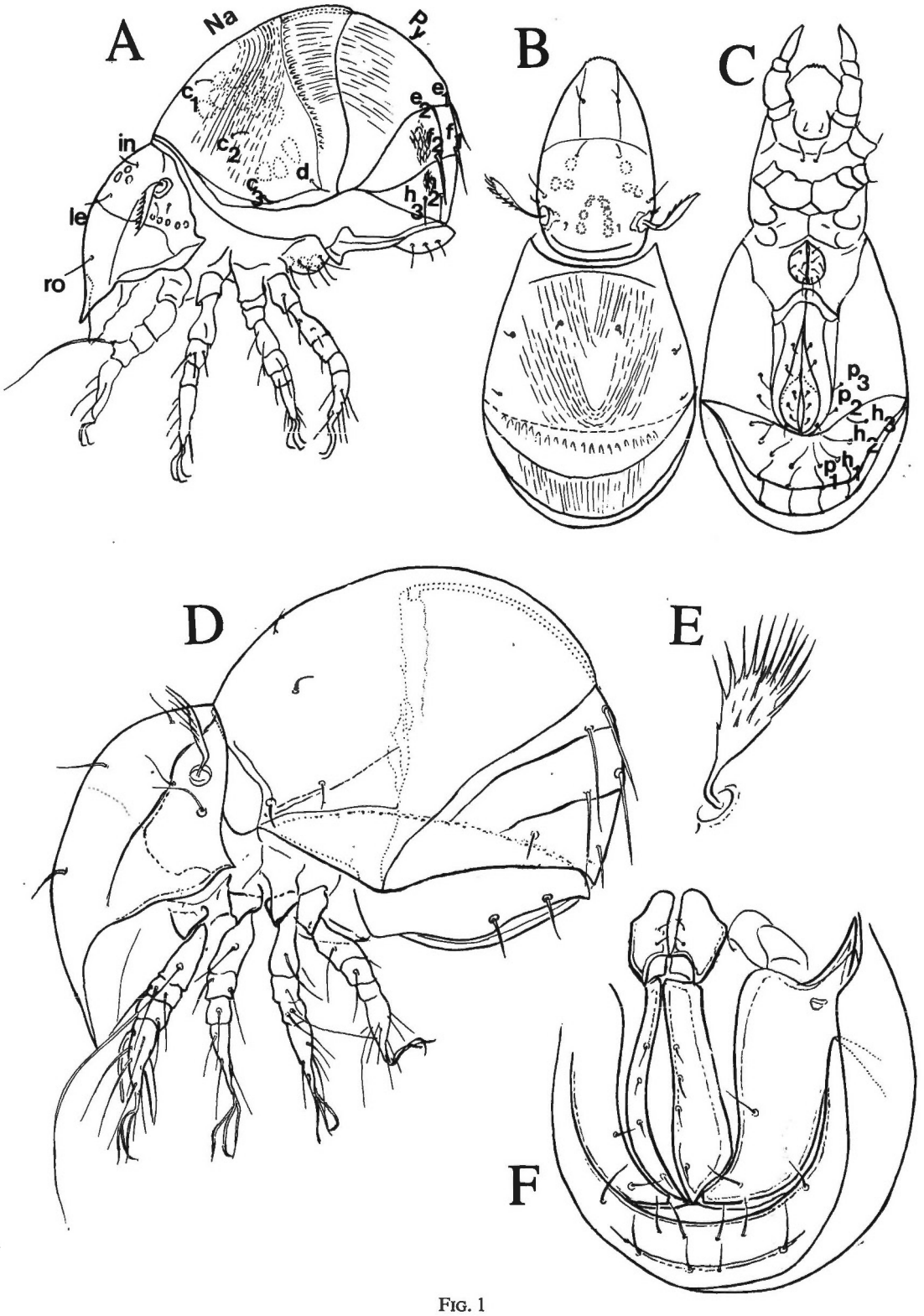

FIG. 1

Tauroplophora aureonatata n. sp.

A. — Lateral side. B. — Dorsal side. C. — Ventral side.

Cryptoplophora asiatica n. sp.

D. — Lateral side. E. — Sensillus. F. — Anogenital region.

complete transverse ridges into four fields. Four pairs of setae (c_1–c_3, d) are found on the first field, two pairs of long seta (e_1 and e_2) are situated on the posterior part of the second, two pairs of long setae (f_1 and f_2) on the third field, and four pairs of setae (h_1–h_3, p_1) are present on the fourth field.

Ventral side: Genital plates small, almost round, slightly sharp anteriorly with 6 (7?) pairs of setae. Anal plates long, rounded posteriorly and tapering anteriorly. Adanal plates narrow, longer than, and enclosing, anal plates. Three pairs of anal and adanal setae can be discerned, together with two pairs of small, thin setae (p_2 and p_3) on pleuraspis.

Legs with of three claws, of which the middle empodial claw is thicker than the lateral claws.

Discussion: *Tauroplophora* n. g. is close to the genus *Protoplophora* but differs from it by the presence of rostral teeth and the form of the anal and adanal shields. Although displaying some similarities to *Grandjeanoplophora*, the new genus is distinguished from the latter by the full ridges on the notogaster, the greater number of adanal setae, the form of the adanal plates and by the presence of setae e_1 and e_2.

Tauroplophora aureonatata n. sp.
(Fig. 1 A–C, Fig. 2 A–F)

Material studied: Holotype: Crimea, Karadag, New World, Livadia, under *Juniperus excelsa* and *Festuca* sp., 200 m a.s.l. 16 July 1978, Elena GORDEEVA leg. and 7 paratypes with the same data. Type material is deposited in the Zoological Museum of the University of Turku.

Size: length 130–138 µm, colour: light yellow.

Aspis: Rostral apex is dentate-serrate, ends of teeth flexible (Fig. 1 B, Fig. 2 C). Lamellar setae (*le*) located in the middle between the interlamellar (*in*) and rostral setae (*ro*), while *ro* are situated equidistant between *le* and apex of rostrum (Fig. 1 A, Fig. 2 E). All these setae are simple (*in* = *le* > *ro*). Two pairs of exobothridial setae are found: *exp* twice length of *exa* (Fig. 2 A, C). Sensillus (*ss*) narrow, phylliform with small bristles on margins of both sides of head. A lateral ridge is present, extending from bothridium to middle of lateral margin. An aspal rim is also present, straight and strong. The surface of the aspis appears lineolate.

Notogaster: Integument of notogastral shield (*Na*) with fine lines, forming a symmetrical parabolic pattern (Fig. 1 A & B). Pygidial shield (*Py*) divided by two complete transversal ridges into three portions. Surface of pygidial fields with irregular alveoli (Fig. 1 B). Setae c_1–c_3 and d are short and thin (Fig. 2A). Setae e_1, e_2, f_1 and f_2 are thick, long and located on the pygidial ridges of each field. Setae e_1 and e_2 extend over the next field, whereas setae f_1 and f_2 only reach the base of setae p_1 and h_1 (Fig. 2 B). Setae h_1–h_3 and p_1–p_3 are shorter than setae e and f.

Ventral side: Genital plates small, round and tapering anteriorly, with 6 (7?) pairs of setae, of which the posterior pair is the longest (Fig. 1 C, Fig. 2 D). Anal plates separated from adanal plates (Fig. 2 F). The long, narrow adanal plates enclose the long, pear-shaped anal plates. Surface of pleural plates irregularly alveolate, whereas the other ventral plates are smooth. Three pairs of anal, three pairs of adanal and two pairs of pleural setae can also be discerned.

Legs: All tarsi with three claws, of which the middle claw is always thicker than the lateral ones. Each claw shorter than tarsus.

Remark: The cuticle of *T. aureonatata* n. sp. shines brightly in polarized light.

Discussion: *Tauroplophora aureonatata* n. sp. is close to *Granjeanoplophora mauritanica* (Grandjean, 1932), but differs from this species not only in the generic characteristics but also in the sculpturing of the body surface, the mutual differences in length of the setae *exp* and *exa*, and in the form of the sensilla.

Cryptoplophora asiatica n. sp.
(Fig. 1 D–F, Fig. 3 A–F)

Material studied: Holotype, Turkmenistan Dushak, 16 July 1981, from excrement in chambers of a termite nest at a depth of 20–40 cm, D. P. ZUZIKOV leg., and 1 paratype with the same data. Type material is deposited in the Zoological Museum of the University of Turku.

Size: length 157 µm, colour: light yellow.

Aspis: The apex of the rostrum is wide, round, curving downwards (Fig. 1 D, Fig. 3 A). The margin

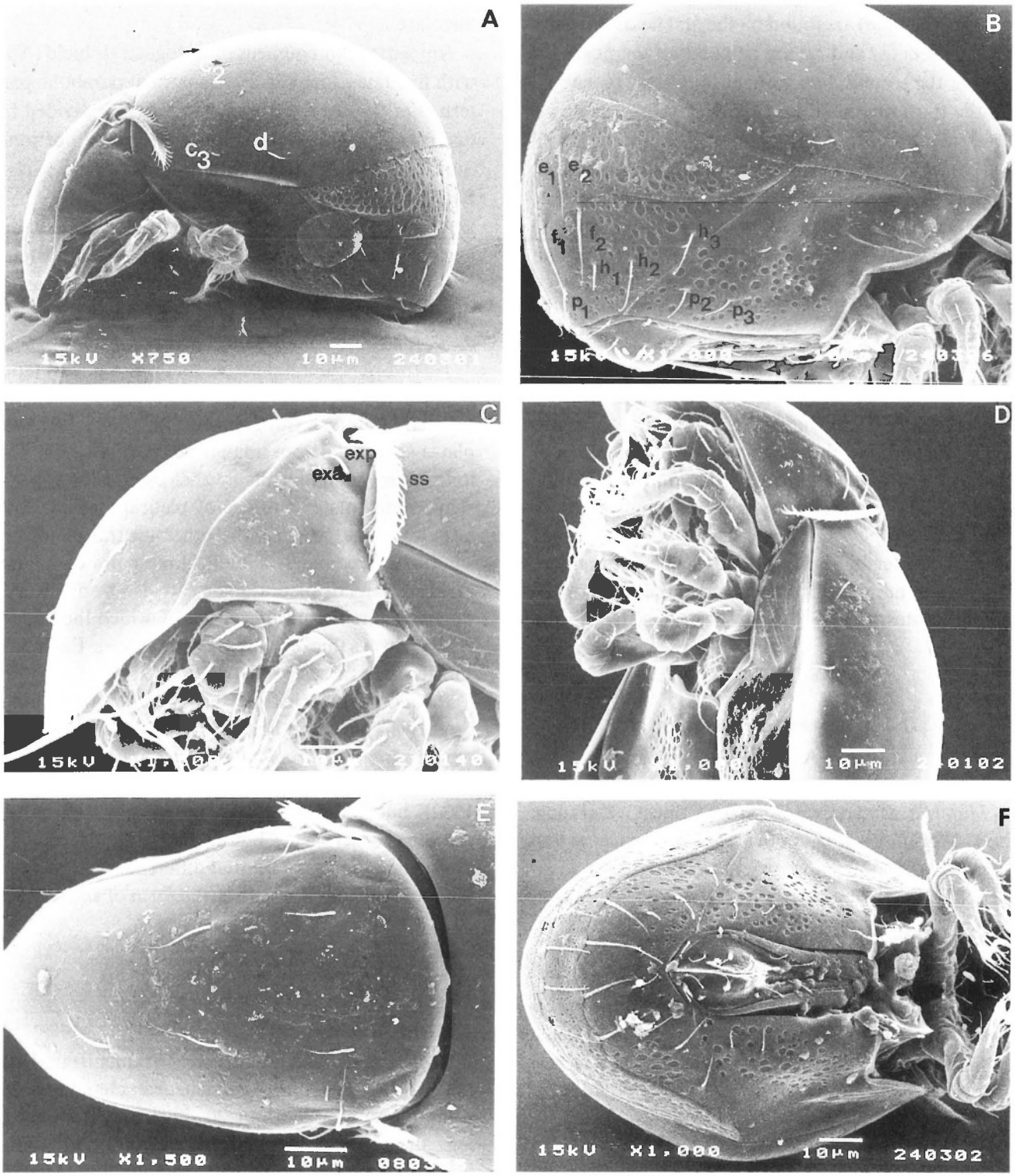

FIG. 2: *Tauroplophora aureonatata* n. sp.

A. — Lateral side (× 750, SEM). B. — Lateral side of the notogaster (× 1000). C. — Lateral side of the aspis (× 1500). D. — Lateral side of the podosoma (× 1000). E. — Dorsal side of the aspis. F. — Ventral side of the anogenital region (× 1000).

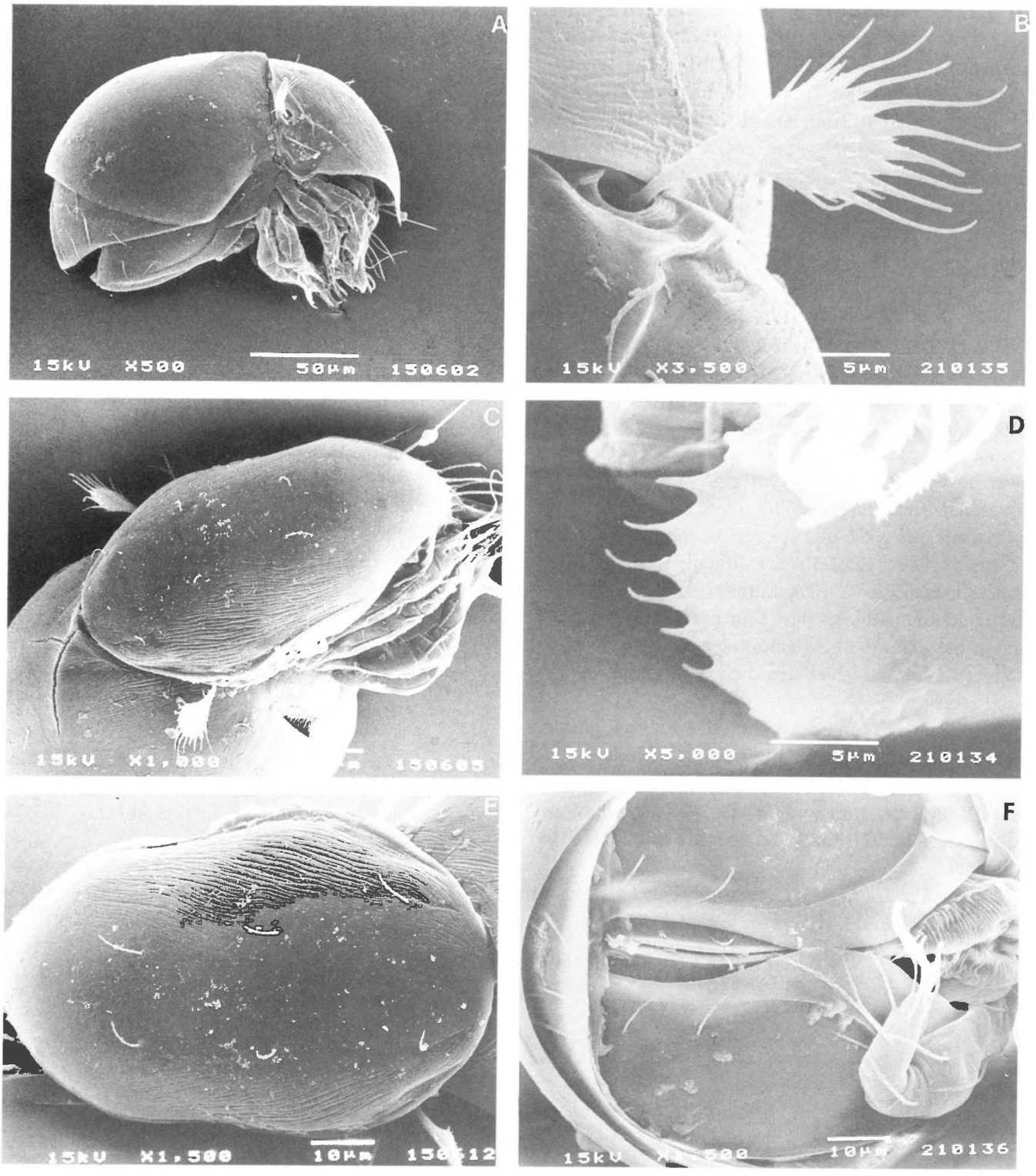

FIG. 3: *Cryptoplophora asiatica* n. sp.

A. — Lateral side (× 500, SEM). B. — Sensillus (× 3500). C. — Dorsolateral view of the aspis (× 1000). D. — Teeth of the rostrum (× 5000). E. — The dorsal side of the aspis (× 1500). F. — Ventral side of the anogenital region (× 1500).

of the rostrum displays some flexible teeth (Fig. 3 C & D). Lateral carinae are present, reaching from the posterior part of the prodorsum to the lateral margin. Surface of aspis between lateral carina and line of setae *in*, *le* and *ro* appears parallel-lineate (Fig. 3 E). Setae *ro* situated far from end of rostrum. Setae *ro*, *le* and *in* are small, of the same length, and all equidistant. Setae *exa* are as long as the other prodorsal setae, while setae *exp* form the longest of the prodorsal setae. Sensillus fan-shaped and short (Fig. 1 E, Fig. 3 B); head comprises bristles of different sizes.

Notogaster: Four pairs of short, smooth setae present on anterior portion of notogaster. Pygidial part of notogaster divided by two transverse ridges into three fields. These ridges do not extend beyond lateral borders of notogaster. Surface of notogaster slightly lineate. The long, thick setae e_1, e_2, f_1 and f_2 are located on pygidial ridges of each field, extending over next portion of notogaster. Lengths of setae *h* and *p* half those of preceding setae.

Ventral side: Genital plates rectangular. Exact number (5?) of genital setae difficult to determine, due to presence of a thick secretion. The long, fused anal and adanal plates have four pairs of short, simple setae. Pleural shield smooth, with two pairs of setae (p_2 and p_3), which are slightly longer than the anal setae.

Legs with one empodial claw and two, thin, lateral claws. Each tarsus longer than claws. Solenidiotaxy: I(0-1-3); II(0-1-1); III(0-1-0); IV(0-1-0). Solenidium, φ, of tibia I very long and slender, while solenidium, ω, of tarsi I and II is thick and does not extend to base of claws.

Discussion: *C. asiatica* n. sp. is close to *Cryptoplophora abscondita* Grandjean, 1932, but is distinguished from it by the sensillus having different lengths of bristles, the mutual distance of setae *ro*, and by the lineate surface on the side of the aspis.

ACKNOWLEDGEMENT

The English text was kindly checked by Ken PENNINGTON, M.A.

REFERENCES

AOKI (J.), 1980. — A revision of the Oribatid mites of Japan III. Families Protoplophoridae, Archoplophoridae and Mesoplophoridae. — Proc. Jap. Soc. syst. Zool., **18**: 5-16.

BALOGH (J.) & BALOGH (P.), 1992. — The Oribatid Mites Genera of the World. — Hungarian National Museum Press, Budapest. 263 + 375 pp.

EVANS (G. O.), 1991. — Principles of Acarology — CAB International, Wallingford, UK, 563 pp.

GRANDJEAN (F.), 1932. — La famille des Protoplophoridae (Acariens) — Bull. Soc. zool. Fr., **57**: 10-36.

GRANDJEAN (F.), 1940. — Les poils et les organes sensitifs portés par les pattes et le palpe chez les Oribates II. — Bull. Soc. zool. Fr., **65**: 32-44.

GRANDJEAN (F.), 1954. — Les Enarthronota (Acariens). 4e série. — Ann. Sci. nat. zool., (11) **16**: 311-335.

HAMMER (M.), 1979. — Investigations on the Oribatid fauna of Java. — Biol. Skr. Dan. Vid. Selsk., **22** (9): 1-79.

MAHUNKA (J.) & ZOMBORI (L.), 1985. — The variability of some morphological features in Oribatid mites. — Folia Entomol. Hung., **46** (1): 115-128.

TRAVÉ (J.), 1958. — Quelques remarques sur la microfaune des laisses d'étangs. — C. R. 83e Congr. Soc. Savantes, 611-618.