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NEW SPECIES OF THE GENERA CHELETOMORPHA AND KER
(ACARINA: CHEYLETIDAE:) FROM PAKISTAN

by G. M. AHEER*, S. AKBAR* and WALI M. CHAUDHRI**

SUMMARY: Two new species of Cheyletidae—Cheletomorpha dolosus and Ker acidalia—are described from Pakistan. Keys to the world species of Cheletomorpha and Ker are provided.

RESUMÉ : Nous décrivons deux espèces nouvelles du Pakistan, Cheletomorpha dolosus n. sp. et Ker acidalia n. sp., et nous donnons pour chacun de ces deux genres une clé des espèces.

Mites of the family Cheyletidae are important predators of phytophagous, stored-product mites and small insects. They occur on the foliage of fruit trees and woody plants, where they feed on scale insects and plant-feeding mites (SUMMERS & PRICE, 1970). A number of species are also associated with birds and mammals. Thus, by virtue of their predatory habits, they are of great economic importance.

Cheletomorpha and Ker are little-known genera of the family Cheyletidae. Up till now only 4 and 2 species, respectively, have been described in these genera throughout the world. The present authors describe 1 new species in each of these genera, from Pakistan. Keys to the species, of these genera are provided.

GENUS Cheletomorpha Oudemans

The genus Cheletomorpha was erected by OUDEMANS in 1904, with Acarus lepidopterorum Shaw, 1794 designated as type species. SUMMERS & PRICE (1970), while reviewing the research work on this genus, redescribed the type species. QAYYUM & CHAUDHRI (1977) described three new species from Pakistan, thus raising the total number to four. Another new species has now been collected and is described in this paper.

KEY TO SPECIES OF Cheletomorpha Oudemans
(Females only)

1. One hysterosomal shield, dorsal setae dissimilar ... 2
Two hysterosomal shields, dorsal setae similar .... 3

2. Dorsal hysterosomal setae on shield; protegmen with concave front margin ...... C. lepidopterorum (Shaw)
Dorsal hysterosomal setae not on shield; protegmen with 3 concave and 4 convex areas on front margin ....... C. tenerum Qayyum & Chaudhri

3. Dorsal shields with median setae .............. 4
Dorsal shields without median setae .............. C. dolosus n. sp.

4. Each hysterosomal shield with 2 setae; propodosomal shield with 2 pairs of median setae, protegmen with 3 convex lobes and 2 concave areas on front margin ......... C. opacus Qayyum & Chaudhri
Each hysterosomal shield with 1 seta; propodosomal shield with 1 pair of median setae; protegmen with deeply concave front margin .............. C. obtusus Qayyum & Chaudhri

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FIG 1: Cheletomorpha dolosus n. sp.
**Cheletomorpha dolosus** new species  
(Fig. 1 A–E)

Female: Body 416 μm long (without gnathosoma), 270 μm wide. Rostrum with exposed part bluntly pointed, punctuated, 23 μm long. Protogmen forming a hood, 39 μm long, having 2 concave and 1 convex areas anteriorly, punctated. Tegmen broader than protogmen, 39 μm long, dotted, dots forming longitudinal lines. Peritreme with 5 links on each side (Fig. 1 B). Palp femur robust, posterior half striated, anterior half punctated, 5 setae (3 serrated, 2 simple). Palp tibia with 3 setae (1 serrated, 2 simple). Palp tarsus with 2 comb-like, 2 sickle-like setae and 1 solenidion. Outer and inner combs with 30 and 46 teeth, respectively. Palp claw with 1 basal tooth (Fig. 1 B). Eyes, 1 on each side, protruding, encircled by 11 concentric striations. Dorsal shields 3, propodosomal 1, hysterosomals 2. Shields punctate and surrounded by simple striation. Dorsal setae 10 pairs, including 1 pair of humeral setae. Setae long, serrate (Fig. 1E). Propodosomal shield with 4 pairs lateral setae, no median setae. Hysterosomal shields without setae, remaining 6 pairs on membrane (Fig. 1A).

Legs: I–IV measuring 582 μm, 302 μm, 343 μm and 395 μm in length, respectively. First pair very long and slender. Length ratio leg I/diosoma = 1.4, leg I/leg II = 1.9. Setae and solenidia on legs I–IV: coxae 2-1-2-2, trochanters 1-1-2-1, femora 2-2-2-1, genua 2-2-2-2, tibiae 6-5-4-4, tarsis 10-8-7-7. Tarsus I seta tc, 1 pair, ultra long. Seta pt long. Solenidion on tarsus I, 52 μm long, guard seta a profusely barbed bristle, 152 μm long, close to solenidion (Fig. 1C). Pregenital and genital setae, 1 pair and 2 pairs, respectively. Anal setae 3 pairs (2 simple, 1 serrate). Postanal setae 1 pair. (Fig. 1D).

Male: Not known.

Type: Holotype female, collected 4 km S. Faisalabad from 'Bathoo' Chenopodium murale, 26 March 1982 (AHEER, AKBAR and CHAUDHRI) and deposited in Acarology Research Laboratory, Department of Entomology, University of Agriculture, Faisalabad.

Remarks: *Cheletomorpha dolosus* n. sp. is closely related to *C. opacus* Qayyum & Chaudhri and *C. obrutus* Qayyum & Chaudhri due to some body characters. However, it can be separated from these species on the basis of the following characters:

1. Propodosomal shield with median setae in *opacus* and *obrutus*, lacking in the new species.
2. Hysterosomal shields with 2 and 1 setae respectively in *opacus* and *obrutus*, but absent in the new species.
3. Dorsal setae 15 pairs and 11 pairs respectively in *opacus* and *obrutus*, but only 10 pairs present in the new species.
4. Peritreme with 6 links on each side in *opacus* and *obrutus*, but only 5 links on each side in the new species.

**Genus Ker Muma**

*Ker* is a monotypic genus created by MUMA in 1964 with *Ker palmatus* Muma as type species. ZAHER & SOLIMAN (1967) described one new species of this genus from Egypt (U.A.R.). An additional new species of this genus has been collected from Pakistan, bringing the number of included species to three.

**Key to species of Ker Muma**  
(females only)

1. Outer comb with 16 teeth; protogmen convex anteriorly; hysterosomal shield without marginal notches; shields striated ...........................................  *K. acidalia* n. sp.
   Outer comb with less than 16 teeth; protogmen concave anteriorly; hysterosomal shield with marginal notches; shields reticulated ........................................... 2
2. Tibia I with 6 setae; tegmen with dotted reticulations  ...........................................  *K. palmatus* Muma
   Tibia I with 5 setae; tegmen with simple reticulations  ...........................................  *K. bakeri* Zaher and Soliman

**Ker acidalia** new species  
(Fig. 2 A–E)

Female: Body 270 μm long, 177 μm wide. Rostrum with exposed part 18 μm long, one pair of superior and inferior adoral setae. Protogmen 21 μm long, with longitudinal striations, 3 pairs of muscle bundles at base, convex anteriorly. Tegmen 39 μm long with
FIG 2: *Ker acidalia* n. sp.

longitudinal, broken striations. Relative lengths of rostrum, protегмен and tegmen = 1:1.1:2.1, respectively. Peritreme with 8 links on each side (Fig. 2 B). Palp femur robust with faint broken striations and 3 spatulate setae, tapering to a rough point. Palp genu with 2 spatulate, setae, tapering to a rough point. Palp tibia with 2 serrated and 1 simple setae. Palp tarsus with 2 comb-like, 2 sickle-like setae, and 1 solenidion. Palp claw smooth. Outer and inner combs with 16 and 25 teeth, respectively (Fig. 2 B). Eyes present, 1 on each side. Two dorsal shields, propodosomal and hysterosomal with broken, faint striations, shields covering major portion of idiosoma. Dorsal setae 16 pairs, including 1 pair of humeral setae, all similar, spatulate (Fig. 2 E). Propodosomal shield without marginal notches, surrounded by simple striation (Fig. 2 A).

Legs: I–IV measuring 138 µm, 83 µm, 114 µm and 138 µm in length (trochanter base to tarsus tip), respectively. Setae and solenidia on legs I–IV: coxae 2-1-2-2, trochanters 1-1-2-1, femora 2-2-2, genua 3-2-2-2, tibiae 6-5-4-4, tarsi 11-7-7-7. Length ratio leg I/idiosoma = 0.5. Solenidion on tarsus I, 23 µm long, guard seta serrate arising behind solenidion, longer than solenidion (Fig. 2 C). Leg segments (coxae–tibiae) with transverse, broken striation, tarsi with longitudinal striation. Pregenital, paragenital and genital setae 1, 2 and 2 pairs, respectively. Anal setae 3 pairs (1 simple, 2 serrate) (Fig. 2 D).

Male: Not known.

Type: Holotype female, collected in U.A.F. fruit garden, from common grass, 14 Dec. 1982 (AHEER, AKBAR and CHAUDHRI), and deposited in Acarology Research Laboratory, Department of Entomology, University of Agriculture, Faisalabad, Pakistan.

Remarks: Ker acidalia n. sp. can be separated from K. palmatus Muma and K. bakeri Zaher and Soliman on the basis of the following characters:

1. Peritreme with less than 8 links on each side in palmatus and bakeri, but with 8 links on each side in the new species.
2. Hysterosomal shield with 3 pairs of marginal notches in palmatus and bakeri, but margins smooth in the new species.
3. Dorsal shields reticulate in palmatus and bakeri, but striate in the new species.
4. Anterior margin of protегмен concave in palmatus and bakeri, but convex in the new species.
5. Tibia II with 4 setae each in palmatus and bakeri, but with 5 setae in the new species.
6. Tarsi I and II with 9 and 8 setae in palmatus and bakeri, but with 11 and 7, respectively, in the new species.

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