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THE GENUS CHELETOMIMUS
(ACARINA : CHEYLETIDAE) FROM PAKISTAN
I. DESCRIPTIONS OF THREE NEW SPECIES

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

ABSTRACT: Three new species of the genus Cheletomimus, i.e. C. cambio, C. larme and C. zamia, have been collected and described from Pakistan and a key has been prepared.

INTRODUCTION

The genus Cheletomimus was erected by Oudemans in 1904 who designated Cheletes berlesei Oudemans (monotypic) as type species. Volgin (1969) transferred Cheletomimus denmarki to Oudemansicheyla. Summers and Price (1970) in a review of the family Cheyletidae retained berlesei Oudemans and duosetosus Muma in the genus Cheletomimus, redescribed them and provided a key for these two species. Soliman (1975) described a new species, Cheletomimus minutus. Tseng (1973, 1977) did comprehensive research work on Formosan cheyletid mites and described two new species, but under generic name Cheletomomimus, with a key for four species, but did not include Cheletomomimus minutus Soliman in his key. From Pakistan, Qayyum and Chaudhri (1979), Rasool, Chaudhri and Akbar (1980) described one new species each thus raising the number of species to seven in the genus Cheletomimus.

Tseng (1973, 1977) used the genus name Cheletomomimus Oudemans, 1904 with same page (163) and same type species, Cheletes berlesei as mention-ed by Summer and Price (1970). He also included berlesei and duosetosus in addition to binus and bisetosus new species in the key, but did not mention reasons for the use of the name Cheletomomimus instead of Cheletomimus. As the generic characters are the same for both the genera, the present authors prefer to use the name Cheletomimus as the genus name.

The present authors have collected and described three new species in the genus Cheletomimus from Pakistan. This raises the number of species to 10 in this genus. The authors have given a comprehensive key for all the known species (including the two species of Tseng).

KEY TO KNOWN SPECIES OF GENUS CHELETOMIMUS
(FEMALES)

1. One seta on each hysterosomal shield .............. 2
— Two setae on each hysterosomal shield... binus Tseng
2. One pair of median setae on propodosomal shield. 3
— Two pairs of median setae on propodosomal shield ............................................. 5
3. Genu IV with 2 setae .............. duosetosus Muma

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— Genu IV without seta .......................... 4
4. Palp claw with 8 teeth; coxa IV without seta .......................... 5
— Palp claw with 6 teeth; coxa IV with 1 seta .......................... cambio, n. sp.
— Palp claw with 6 teeth; coxa IV with 4 setae .......................... larme, n.sp.
5. Propodosomal shield with 3 pairs of lateral setae .......................... minutus Soliman
— Propodosomal shield with 4 pairs of lateral setae .......................... 6
6. Genu IV with 1 seta .......................... 7
— Genu IV with more than 1 seta .......................... 8
7. Tarsus I with 9 setae; peritreme with 7 links on each side .......................... berlesei (Oudemans)
— Tarsus I with 8 setae; peritreme with 4-5 links on each side .......................... bisetosus Tseng
8. Palp claw with 7 teeth; genu IV with 2 setae .......................... heredis Qayyum & Chaudhri
— Palp claw with more than 7 teeth; genu IV with 3 setae .......................... 9
9. Outer comb with 15 teeth; inner comb with 20 teeth; peritreme with 5 links on each side .......................... cantor Rasool, Chaudhri and Akbar
— Outer comb with 18-20 teeth; inner comb with 23-24 teeth; peritreme with 3 links on each side .......................... zamia, n. sp.

_Cheletomimus cambio_, new species
(Fig. 1A-E)

**FEMALE**

Body 203 \(\mu\)m long, 177 \(\mu\)m wide. Rostrum exposed part 18 \(\mu\)m long, superior and inferior adoral setae, each 1 pair, 11 \(\mu\)m and 24 \(\mu\)m long, respectively (inferior more than twice as long as superior adoral seta). Proctegmen 21 \(\mu\)m long with straight anterior margin, having dots. Tegmen 31 \(\mu\)m long, broader than proctegmen with broken striations as shown in Figure 1A. Relative lengths of rostrum, proctegmen and tegmen = 1 : 1.2 : 1.7, respectively. Peritreme with 5 links on one side and 6 links on the other side (Fig. 1A). Area between base of tegmen and anterior end of idiosoma with transverse broken striations. Palp femur robust with dots giving the appearance of semicircular straight lines, 1 fan-like seta and 1 simple seta; palp genu with 1 fan-like seta; palp tibia with 2 serrated and 1 simple setae; palp claw with 8 teeth; palp tarsus with 2 comb-like and 2 sickle-like setae. Outer and inner combs with 18 and 26 teeth, respectively (Fig. 1B). Eyes, 1 on each side, protruding, encircled by 7 concentric striations. Dorsal setae, 12 pairs including 1 pair of humeral setae, all fan-shaped; similar in form (Fig. 1A, E). Propodosomal shield with broken striations as shown in Figure 1A, with 4 pairs of lateral and 1 pair of median setae. Two hysterosomal shields, each with broken striations and a seta. Humeral setae, 1 pair and 5 pairs of setae on membrane, each seta on a separated platelet. Membranous portion with broken striations running in different directions as shown in Figure 1A.

Legs I-IV measuring 120 \(\mu\)m, 86 \(\mu\)m, 96 \(\mu\)m and 96 \(\mu\)m in length, respectively (from base of trochanter to tarsus tip). Length ratio leg I/idiosoma = 0.6. Setae and solenidia on legs I-IV segments : coxae 2-1-2-0, trochanters 0-0-1-0, femora 2-2-1-1, genua 3-2-2-0, tibiae 5-5-4-4, tarsi 9-8-7-7; genu I, tibiae I, II each with a minute solenidion; tarsus I with solenidion of 16 \(\mu\)m long and guard seta 31 \(\mu\)m long. Ventral setae serrated, 47 \(\mu\)m long (Fig. 1C). Pre-genital setae, 1 pair, genital setae, 3 pairs (Fig. 1D).

**MALE** : Not known.

Type : Holotype female, collected 1 km N. Chiniot from rotten grains of wheat (*Triticum aestivum*) on 10.x.1981 (AHEER, AKBAR and CHAUDHRI) and deposited in the Acarology Research Laboratory, Department of Agric. Entomology, University of Agriculture, Faisalabad.

**REMARKS**

This new species is closely related to _Cheletomimus larme_, new species, on the basis of most of body characters but the following points separate them:

1. Proctegmen anterior margin deeply concave in _larme_ but straight in this new species.
2. Palp claw with 6 teeth in _larme_ but 8 teeth in this new species.
3. Inner comb with 22 teeth in _larme_ as against 26 teeth in this new species.
4. Coxa IV with 1 seta in _larme_ but seta absent in this new species.
5. Genu II with a minute solenidion in _larme_ but absent in this new species.
FIG. I: Cheletonimus cambio, n. sp.
**Cheletomimus larme**, new species  
(Fig. 2 A-E)

**FEMALE**

Body 203 μm long, 167 μm wide. Rostrum exposed part 16 μm long, superior and inferior adoral setae, each 1 pair, 13 μm and 26 μm long, respectively (inferior twice as long as superior adoral seta). Prosternum 21 μm long with deeply concave anterior margin, with broken, longitudinal, thick striations. Tegumen 31 μm long with broken, longitudinal and thick striations as shown in Figure 2A. Relative lengths of rostrum, prosternum and tegumen = 1 : 1.3 : 1.9, respectively. Peritreme with 5 links on each side. Area between base of tegumen and anterior end of idiosoma with simple transverse broken striations (Fig. 2A). Palp femur robust with dots giving appearance of semi-circular straight lines, 1 fan-like and 1 simple setae, palp tibia with 2 serrated and 1 simple setae; palp genu with 1 fan-like seta; palp claw with 6 teeth. Palp tarsus with 2 comb-like and 2 sickle-like setae. Outer and inner combs with 16 and 22 teeth respectively (Fig. 2B). Eyes, 1 on each side, protruding, each encircled by 6 concentric striations. Dorsal setae, 12 pairs including 1 pair humeral setae, all fan-shaped, similar in form (Fig. 2A-E). Propodosomal shield with broken striations as shown in Figure 2A; with 4 pairs of lateral and 1 pair of median setae. Two hysterosomal shields, oval, each with broken striations and a seta. Humeral setae, 1 pair and 5 pairs of setae on membrane, each seta on a separate platelet. Membranous portion with striations running in different directions as shown in Figure 2A.

Legs I-IV measuring 125 μm, 81 μm, 95 μm and 94 μm in length, respectively (from trochanter base to tarsus tip). Length ratio leg/idiosoma = 0.6. Setae and solenidia on legs I-IV segments : coxae 2-1-2-1 trochanters 0-0-1-0, femora 2-2-1-1, genua 3-3-2-0, tibiae 5-5-4-4, tarsi 10-8-7-7; genua I, II and tibia I, II each with a minute solenidion; tarsus I with solenidion as of 16 μm long and guard seta 26 μm long, serrated. Ventral setae 47 μm long (Fig. 2C). Pregenital setae 1 pair, genital setae 3 pairs (Fig. 2D).

**MALE :** Not known.

Type : Holotype female collected 1 km E. Dhaban Singh, from soil sample, on 14.v.1980 (AHEER, AKBAR and CHAUDHRI), and deposited in Acarology Research Laboratory, Department of Agric. Entomology, University of Agriculture, Faisalabad.

**REMARKS**

This new species is closely related to *Cheletomimus cambio*, new species due to most body characters, but several points separate them from each other (see above).

**Cheletomimus zamia**, new species  
(Fig. 3 A-E)

**FEMALE**

Body 276 μm long, 219 μm wide. Rostrum exposed part 18 μm long, superior and inferior adoral setae, each 1 pair, 13 μm and 26 μm long (respectively, inferior twice as long as superior adoral seta). Prosternum 26 μm long, with dots and minutely concave anterior part. Tegumen 34 μm long broader than prosternum, with broken, longitudinal striations (Fig. 3A). Relative lengths of rostrum, prosternum and tegumen = 1 : 1.4 : 1.9 respectively. Peritreme with 7 links on each side. Area between base of tegumen and anterior end of idiosoma with dots forming transverse lines (Fig. 3A). Palp femur robust with dots forming longitudinal lines, 1 fan-like, 1 serrate and 2 simple setae; palp genu with 1 fan-like seta; palp tibia with 2 serrated and 1 simple setae; palp claw with 8 teeth; palp tarsus with 2 comb-like and 2 sickle-like setae. Outer and inner combs with 18-20 and 23-24 teeth, respectively (Fig. 3B). Eyes 1 on each side, protruding, each encircled by 9 concentric striations. Dorsal setae, 14/15 including humeral setae, all similar, fan-shaped (Fig. 3A, E). Propodosomal shield with broken striations, 4 pairs of lateral, 2-3 pairs of median setae (one side with 2 setae, other side with 3 setae). Two hysterosomal shields, rounded with broken striations, each shield with a seta. Humeral setae, 1 pair and 6 pairs of setae on membrane, each seta on
FIG. 2: Cheletoimimus larve, n. sp.
Fig. 3: Cheletominus zamia, n. sp.
a separated platelet (Fig. 3A). Membranous portion of idiosoma with striations running in different
directions, as shown in Figure 3A.

Legs I-IV measuring 138 \( \mu m \), 102 \( \mu m \), 115 \( \mu m \) and 120 \( \mu m \) in length, respectively (from trochanter base to tarsus tip). Length ratio leg I/idiosoma = 0.5. Setae and solenidia on legs I-IV segments : coxa 2-1-2-2, trochanters 1-1-2-1, femora 2-2-2-1, genua 3-3-2-3, tibiae 5-5-4-4, tarsi 9-8-7-7; genua I, II and tibiae I, II each with a minute solenidion; tarsus I with solenidion \( \omega \) 18 \( \mu m \) long and guard seta 31 \( \mu m \) long. Ventral setae, 1 pair, 48 \( \mu m \) long (Fig. 3C). Pregenital setae 2 pairs, genital setae 4 pairs (Fig. 3D).

**MALE** : Not known.

**Type** : Holotype female, collected 3 km S. Sahiwal from cotton, *Gossypium hirsutum*, on 15.viii.1978 (AHEER, AKBAR and CHAUDHRI), and deposited in Acarology Research Laboratory, Department of Agric. Entomology, University of Agriculture, Faisalabad.

**REMARKS**

This new species is closely related to *Cheletomimus cantor* Rasool, Chaudhri and Akbar but it is separated from it on the basis of following characters:

1. Peritreme with 5 links on each side in *cantor* but 7 links in this new species.
2. Area between base of tegmen and anterior side of propodosomal shield with transverse, broken striations in *cantor* but with dots in this new species.
3. Palp claw with 9 teeth in *cantor* but with 8 teeth in this new species.
4. Genu II without solenidion in *cantor* but solenidion present in this new species.

**REFERENCES**


*Paru en Décembre 1994.*