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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 **

SYSTEMATICS
CHEYLETIDAE
PAKISTAN

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.

SYSTEMATIQUE
CHEYLETIDAE
PAKISTAN

RÉSUMÉ: Trois espèces nouvelles du genre Cheletomimus, C. cambio n. sp., C. larme
n. sp., et C. zamia n. sp., récoltées au Pakistan, sont décrites; une clé des espèces est
donnée.

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 Oude-
mansicheckyla. Summers and Price (1970) in a review of the family Cheyletidae retained berlesei Oude-
mans 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, Qay-
ym 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 Chele-
tomomimus 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 Cheleto-
omomimus instead of Cheletomimus. As the generic
characters are the same for both the genera, the
present authors prefer to use the name Cheletomi-
mus 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 pairs 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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Cheletomimus cambio, new species
(Fig. 1 A-E)

FEMALE

Body 203 µm long, 177 µm wide. Rostrum exposed part 18 µm long, superior and inferior adoral setae, each 1 pair, 11 µm and 24 µm long, respectively (inferior more than twice as long as superior adoral setae). Protegmen 21 µm long with straight anterior margin, having dots. Tegmen 31 µm long, broader than protegmen with broken striations as shown in Figure 1A. Relative lengths of rostrum, protegmen 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 µm, 86 µm, 96 µm and 96 µm 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 ø 16 µm long and guard seta 31 µm long. Ventral setae serrated, 47 µm long (Fig. 1C). Pregenital 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 larne, new species, on the basis of most of body characters but the following points separate them:

1. Protegmen anterior margin deeply concave in larne but straight in this new species.
2. Palp claw with 6 teeth in larne but 8 teeth in this new species.
3. Inner comb with 22 teeth in larne as against 26 teeth in this new species.
4. Coxa IV with 1 seta in larne but seta absent in this new species.
5. Genu II with a minute solenidion in larne but absent in this new species.
Fig. 1: *Cheletomimus cambio*, n. sp.
FEMALE

Body 203 \( \mu \text{m} \) long, 167 \( \mu \text{m} \) wide. Rostrum exposed part 16 \( \mu \text{m} \) long, superior and inferior adoral setae, each 1 pair, 13 \( \mu \text{m} \) and 26 \( \mu \text{m} \) long, respectively (inferior twice as long as superior adoral seta). Pro tegmen 21 \( \mu \text{m} \) long with deeply concave anterior margin, with broken, longitudinal, thick striations. Tegmen 31 \( \mu \text{m} \) long with broken, longitudinal and thick striations as shown in Figure 2A. Relative lengths of rostrum, pro tegmen and tegmen = 1 : 1.3 : 1.9, respectively. Peritreme with 5 links on each side. Area between base of tegmen 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 \( \mu \text{m} \), 81 \( \mu \text{m} \), 95 \( \mu \text{m} \) and 94 \( \mu \text{m} \) 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 \( \text{or} \) \( 16 \mu \text{m} \) long and guard seta 26 \( \mu \text{m} \) long, serrated. Ventral setae 47 \( \mu \text{m} \) 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 Cheletominus cambio, new species due to most body characters, but several points separate them from each other (see above).

FEMALE

Body 276 \( \mu \text{m} \) long, 219 \( \mu \text{m} \) wide. Rostrum exposed part 18 \( \mu \text{m} \) long, superior and inferior adoral setae, each 1 pair, 13 \( \mu \text{m} \) and 26 \( \mu \text{m} \) long (respectively, inferior twice as long as superior adoral seta). Pro tegmen 26 \( \mu \text{m} \) long, with dots and minutely concave anterior part. Tegmen 34 \( \mu \text{m} \) long broader than pro tegmen, with broken, longitudinal striations (Fig. 3A). Relative lengths of rostrum, pro tegmen and tegmen = 1 : 1.4 : 1.9 respectively. Peritreme with 7 links on each side. Area between base of tegmen 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: Cheleto mimus larne, 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 \( \approx 18 \mu m \) 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.*