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RISCUS, A NEW CUNAXID GENUS FROM THAILAND
(ACARI: ACTINEDIDA: CUNAXIDAE)

by J. Den HEYER

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CUNAXIDAE
RISCUS
NEW GENUS
THAILAND

SUMMARY: The characteristics of a new monotypic cunaxid genus Riscus are provided. A new species from Thailand, Riscus thailandensis, is described and figured. A key to the five genera of the subfamily Cunaxinae Oudemans 1902 is also given.

INTRODUCTION

Very little is known about the ecology of the new genus Riscus here described except for the data of its locality. However, when its palpi are compared with palpi of cunaxids, it can be concluded that it should be also predatory. The type material (all four on one slide) will be deposited in the National Mite Collection of ARC-PPRI in Pretoria (Tshwane), RSA.

Family CUNAXIDAE

Den Heyer (1974-1980), Sepasgosorian (1984) and Smiley (1975,1992) give ample reasons to identify lower taxons and mention most of the literature this taxon is associated with. The classification system proposed by Den Heyer (1980) is adhered to. The setal notation for dorsum and ventrum according to Kethley (1990) but setal types according to Den Heyer (1977 & 1981). To include the new genus the key to the genera of the subfamily Cunaxinae is adapted as follows:

Key to the genera
of the subfamily Cunaxinae, 1902

1. Tarsal lobes small; no para-anal setae; palp telofemur with dorsal st seta; tribus Cunaxini …………… 2
   — Tarsal lobes prominent; para-anal setae present; palp telofemur with dorsal spine-like seta...tribus Armascirini …………………………………………. 3
2. Dorsal plates never reticulated; st -setae on coxae II-IV 1-3-2 ……………………. Cunasa Von Heyden, 1826
   — Dorsal plates reticulated; st -setae on coxae II-IV 1-3-1…………………. 4.
3. Spine-like seta on palp genu only; st -setae on coxae II-IV 1(♂) or 2(♀)—3-3… Armascirus Den Heyer, 1978
   — Spine-like setae on palp telofemur and genu; st-setae on coxae II-IV 3-3-3. ……… Dactyloscirus Berlese, 1916
4. Palpal telofemur with one apophysis; sensillae setose; tarsi I and II with one blunt-pointed solenidion each. …………… Rubroscirus Den Heyer, 1978

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—Palpal telofemur without apophyses; sensillae densely pilose; tarsi I and II with two blunt-pointed solenidia each. 

Riscus gen. nov.

Type species: Riscus thailandensis spec. nov.

This genus is placed in the tribus Cunaxini because it satisfies the characteristics of this taxon as stated by Den Heyer (1980), viz. relatively small tarsal lobes, presence on the palpal telofemur with dorsal st setae and absence of para-anal setae. This genus is recognized by the palpal chaetotaxy being: trochanter, nil; basifemur, 1 sts; telofemur, 1 st; genu, 3 sts; tibiotarsus, 1 spine-like seta, 3 sts, 1 terminal solenidion, 1 terminal claw. The tibiotarsi project with two-thirds of their lengths past the apex of the hypostome. Propodosomal trichobothria vi and sci finely, densely pilose. The female genital setae arranged in two straight rows on either side of the median line. The formula for solenidia on tarsi I–IV is 6-3-0-0 whereas that for the tibiae I–IV is 2-1-0-0 and genua I–IV is 2-2-1-1.

Riscus thailandensis spec. nov.

No information exists on its natural appearance since only the mounted specimens have been studied. The sclerotisation in these mites is weak. In the adult females it reaches its highest manifestation but then since only the mounted specimens have been studied. No sejugal grooves detected. 1 Pair propodogastral, six pairs of hysterogastral setae present. 1 Paragenital setae laterad to weakly sclerotised genital plates (Figs. 2 & 3); four g setae, arranged in almost straight, near median, line. Pair of anal setae ps2 present. Ventral striae mostly smooth and unbroken.

Two pairs of genital papillae uneven in size, anterior pair largest. Latter pair constricted, creates impression of being divided. Fig. 4 shows size of egg and ovum relative to body size.

Gnathosoma (Figs. 5-8). Hypognathum heavier sclerotised then rest of body parts; carries prominent setae bh 2, 3, and 4; bh 1 less prominent. Width: length ratio is 1.71. Ventral striation pattern shown in Fig. 6. Laterodorsal regions of hypognathum, dorsal aspects of palpal segments, proximal halves of the chelicerae with densely packed integumental papillae.

Chelicerae typically three-jointed; proximal segment and proximal half of second segment much broader than distal chelicular half which narrows towards chela. One seta on segment II just behind attachment of chela (Fig. 7). Peglike setae (proprio-receptors) occur on surface of hypognathal coxal region, laterad to chelical bases. Palp extend from mesal spine-like seta of tibiotarsus passed entomalae. Femur not divided; possesses ventral ridges indicating a fusion. One stout seta carried dorsally just behind “joint”; another occurs dorsodistally. Genu with three setae; 1 dorsodistally, 1 ventroproximally, 1 dorsolaterally on distal half (Fig. 8). Tibiotarsus carries mesally single palpal spine-like seta; furthermore, one st seta ventrally in close vicinity to spine, 1 dorsal st seta distally, another close by ventrally, one dorsoterminal solenidion and terminal claw.
Figs. 5-10. *Riscus thailandensis* spec.nov. 5. — Gnathosoma; 6. — Hypognathum; 7. — Chela; 8. — Palp; 9. — Leg I; 10. — Leg II.
Legs (Figs. 7-10). Legs shorter than body, leg IV being longest. Pretarsi of legs I and II smaller than those of legs III and IV (being well-developed). Femora III and IV show very clear division ridges. Femora I and II with only faint ventral fusion lines.

Leg chaetotaxy: coxae I-IV 3 sts, 1 pe—1 sts—3 sts—1 sts; trochanters I—IV 1 sts—1 sts—2 sts—1 sts; basifemora I-IV 1 ms, 2 sts—3 sts—2 sts—1 sts; telofemora I-IV 4 sts—4 sts—4 sts—4 sts; genua I-IV [1 long bsl, 2 asl], [2 asl], 4 sts—2 asl, 5 sts—1 asl, 5 sts—1 asl, 4 sts; tibiae I-IV [1 long bsl, 1 asl, 1 sts], 4 sts—[1 asl, 1 sts], 4 sts—1 asl, 5 sts—1T, 4 sts; tarsi I-IV [1 long bsl, 1 pe], 4 asl 2 tsl, 13 sts—1 long bsl, 1 asl, 1 tsl, 15 sts—1 tsl, 13 or 14 sts—12 sts.

TRITONYMPH (TN)

Dimensions: Length body (excl. gnathosoma), 177 µ; width body 114 µ; lengths of: gnathosoma, 65 µ; palps, 43 µ; chelicerae, 46-49 µ; hypognathum, 54; legs I,103-108 µ; II, 97-99 µ; III, 106-111 µ; IV, 117 µ; sensillae: vi, 69-69 µ; sci, 59-60 µ. Smaller tritonymph resembles female in many aspects. Can be identified by a clear ecdysis line, one that is as clearly present as in the deutonymph.

Dorsum. Resembles female in dorsal chaetotaxy.

Venter. Genital valves a bit smaller in size than in the ♂♀; same number of g-setae. One pair para-anal setae in close distance to anteroventral aspect of anal opening. One pair paragenital setae occur in line with anterior margins of genital valves. Three pairs of hysterogastral setae present; no propodogastral setae.

Gnathosoma. Resembles female in respect of proportion, chaetotaxy of palps, chelicerae and hypognathum except in amount of sclerotisation.

Legs. About numbers of solenidia on the legs tritonymph resembles ♂♀. Femora I and II faintly divided by skin-fold; femora III and IV clearly divided.

Leg chaetotaxy differs from ♂♀ as follows: basifemora I-IV 3-3-2-0 sts; telofemora I, 3sts; genua I, 4 sts, [1 asl + 1 small sts], 2 asl; III, 1 asl, 1 ms, 4 sts; IV, 1 asl, 4 sts; tibiae I-II, 1 asl, [1 asl + 1 asl], 4 sts—1 asl, 5 sts; tarsi I-IV 3 asl, [1 pe, 1 bsl, 1sts], 1 bsl, 2 tsl, 14 sts—2 bsl, 1 tsl, 15 or 16 sts—10 or 11 sts, 1 tsl—10 sts.

DEUTONYMPH (DN)

Dimensions: Body width, 102 µ; lengths of: body (excluding gnathosoma), 154 µ; gnathosoma, 68 µ; palps, 42 µ; chelicerae, 46-49 µ; hypognathum, 49 leg I, 103 µ; II, 100 µ; III, 112 µ; IV, 111 µ; sensillae vi 59-60 µ; sci, 65-66 µ.

Dorsum. Propodosomal chaetotaxy as in TN or ♂♀. Propodosomal shield reticulated; ecdysis grooves clear, running over shoulders to coxae III.

Venter. Two anal setae on each anal valve. One pair paragenital setae in close vicinity to genital area; 2 pairs hysterogastral setae, one pair propodogastral setae between leg coxae.

Gnathosoma. Weakly sclerotized, relatively smaller; general chaetotaxy of its different components similar as in ♂♀ and TN.

Legs. Ssts-setae drastically less than in ♂♀ and TN; situation similar with regard to solenidia on tarsi I. Division of femora resembles that of TN. Leg chaetotaxy differs from tritonymph as follows: basifemora I—IV, 2 sts—2 sts—1 sts—0; telofemora I, 4 sts; genua IV, 1 asl, 3 or 4 sts; tibiae I-II, 1 asl, 5 sts—1 asl, 5 sts; tarsi I—IV, 2 bsl, 1 pe, 3 asl, 11 sts—2 bsl, 1 tsl, 11 sts—1 tsl, 9 sts—9 sts.

Male, protonymph and larva. Unknown.

Material studied. All specimens on one slide: 1 holotype ♂ (with ovum), 1 paratype ♂, 1 paratype tritonymph, 1 paratype deutonymph from Mangifera indica L., Kanchanaburi, Thailand on 1992/04/01 by Manita Kongchuensin.

ETYMOLOGY. The genus name Riscus is an anagram of the name Scirus as used by Hermann (1804) for the first described cunaxid species. The species name is derived from the country where it was collected.
Figs. 11-13, *Riscus thailandensis* spec. nov. 13. — Leg III; 12. — Leg IV; 13. — Tarsus (distal portion), leg IV.
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