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TWO NEW SPECIES OF LARVAL TROMBICULID MITES 
(PROSTIGMATA, TROMBICULIDAE) 
FROM POONA DISTRICT, MAHARASHTRA, INDIA 

BY
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ABSTRACT

Two new species of trombiculid mites, Gahrliepia (G.) khandalaensis n. sp. and Ascoschoengastia (Laurentella) guptai n. sp. are described and illustrated from Western-ghats in Poona district, Maharashtra state, India. The former is morphologically related to G. (G.) picta Traub and Morrow, 1955, and was collected only from Suncus murinus. Whereas A. (L.) guptai n. sp. is related to A. (L.) kita­jima (Fukuzuki and Obeta, 1953) and A. (L.) sellnicki Audy and Womersley, 1957, and was collected from Suncus murinus, Rattus ratus rufescens and R. r. satarae.

During the studies on trombiculid mites from Western-ghats of Poona district, Maharashtra state, India, more than a dozen new species have been recognised. Of these, two species, viz. L. (L.) sinhgarhense and Gahrliepia (Schongastiella) ramachandrai have already been described (KULKARNI, 1973). Two more are being described and illustrated here.

The holotypes of the two species are deposited in the collection of the Virus Research Centre (V.R.C.), Poona, India. Paratypes will be deposited in the V.R.C; Indian Museum, Calcutta; British Museum (Nat. Hist.), London; Rocky Mountain Laboratory, Hamilton, Montana, U.S.A.; and Institute for Medical Research, Kuala Lumpur, Malaysia.

Gahrliepia (Gahrliepia) khandalaensis n. sp. (Fig. 1-8).

TRAUB and MORROW (1957) have listed 13 species with scrobiculate scutum, under the genus and subgenus Gahrliepia. Present description of a new species raises the number of the species in the list to 14.

Diagnosis of larva : Palpal formula N/N/NNN + 5B; claw 3 pronged; galeal seta nude. Scutum broadly tongue shaped; PLs submarginal; usurped setae 4 pairs, 2 submedian and 2 submarginal. Dorsal setae 28 to 32 in number, arranged in 4, 6, 4, 6 (4), 4 (6), 2 (4), 2. Very close to G. (G.) picta Traub and Morrow, 1955, but readily separable by the following characteristics: (1) palpal setal formula b/b/b?Nb + ? in picta; (2) size and shape of scutum, being 179 X 92 µm in picta and 182 X 120 µm in khandalaensis sp. n.; (3) position of usurped setae, all submedian in picta.

Description of larva : Engorged and partially engorged larva oval; idiosome measures 308-400 X 216-285 µm. Eyes present, appearing as a darkened areas on ocular plate and opposite sensillary bases. Colour in life pale yellow.

Figs. 1-8. — Gahriezia (Gahriezia) khandalaensis n. sp. : 1) dorsal and ventral aspects of idiosoma ; 2) scutum ; 3-4) dorsal and ventral aspects of gnathosoma ; 5-7) legs I, II and III ; 8) humeral, dorsal, caudal and ventral setae.
Gnathosome: Moderately sclerotized and densely punctate. Coxae with a pair of pectinate setae. Cheliceral base 42 \( \mu m \) long and 24 \( \mu m \) broad; it's blade 28-31 \( \mu m \) long with a apical tricuspid cap. Palpal formula N/N/NNN + 5B. Claw 3 pronged, axial prong 14 \( \mu m \) long, accessory prongs unequal. Galeal seta nude.

Scutum: Broadly elongated and tongue shaped; 182 \( \times \) 120 \( \mu m \) in holotype. Anterior margin concave, lateral margins evenly rounded, converging posteriorly to form a rounded apex. Scutum broadest at PPLs-2. Scrobiculi ovate or ameboid in shape; 4-5 \( \mu m \) in diameter; about 1 1/2 \( \times \) setal bases, evenly distributed over scutum except around sensillary bases to anterior margin which are setal bases in size. ALs marginal; PLs submarginal; and 4 pairs of usurped setae. PPLs-1 and PPLs-3 submedian, PPLs-2 and PPLs-4 submarginal; measurements as follows: PPLs-1 38-45 \( \mu m \), PPLs-2 42-49 \( \mu m \), PPLs-3 38-40 \( \mu m \) and PPL-4 31 \( \mu m \) long; PPP-1 108-122 \( \mu m \), PPP-2 98-120 \( \mu m \), PPP-3 73-87 \( \mu m \), PPP4 38-54 \( \mu m \); PPW-1 24-31 \( \mu m \), PPW-2 87-91 \( \mu m \), PPW-3 37-42 \( \mu m \), PPW-4 54-68 \( \mu m \). Sensillae lanceolate and setulose.

Standard data in micrometers of *G. (G.) khandalaensis* n. sp.

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<th>AW</th>
<th>PW</th>
<th>SB</th>
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<th>PSB</th>
<th>SD</th>
<th>AP</th>
<th>AL</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holotype</td>
<td>42</td>
<td>68</td>
<td>42</td>
<td>19</td>
<td>163</td>
<td>182</td>
<td>38</td>
<td>42</td>
<td>49</td>
</tr>
<tr>
<td>Mean of 10 species</td>
<td>42</td>
<td>68</td>
<td>43</td>
<td>19</td>
<td>164</td>
<td>183</td>
<td>39</td>
<td>42</td>
<td>50</td>
</tr>
<tr>
<td>Observed range</td>
<td>Minimum</td>
<td>40</td>
<td>63</td>
<td>42</td>
<td>19</td>
<td>152</td>
<td>171</td>
<td>38</td>
<td>37</td>
</tr>
<tr>
<td>Maximum</td>
<td>44</td>
<td>73</td>
<td>45</td>
<td>21</td>
<td>178</td>
<td>199</td>
<td>42</td>
<td>45</td>
<td>58</td>
</tr>
</tbody>
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Body setae: HS 45-49 \( \mu m \); DS 42 \( \mu m \); VS 16-17 \( \mu m \); CS 31-35 \( \mu m \). Dorsal setae similar to PL setae. 28-32 in number, arranged in 4, 6, 4, 6 (4), 4 (6), 2 (4), 2. Ventral setae short and pectinate, 32 to 37 in number. Caudal setae similar to dorsal but shorter, 17 to 21 in number. Usual 2 pairs of sternal setae, anterior pair 24 \( \mu m \) and posterior pair 21 \( \mu m \) long.

Legs: 7-6-6 segmented, Ip 612-643 \( \mu m \). Coxae I-III unisetose. Terminal claws flexed, empodium slender and longer than claws. Ordinary setae on legs pectinate.

Measurements and leg setation as follows: *Leg I*. 210-217 \( \mu m \) long. Tarsus 49-52 \( \times \) 19-21 \( \mu m \). Tarsala blunt, 17 \( \mu m \) long. A microtarsala distal to base of tarsala; a long nude subterminala; a short fine parasubterminala; a pretarsala and 18-20 barbed setae. Tibia with one short blunt tibiala, a microtibiala and one long tibiala plus 6-7 barbed setae. Genu with 2 genualae and 4 barbed setae. Remaining segments with 5, 1, 1 barbed setae.

*Leg II*: 175-192 \( \mu m \) long. Tarsus 38-40 \( \times \) 19-21 \( \mu m \). Tarsala blunt, 14 \( \mu m \) long. A microtarsala distal to base of tarsala, a pretarsala and 10-12 barbed setae. Tibia with 2 tibialae and 6 barbed setae. Genu with a genuala and 2 barbed setae. Remaining segments with 5 and 1 barbed setae. Coxa II 52 \( \mu m \) long. *Leg III*: 227-234 \( \mu m \) long. Tarsus 52 \( \times \) 17 \( \mu m \) with 10-12 barbed setae. Tibia with 6 barbed setae, tibiala absent. Genu with 1 genuala and 3 barbed setae. Remaining segments with 5 and 1 barbed setae. Coxa III 56-59 \( \mu m \) long.

Type Material: All specimens collected from ex *Suncus murinus*. Holotype larva (V.R.C. A-94961), Khandala, Poona, India, 8.vi.1970; Paratypes 25 : 13L with data as for holotype; 2L (V.R.C. A-94959), data as for holotype; 1L (V.R.C. A-99046), 3L (V.R.C. A-99047) same locality, 12.vi.1971; 3L (V.R.C. A-92692), Lonavla, Poona, 10.i.1970; 2L (V.R.C. A-95033).
RL (V.R.C. A-99166), Sinhgarh, Poona, India, collected on 8.vi.1970 and 6.viii.1971 respectively. All collected by author.

This species is named after the locality "Khandala" in the Western-ghats of Poona district, where most of the specimens were collected.

Figs. 9-16. — _Ascoschoengastia (Laurentella) gupati_ n. sp.: 9) dorsal and ventral aspects of idiosoma; 10) scutum; 11-12) dorsal and ventral aspects of gnathosoma; 13-15) legs I, II and III; 16) humeral, dorsal, caudal and ventral setae.
Ascochoengastia (Laurentella) guptai n. sp. (Fig. 9-16).

**Diagnosis of larva:** Palpal formula B/B/NNB + 6B. Claw 3 pronged. Galeal seta nude. AL shoulders of scutum prominent. PW greater than AW 1.3 ×; PW greater than SD 1.35 ×. Sensilla long and fusiform with spines. Dorsal setae 34-41 in number, arranged in 2, 8 (9), 8 (7-10), 6 (5-8), 6 (4), 2 (4), 2. Tarsala II longer than tarsala I 1.5 ×. Very close to A. (L.) hitajima (FUKUZUKI and OBETA, 1953) but separable by having fewer scutal punctae and dorsolateral seta on palp is nude (N), not barbed. It is also close to A. (L.) sellnicki Audy and Womersley, 1957, but differs from it by having more number of dorsal setae 34 to 41 in number; palpogenual seta barbed; tarsala II longer and PW and PLs are distinctly smaller than in sellnicki.

**Description of larva:** Colour in life pale yellow. Engorged and partially engorged larva broadly oval; idiosome measures 285-447 × 169-339 µm. Eyes 1 + 1 on ocular plate.

**Gnathosome:** Well sclerotized and prominently displayed. Cheliceral base elongate 28-31 × 23-24 µm; minutely punctate, its blade 31-33 µm with a tricuspid cap. Palpal formula B/B/NBB + 6B, ventral seta on tibia with 3-4 barbs each; claw 3 pronged not 2, axial prong 14 µm long, accessory prongs unequal. Galeal seta nude. Coxal of gnathosome with minute punctae; usual pair of coxal setae pectinate.

**Scutum:** Less punctate with antero lateral shoulders as figured. AM slightly in advance of ALs. Anterior margin sinuous and concave; posterior margin convex; lateral margins slightly incurved. PW obviously greater than AW. PLs are as long as HS. AL setae short. Sensilla spiny, elongated and fusiform with a distinct basal stem.

Standard data in micrometers of A. (L.) guptai n. sp.

|        | AW | PW | SB | ASB | PSB | SD | AP | AM | AL | PL | Sens.
|--------|----|----|----|-----|-----|----|----|----|----|----|--------
| Holotype | 56 | 73 | 24 | 24  | 28  | 54 | 28 | 28 | 24 | 35 | 42 × 7
| Mean of 10 species | 57 | 73 | 25 | 24  | 28  | 50 | 28 | 24 | 37 | 43 × 7
| Observed range | Minimum | 52 | 70 | 24 | 24 | 28 | 52 | 24 | 28 | 23 | 35 | 42 × 7
| Maximum  | 63 | 77 | 26 | 26  | 30  | 56 | 28 | 31 | 24 | 38 | 45 × 7

**Body setae:** HS 35-38 µm; DS 33-35 µm; VS 17-19 µm; CS 28-30 µm. Dorsal setae minutely ciliated, 34 to 41 in number, arranged in 2, 8 (9), 8 (7-10), 6 (5-8), 6 (4), 2 (4), 2. VS pectinate, 19-23 in number plus 13-14 caudal setae, ciliated like DS. Sternal setae 2 + 2 of almost equal size.

**Legs:** 7-7-7 segmented; strongly sclerotized. Ip 604-657 µm. Coxae I-III unisetose, setae pectinate. Terminal claws strongly flexed, empodium slender and longer than claws. Ordinary setae on legs pectinate.

Measurements, type and number of barbed and sensory setae are as follows: **Leg I:** 213-224 µm long. Tarsus 49-52 µm. Tarsala blunt 10-12 µm; a microtarsala at the middle of tarsala; a nude subterminala, a nude parasubterminala, a pretarsala and 16-18 barbed setae. Tibia with 2 tibialae and 7 barbed setae. Genu with 2 genualae, a microgenualae and 5 barbed setae. Remaining segments with 5, 1, 1 barbed setae. **Leg II:** 178-196 µm long. Tarsus 42-45 µm.
Tarsala blunt and elongated 14-16 µm long, a microtarsala adjacent to base of tarsala; a pretarsala and 8 barbed setae. Tibia with 3 tibialae and 4 barbed setae. Genu with 1 genuala and 3 barbed setae. Remaining segments with 5, 2, 1 barbed setae. Leg III: 213-227 µm long. Tarsus 56-59 µm with 15 barbed setae; mastitarsala absent. Tibia with 1 distal tibiala and 4 barbed setae; mastitibiala absent. Genu with 1 genuala and 3 barbed setae. Remaining segments with 6, 1, 1 barbed setae. Coxa III 45 µm long.


This species is named after Dr. N. P. GUPTA, Director of this centre, whose helpful suggestions have been the source of stimulations in my studies on trombiculid mites.

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