

**DESCRIPTIONS OF FIVE NEW SPECIES
OF *GAHRLIEPIA* OUDEMANS
(ACARI: PROSTIGMATA: TROMBICULIDAE)
FROM NORTH SUMATRA, INDONESIA**

M. Nadchatram

ABSTRACT. - Five new species of *Gahrlepiea* Oudemans, 1912 collected during a survey of ectoparasites in North Sumatra, Indonesia are described and illustrated. The new species, *G. lami*, *G. lepida*, *G. sumatrensis*, *G. chani* and *G. parviseta* were recovered from forest rats trapped in disturbed rain forest.

INTRODUCTION

A survey of ectoparasites of North Sumatra, Indonesia was conducted in 1973 by personnel of the Institute for Medical Research and the U.S. Army Medical Research Unit, Kuala Lumpur, Malaysia, in connection with a programme for the elucidation of the epidemiology of scrub typhus and other zoonoses. Except for the studies conducted by Walch (1923, 1925), very little is known of the ectoparasites of North Sumatra. During the course of a three-week survey, 257 small mammals (shrews, rats, squirrels) were captured in six different localities. Numerous trombiculid mites (chiggers) were collected and studied. Approximately 30 species were determined including the five new species of *Gahrlepiea* Oudemans, 1912 described in this paper. The other chigger species and their host distributions will be published in a subsequent paper.

The knowledge of the mite fauna of North Sumatra not only adds to the zoogeographic information of Southeast Asian chiggers, but also enhances our understanding of the ecological relationships of vectors and potential vectors of scrub typhus to topography and vegetation. Major publications on Southeast Asian *Gahrlepiea* are those of Womersley (1952) and Traub & Morrow (1955, 1957). The genus *Gahrlepiea* is characterised in having a large tongue-shaped scutum almost covering the entire idiosome in unfed larvae, and bearing simple punctae or adorned with large pits or scrobiculi, giving a honey-comb appearance. In addition to a pair of anterolateral and a pair of posterolateral scutal setae, a variable number of usurped (false scutal) setae are also present. Their distribution is either marginal or submarginal to the lateral margins of scutum. Palpal and leg chaetotaxy are essentially similar to *Schoengastiella* Hirst, 1915 and *Walchia* Ewing, 1939. The taxa *Schoengastiella* and *Walchia*, previously treated as subgenera, are now regarded as full genera (Nadchatram & Fernandes, 1989). The three genera are members of the tribe Gahrlepieini of the subfamily Trombiculinae and are characterised in having the leg segments 7-6-6, expanded sensillae and lacking the anteromedian scutal seta.

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Certain of the physical and behavioural attributes of nearly all species of *Gahrliopia* are similar to features which have been designated as indicative of numerous other genera of nidicolous chiggers with expanded sensillae (Nadchatram, 1970). Thus, the newly hatched larvae are found in subterranean microhabitats, i.e. burrows of rodents rather than the surface of the ground as the scrub typhus vector-group of *Leptotrombidium* and other genera of scrub-itch chiggers. Hence, nidicolous chiggers are very sensitive to fluctuating environmental conditions compared to those species found on the ground surface. Gahrliopiine chiggers are pale or deficient in colour as compared with ground surface dwellers which are orange or red. A variety of rats associated with the forest serve as their natural hosts. *Gahrliopia* species are rarely found on squirrels, and never parasitize reptiles or birds. The eggs are laid in the nest of the host animal at the deep end of the burrow and on hatching, the larvae crawl up and rest on the roof of the burrow opening and drop onto the animal as it enters or leaves the nest. Sites of attachment on the host are usually the ear lobes, ear fringe, eyelids, muzzle, bases of vibrissae and perinaeal region. They feed for a varied period of time ranging from one to three weeks. *Gahrliopia* is essentially an Old World genus with the largest number of species having been recorded in Southeast Asia. This appears to support the observations of Audy (1954) and Traub (1955) that the Gahrliopiini chiggers are best developed in the Oriental Region, with the center of development perhaps in Southeast Asia.

The holotypes of the new species will be deposited in the British Museum (Natural History), London. Paratypes insofar as available will be deposited in the following institutions: Zoological Reference Collection, Department of Zoology, National University of Singapore, Singapore; collection of the U.S. National Museum presently housed in the Department of Entomology, Bernice P. Bishop Museum, Honolulu, Hawaii; Institute for Medical Research, Kuala Lumpur, Malaysia and the collection of the author. Terminology follows Nadchatram & Dohany (1974). All measurements are in micrometres (μm). All material reported in this paper were collected by M. Nadchatram and Phang Ong Wah.

TAXONOMY

FAMILY TROMBICULIDAE

GENUS GAHRLIEPIA OUDEMANS, 1912

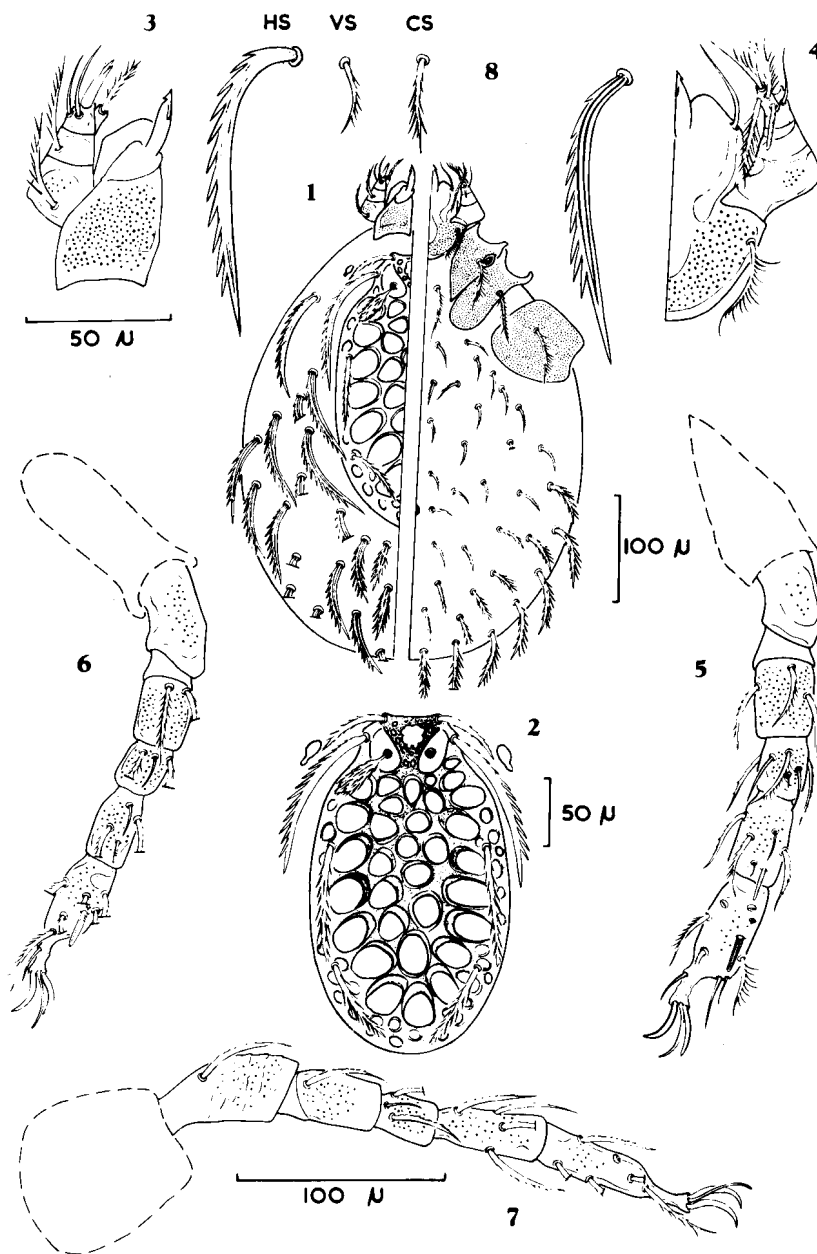
Gahrliopia lami, new species

(Figs. 1-8).

Diagnosis. - An elegant species with honey-combed scutum, the scrobiculi crenulate and conspicuous; with 4 pairs of scutal setae. Palpal formula B/B/NNN/4B; 3-pronged claw, nude galeal seta. Sensilla clavate. DS strongly developed. Coxae I-III unisetose. IP 870-910. This species is comparable to *G. insigne* Womersley, 1952 in having a highly scrobiculate scutum. The new species is, however, easily separated in many respects, especially in the general pattern of scutal ornamentation, in having the ALs and PLs close together so that AP is 12-16, not 27-31 apart, the PL being very long and stout, 110-124, not 48-56 long, and the true sternal setae being 1+1, not 2+2.

Material. - Holotype, IMR/USAMRU 260-1 (7-22) ex *Maxomys* (= *Rattus*) *whiteheadi*, Indonesia, North Sumatra, Kabupaten Dairi, Sukarame (disturbed rain forest), 1000 m asl,

New species of *Gahrliepia*



Figs. 1-8. *Gahrliepia lami*, new species. 1, dorsal and ventral aspects of idiosome; 2, scutum; 3, 4, dorsal and ventral aspects of gnathosome; 5, 6, 7, legs I, II and III; 8, humeral, ventral and caudal setae.

10 km from Sidikalang, 10.iv.1973. 16 paratypes with same data as holotype. Also 14 additional specimens from the same individual, but slides contain mixed species. Found embedded at bases of vibrissae on the muzzle and ear fringe. This species was recovered from a single host, though 7 other individuals of *M. whiteheadi* were collected from this locality.

Description. - Colour in life pale yellow. Idiosome of engorged larva ovoid, 580 x 320. *Eyes* - 2+2, contiguous, elongate, inserted beside and slightly below line of PL setae. *Gnathosome* - Palpal formula B/B/NNN/4B, femoral and genual setae well developed, strongly barbed; palpal tarsala slender, 16-17 long, longer than in most species observed; claw 3-pronged, slender; cheliceral base wider than long, densely pitted with minute punctae; cheliceral blade 34 long with pointed subapical tooth and a longer dorsal tooth appressed to blade. Galeal seta strongly developed, but nude. *Scutum* - long, ovate, outstandingly scrobiculate, as figured; scrobiculi of unequal size, those along lateral margins only little larger than setal bases; medial scrobiculi bordered by scutal setae, large, ovate, thick-walled; cluster of 15-20 weaker pits in the anterior region of scutum between ALs and SB and single large scrobiculus surrounded by the smaller pits; entire scutum appears to be single sclerotized plate, symmetrically fragmented by various sizes and shapes of scrobiculi; sclerotized areas of scutum punctate, but pits or scrobiculi devoid of punctae (in specimens extant pattern of scutal ornamentation varies slightly within the species); anterior margin of scutum shallowly concave, lateral margins between AL and PL flared, but curving inwards immediately behind PLs; remainder of lateral margins behind PLs evenly curved, with caudal margin broadly rounded; scutal setae 4 pairs, i.e. ALs, PLs and 2 pairs of usurped setae; ALs and PLs inserted at margins of scutum; usurped setae submarginal; PL bases moved forward, close to AL bases, so that AP distance 12-16 and SB at least 20 below line of PLs; PL setae stout, long, heavily pinnatifid; AL setae ciliated, shortest of scutal setae; 2 pairs of usurped setae of subequal length, 60-63 long, slender, pectinate; sensillary bases small, encircled by ovoid pits. Sensilla clavate, armed with numerous long pointed spicules. Scutal measurements of holotype, mean of 10 (holotype and 9 paratypes) and ranges follow: AW 40 (37, 35-40); PW 68 (67, 64-68); PPW1 136 (135, 133-137); PPW2 128 (128, 125-136); SB 35 (33-35); ASB 30 (28, 25-30); PSB 230 (227, 214-230); PPP1 155 (154, 152-158); PPP2 63 (64, 63-68); SD 260 (255, 242-267); AP 14 (12, 12-16); AL 45 (47, 45-51); PL 120 (116, 110-124); range of sensilla 47-48 (23 x 14).

Body setae - dorsal setae heavily pinnatifid as PL setae, postero-medial setae shortest; DS bases sclerotised, disc-like; DS 36 to 40 in number, including pair of humeral setae which are inserted far forward from first row of DS, only slightly below line of PL setae; only a single pair of pectinate sternal setae, 50-53 long; 40-46 true ventral, first row extending anteriorly between coxae III; caudal setae number 14-16; measurements of idiosomal setae: HS 95-104; anterior DS 85-95; posterior DS 42-46; VS 18-24; CS 27-32. *Legs* - 7-6-6 segmented, IP 870-910; coxae densely punctate; all coxae unisetose, setae slender, pectinate, of subequal length; ordinary or barbed setae serrated, not pectinate, terminal claws stout, empodium slender, longer than claws; measurements of legs, type and number of sensory and ordinary setae as follows: *Leg I* - 280-295 long; tarsus 64-68 x 23-25, tarsala short 20, and blunt; microtarsala proximal to base of tarsala and 10-12 apart; a subterminala, a nude parasubterminala, a pretarsala and 23-24 ordinary setae; tibia with 2 tibialae in tandem, a microtarsala beside base of distal tibiala and 8 ordinary setae; genu with 2 genualae, a microgenuala and 4 ordinary setae; remaining segments with 5, 1, 1 ordinary setae. *Leg II* - 270-283 long; tarsus 57-61 x 22-23; tarsala blunt 17 long; microtar-

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sala closely proximal to base of tarsala; a pretarsala and 14 ordinary setae; tibia with 2 tibialae in tandem and 6 ordinary setae; genu with a single genuala and 3 ordinary setae; remaining 2 segments with 6, 1 ordinary setae. *Leg III* - 320-330 long; tarsus 73-80 x 18-20; coxa III 84-88 x 68-70, with 14 ordinary setae; tibia with 6 ordinary setae; tibiala lacking; genu with a single proximal genuala and 3 ordinary setae; femur with 5 ordinary setae of unequal length, trochanter with 2 ordinary setae.

Etymology. - It is a pleasure to dedicate this species to Professor Tom Lam Toong Jin, a renowned scientist and Head, Department of Zoology, National University of Singapore. The author is grateful to Professor Lam not only for making it possible for him to continue with taxonomic studies but also for provision of the excellent facilities at the Department. Due largely to his encouragement and spontaneous support, over 130 species of acarines have been documented in Singapore over the past three years.

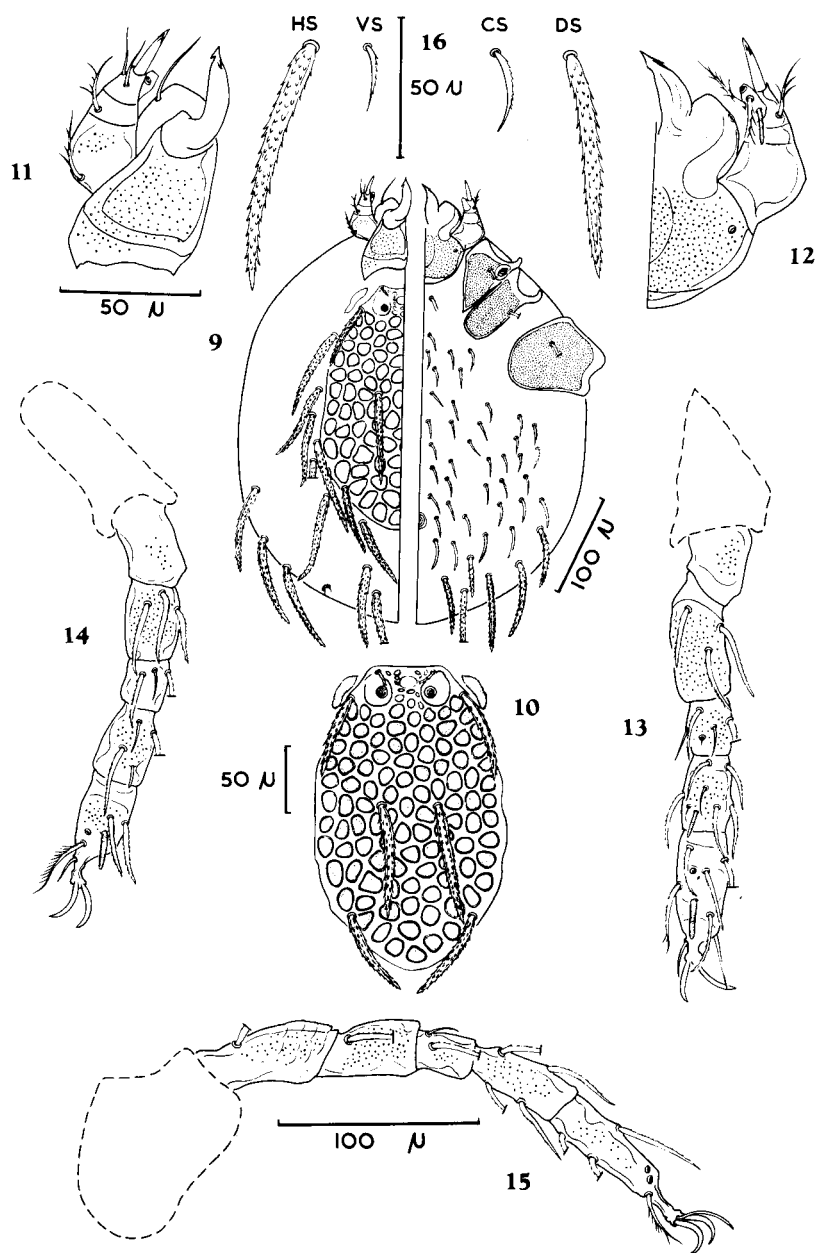
Gahrlepieia lepida, new species

(Figs. 9-16).

Diagnosis. - Scutum long, ovate, 246 x 160; scrobiculi mostly subovate, of subequal size, punctate, uniformly spread out. ALs greatly reduced; PLs and the 2 pairs of usurped setae and DS stout, rod-like, sparsely plumed or ciliated. First pair of usurped setae inserted at midline of scutum and second pair marginal. Palpal formula B/B/NNb/4B. Coxae unisetose. On the basis of the above combination of characters, *G. lepida* is not close to any of the 17 known species of scrobiculate Gahrlepieine species.

Material. - Holotype, IMR/USAMRU 331/10-23 ex *Leopoldamys* (= *Rattus*) *sabanus*, Indonesia, North Sumatra, Kabupaten Tapanuli Utara, Asahan Falls, ca. 1200 m asl (disturbed rain forest), 16.iv.1973. Mite found embedded in the perinaeal region of male rat.

Description. - Pale yellow in life. Idiosome of partially engorged larva broadly oval, 370 x 320. *Eyes* - present, elongate and appearing single; if double, contiguous; bordering scutum at level of PL setae. *Gnathosome* - Palpal formula B/B/NNb/4B, femoral and genual setae not strongly barbed as in *G. lami*; palpal tarsala slender, 16 long; claw 3-pronged, accessory prongs shorter than axial prong, unequal; cheliceral base wider than long, 50 x 45, distinctly punctate; cheliceral blade 43 long with short dorso-subapical tooth and a longer ventral tooth; galeal seta nude. *Scutum* - long, ovate, broadest at apical third; lateral margins sinuous; caudal margin broadly U-shaped; anterior margin almost straight; scrobiculi below line of PL setae mostly subovate, of subequal size, 3-4 times diameter of PL setae bases; scrobiculi evenly distributed, pits not in contact with each other; scutal punctae confined only to scrobiculi; 4 pairs of scutal setae; AL setae greatly reduced, 15 long, ciliated; bases somewhat removed from anterolateral angles to a point just mesad to SB; PLs moved closer to ALs and only slightly below line of SB; PL and usurped setae stout, rod-like, covered with numerous short spicules; first pair of usurped setae inserted at midline, 42 apart; the distance to lateral margin of scutum 52; PL and second pair of usurped setae marginal; first pair of usurped setae slightly longer (88) than second pair (75); scutal measurements of holotype: AW 46, PW 90, PPW1 45, PPW2 96, SB 40, ASB 15, PSB 223, PPPI 130, PPP2 47, SD 238, AP 22, AL 15, PL 70. Sensilla broken. *Body setae* - dorsal setae stout, rod-like, similar to PL setae, of unequal length, 68-87 long; DS bases sclerotized, but not disc-like as in *G. lami*; DS 26 in number, roughly arranged 2.2.2.6.4.4.4.2; a single pair of sternal setae, 34 long, set close together,



Figs. 9-16. *Gahrlepiea lepida*, new species. 9, dorsal and ventral aspects of idiosome; 10, scutum; 11, 12, dorsal and ventral aspects of gnathosome; 13, 14, 15, legs I, II and III; 16, humeral, ventral, caudal and dorsal setae.

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9 apart, inserted between coxae I; true ventral setae approximately half as long as sternals and number 70-76; caudal setae 12 in number; measurements: HS 89; DS 68-87; anterior VS 19-22; posterior VS 25; CS 43-70. *Legs* - Chaetotaxy of legs similar to that described for *G. lami*; measurements follow: IP 858. *Leg I* - 269 long, tarsus 65 x 23, tarsala 19 long. *Leg II* - 262 long, tarsus 56 x 22, tarsala 16 long. *Leg III* - 327, tarsus 79 x 19, coxa 81 x 75.

Etymology. - The species name is derived from the Latin, and describes the symmetry and elegance of the scrobiculate scutum.

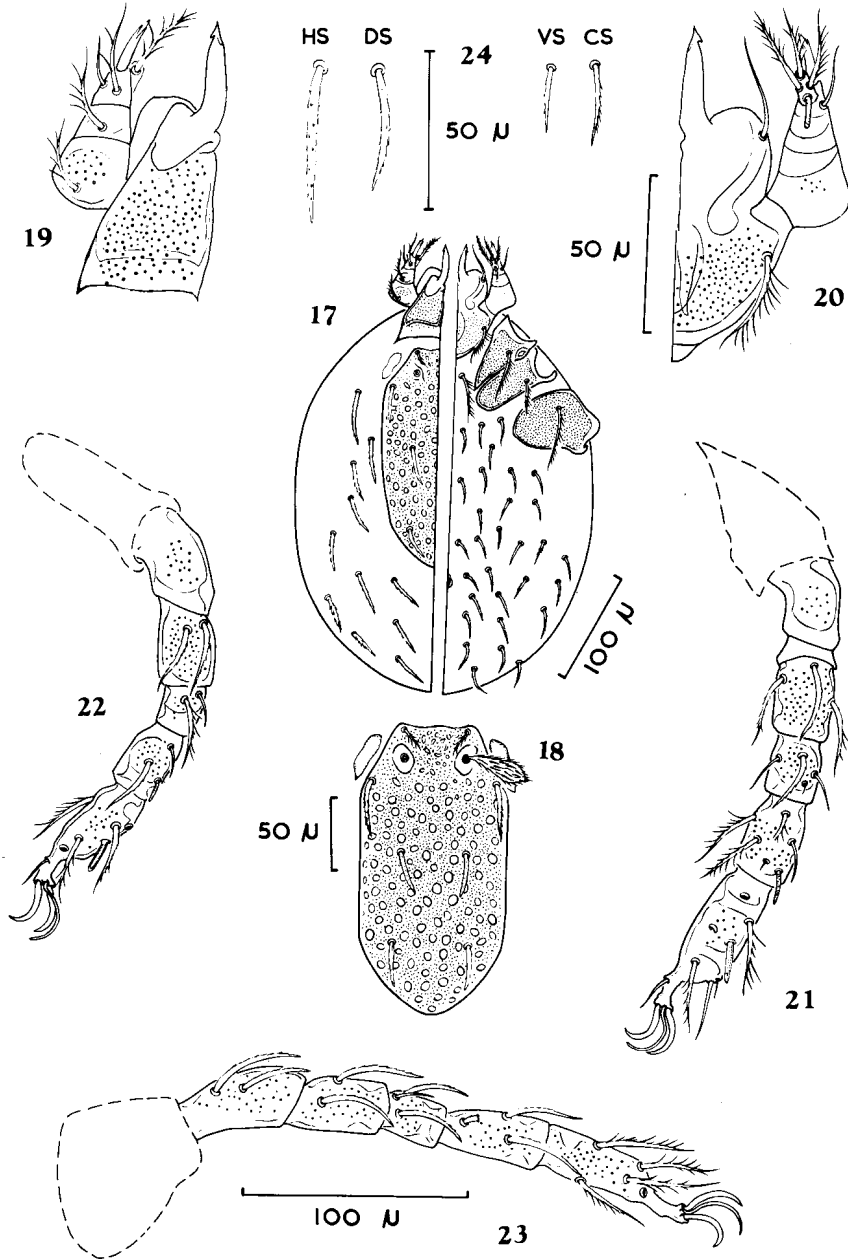
Gahrliepia sumatrensis, new species

(Figs. 17-24)

Diagnosis. - With ornate scutum, bearing simple, smoothly ovate scrobiculi of unequal size, 2-6 in diameter, fairly uniformly distributed over scutum; scutum tongue-shaped, 200-210 x 116-123. 2 pairs of submedian usurped setae; AL much reduced (16-21). Palpal formula B/B/bNN/4B; claw 3-pronged. Galeal seta nude. HS + DS 22 in number; single pair of sternal setae. IP 780-840. 3 barbed setae on trochanter of leg III. *Gahrliepia sumatrensis* is close to *G. granulata* Traub & Morrow, 1955, *G. tuberculata* Traub & Morrow, 1955, and *G. ordinata* Traub & Morrow, 1957. Both *G. ordinata* and *G. granulata* are easily separated by virtue of their bigger scuta, 329 x 182 and 272 x 144 respectively and their ALs being 2 x in length or greater than the AL of the present new species. *G. tuberculata* is readily separated by the shape of scutum and in having fewer DS.

Material. - Holotype IMR/USAMRU 211-16 ex *Rattus infraluteus*, Indonesia, North Sumatra, Kabupaten Karo, Kabanjahe (disturbed rain forest), 10 km from Brastagi, 4.iv.1973. 20 paratypes as follows - 16 with same data as holotype — 3 ex *Rattus fulvescens* (IMR/USAMRU 221); 1 ex *Maxomys surifer* (IMR/USAMRU 227), Sukaramé (forest), 15 km from Sidikalang, 7.iv.1973. All chiggers collected from perinaeal region. Approximately 60 additional specimens recovered from the type host, mixed with *Gahrliepia fletcheri*, *Walchiella oudemansi*, *Leptotrombidium deliense* and *L. bodense* in the perinaeal region.

Description. - Colour in life pale yellow. Idiosome of engorged larva broadly oval, 380 x 270. *Eyes* - 2+2, posterior eye small, not easily discernable, bordering scutum between AL and PL setae. *Gnathosome* - Palpal formula B/B/bNN/4B, femoral and genual setae short, but distinctly barbed; dorso-tibial seta with 1-2 barbs; palpal tarsala of normal length, 10 long; claw 3-pronged; cheliceral base longer than wide, 50 x 36 with posterolateral margins pointed and spur-like; cheliceral blade 50 long with pointed dorso-subapical tooth and a longer ventral tooth; galeal seta nude. *Scutum* - tongue-shaped, slightly 2 x as long as broad at maximum; scutal margins between ALs and PLs flared, lateral margins almost straight between PLs and second pair of usurped setae, caudal margin curving inwards immediately behind usurped setae to form a 'U' shape; anterior margin shallowly bisinuate; scrobiculi smoothly ovate, of unequal size, varying in diameter from 2-6, fairly uniformly distributed over entire scutum below SB; cluster of smaller pits between ALs and SB; scutum minutely punctate; AL setae pectinate and shortest of scutal setae, 16-21 in length; also thinner than other scutal setae, inserted in vertical line to SB; remaining scutal setae ciliated; PLs marginal, usurped setae markedly submarginal, first pair 54 and second pair 67 apart; usurped setae of subequal length, 30 long. Sensilla clavate with numerous thin bristles; scutal measurements of holotype, mean of 10 (holotype and 9 paratypes) and range as follows: AW 47 (45, 43-47); PW 97 (93, 86-98); PPW1 51 (47, 44-54); PPW2 69 (65, 60-70); SB 52 (48, 45-52); ASB 21 (21, 18-23); PSB 191 (180, 170-191); PPP1 110 (104, 100-115); PPP2 46 (38, 33-48); SD 212 (200, 190-215); AP 36 (37,



Figs. 17-24. *Gahrliepia sumatrensis*, new species. 17, dorsal and ventral aspects of idiosome; 18, scutum; 19, 20, dorsal and ventral aspects of gnathosoma; 21, 22, 23, legs I, II and III; 24, humeral, dorsal, ventral and caudal setae.

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34-40); AL 21 (19, 16-21); PL 35 (36, 35-39; sensilla 43-46 (36-37 x 12-13). *Body setae* - dorsal setae similar to PLs, number 22, somewhat arranged 2.2.2.2.2.6.4.2; sternal setae pectinate 36-42 in length; true VS lightly pectinate, 50-52 in number, anterior row extended forward and inserted between coxae III; CS 8-10 in number; setal measurements: HS 45-52; DS 39-42; VS 20-22; and CS 21-25 long. *Legs* - Chaetotaxy similar to *G. lami*, except that trochanter of leg III bears 3 ordinary setae, the 2 preceding species bear only 2; measurements follow: IP 780-840. *Leg I* - 250-275 long, tarsus 62-69 x 23-25, tarsala 18 long. *Leg II* - 240-250 long, tarsus 55-60 x 21-24, tarsala 15-16 long. *Leg III* - 290-315 long, tarsus 69-73 x 18-20, coxa 65-80 x 50-60.

Etymology. - The species name is derived from the type locality, Sumatra.

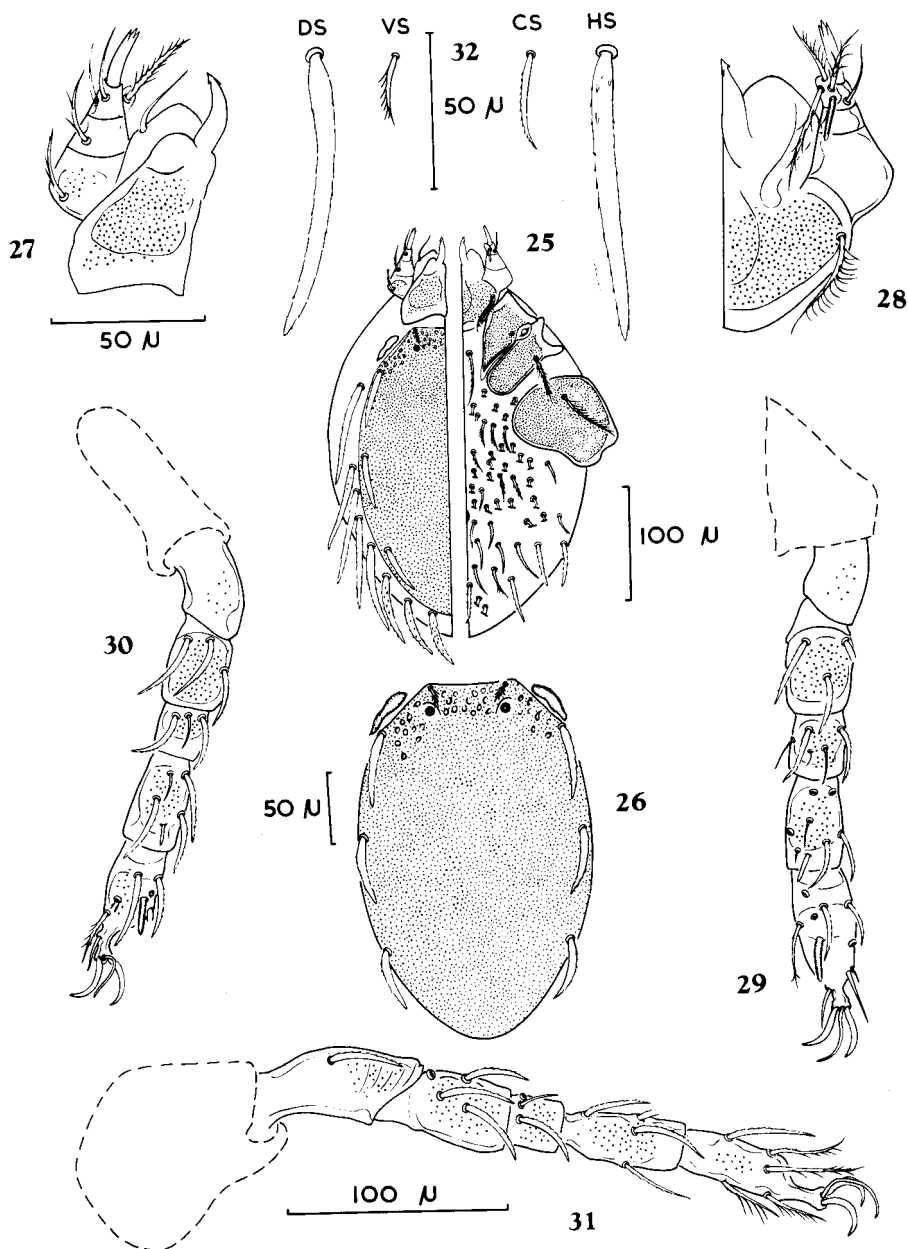
Gahrliepia chani, new species

(Figs. 25-32)

Diagnosis. - Scutum tongue-shaped, 2x as long as broad (255 x 130), densely pitted with micropunctae. 4 pairs of marginal scutal setae; ALs greatly reduced, PLs and usurped setae long, stout, almost lanceolate; SB close to and in vertical line with ALs. Palpal formula b/b/NNN/4B, HS and DS similar to PLs but longest of idiosomal setae, 16 in number, arranged 2.2.2.2.2.2.2.2. *Gahrliepia chani* is immediately separable from other species of *Gahrliepia* on the basis of the above combination of characters.

Material. - Holotype, IMR/USAMRU 222 (4-16) ex *Leopoldamys* (= *Rattus*) *sabanus*, Indonesia, North Sumatra, Kabupaten Dairi, Sukarama, ca. 1000 m asl, 15 km from Sidikalang (disturbed rain forest), 7.iv.1973. 6 paratypes as follows - 4 from 3 different individuals (IMR/USAMRU 223, 224, 225) of same host species, same locality and date as holotype; 1 ex *Maxomys* (= *Rattus*) *whiteheadi*, same locality as holotype, 10.iv.1973; 1 ex *Maxomys* (= *Rattus*) *surifer*, Kabupaten Karo, Kabanjahe, 10 km from Brastagi, 4.iv.1973. Site of attachment eye lids and ear fringes.

Description. - Colour in life light yellow. Partially engorged specimen broadly oval, 340 x 290. *Eyes* - elongate, probably 2+2 (not clearly discernable), bordering scutum as figured. *Gnathosome* - Palpal formula b/b/NNN/4B, femoral and genual setae weak; claw 3-pronged; cheliceral base longer than broad, 56 x 36, with posterior margin smoothly incurved; blade 37-40 long, with a dorsal and ventral subapical tooth; galeal seta nude. *Scutum* - tongue-shaped, 2x as long as broad with lateral margins behind PLs smoothly curved; margins between ALs and PLs flared; scutal punctae minute, closely packed and distributed over entire scutum; SB small, wide apart (54), inserted in vertical line to ALs; 4 pairs of scutal setae all inserted along lateral scutal margins; AL greatly reduced, 14-16 long, weakly pectinate; in comparison, PL and usurped setae grossly enlarged, stout, appearing nude except for marginal serrations; PL and first pair of usurped setae subequal in length (50-53); second pair only slightly shorter; sensilla broken in all 7 specimens extant; scutal measurements of holotype, mean of 7 (holotype and 6 paratypes) and range as follows: AW 51 (51, 48-55); PW 131 (130, 128-134); SB 53 (54, 52-56); ASB 18 (18, 16-18); PSB 237 (237, 231-246); PPPI 160 (158, 158-164); PPP2 75 (70, 69-76); SD 255 (255, 249-264); AP 37 (39, 35-47); AL 16 (15, 14-16); PL 55 (53, 51-58). Sensilla broken. *Body setae* - Dorsal setae stouter and longer than PLs, appearing nude; last 3 pairs of posterior DS somewhat sickle-shaped; a pair of HS and 14 DS arranged 2.2.2.2.2.2.2.2; single pair of pectinate sternal setae 40 long; VS weakly pectinate approximately 60 in number, 24-26 caudal setae; setal measurements: HS 90-98, DSA 79-83, DSP 60 (in flexed position),



Figs. 25-32. *Gahrlepiea chani*, new species. 25, dorsal and ventral aspects of idiosome; 26, scutum; 27, 28, dorsal and ventral aspects of gnathosome; 29, 30, 31, legs I, II and III; 32, dorsal, ventral, caudal and humeral setae.

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VS 20-24, CS 29-30 long. *Legs* - With the exception of bearing 3 ordinary setae on trochanter of leg III, chaetotaxy similar to that described for *G. lami*; measurement (mean of 3) as follows: IP 820-840. *Leg I* - 245-250 long, tarsus 60-61 x 24-25, tarsala 21 long. *Leg II* - 258-265 long, tarsus 52-55 x 22-24, tarsala 18 long. *Leg III* - 320-325 long, tarsus 67-70 x 20-22, coxa 83 x 92 (single specimen).

Etymology. - It is with much pleasure that this species is dedicated to Dr. Chan Kai Lok, Associate Professor and Medical Entomologist, Department of Zoology, National University of Singapore. As the former head of the Vector Control Unit, Ministry of Environment, Dr. Chan has contributed much to our knowledge of arthropod-borne diseases in Singapore.

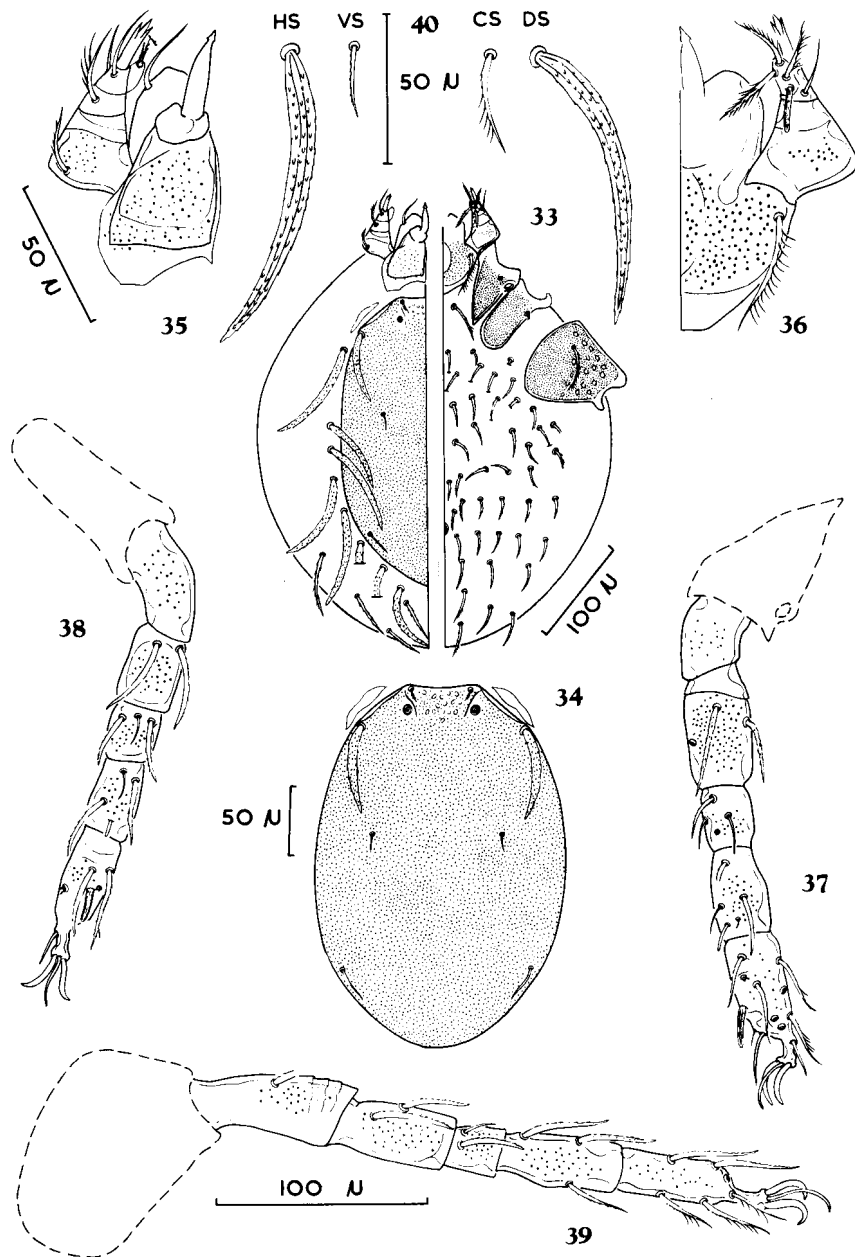
Gahrliepia parviseta, new species

(Figs. 33-40)

Diagnosis. - Scutum broadly tongue-shaped, slightly more than 2 x as long as broad, minutely punctate, save area between ALs and SB which bears bigger punctae approximately size of AL setal bases; 4 pairs of scutal setae, ALs and first pair of usurped setae very minute, 10-12 long, latter submedially inserted. PLs stout. SB close to ALs; distance between sensillary bases greater than distance between ALs. Palpal formula b/b/NNN/4B. HS and DS stout, 2+14 in number. In the shape and dimensions of scutum, humeral and dorsal setae *G. parviseta* is comparable to *G. chani*, but the two species are readily separable in the dissimilarity of the usurped and AL setae.

Material. - Holotype, IMR/USAMRU 210/3 ex *Maxomys* (= *Rattus*) *surifer*, Indonesia, North Sumatra, Kebupaten Karo, Kabanjahe (disturbed rain forest), Sumatra, 10 km from Brastagi, 4.iv.1973. 2 paratypes with same data as holotype.

Description. - Colour in life pale yellow as the preceding species. Partially engorged larva ovate, 380 x 340. *Eyes* - present, appearing as darkened area, probably 2+2, opposite SB, between AL and PL setae. *Gnathosome* - similar to *G. chani*; scutum broadly, evenly tongue-shaped, 270 x 130; anterior margin slightly incurved, anterolateral margins between AL and PL, flared, then evenly curved with posterior margin broadly rounded. *Scutum* - punctae minute, uniformly spread over entire scutum, area between AL and SB with few larger punctae size of AL setal bases, as figured; AL very minute, 10-12 long, weakly barbed; first pair of usurped setae submedian, minute, nude, approximately length of AL, not easily discernable; second pair though minute, nude approximately 2x as long as preceding pair; PLs stout; sensilla broken; scutal measurements of holotype and range of 3 as follows: AW 46, 46-49; PW 127, 127-130; SB 50, 48-52; ASB 14, 14-18; PSB 255, 253-255; PPP1 163-170; PPP2 70-77; SD 269, 268-273; AP 32, 30-32; AL 10, 10-12; PL 72, 71-72. Sensilla broken. *Body setae* - HS and DS 16 in number arranged 2.2.2.2.2.2.2.2, stout, armed with minute pinnae, resembling PLs; single pair of pectinate sternal setae, 47-51 long, inserted between coxae I followed by approximately 80-84 weakly barbed ventral setae, 24-26 of which are caudal; measurements: HS 108, DS 74-78, VS 23-24, CS 25 long. *Legs* - as described for *G. chani*; measurements as follows: IP 930-965. *Leg I* - 183-300, tarsus 64-67 x 24-28, tarsala 20 long. *Leg II* - 285-290, tarsus 55-58 x 23-25, tarsala 18 long. *Leg III* - 363-375, tarsus 74-76 x 23, coxa 94-97 x 97-98.



Figs. 33-40. *Gahrlepiea parviseta*, new species. 33, dorsal and ventral aspects of idiosome; 34, scutum; 35, 36, dorsal and ventral aspects of gnathosome; 37, 38, 39, legs I, II and III; 40, humeral, ventral, caudal and dorsal setae.

New species of *Gahrliepia*

Etymology. - The species name refers to the strikingly abbreviated AL setae and usurped scutal setae.

Acknowledgements. - I am deeply indebted to Professor Lam Toong Jin, Head, Department of Zoology, National University of Singapore, for the opportunity given to continue with my taxonomic work in his department during my tenure as Senior Teaching Fellow. The Institute of Medical Research, Kuala Lumpur and the U.S. Army Research Unit of the Walter Reed Army Institute of Medical Research, Washington D.C. were instrumental for the survey and I wish to thank these two institutions for making the material available for my study. Grateful thanks are also extended to Mr. H. K. Yip and Miss H. B. Tan of the Department of Zoology, National University of Singapore, for photographic and editorial assistance, respectively. The study has been partially supported by Research Grant 60/83 from the National University of Singapore.

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