

A NEW SPECIES AND A NEW RECORD OF THE GENUS *PERGAMASUS* (ACARINA : MESOSTIGMATA : PARASITIDAE) FROM INDIA

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INTRODUCTION

Berlese (1904) proposed the subgenus *Pergamasus* under the genus *Gamasus* Latr. and designated *Acarus crassipes* Linn. as typespecies. Hull (1918) first elevated *Pergamasus* to generic rank. The genus is cosmopolitan in distribution but so far it is not known from India.

In the present paper, *Pergamasus (Pergamasus) ranikhetensis* sp. nov. has been described and illustrated as a new species while *Pergamasus (Pergamasus) longicornis* Berlese (1906) is the first record from the Indian as well as Oriental region.

The specimens were prepared for microscopical study by clearing them in 60% lactic acid. All the figures have been drawn from the temporary preparation in lactic acid. Structures requiring detailed study, for example leg II of male, chelicerae, pedipalps and genital shield of female were dissected and prepared separately.

The type-material is deposited in the National Zoological Collection, Zoological Survey of India, Calcutta.

Pergamasus (Paragamasus) ranikhetensis sp. nov.

(Text-figs. 1-4)

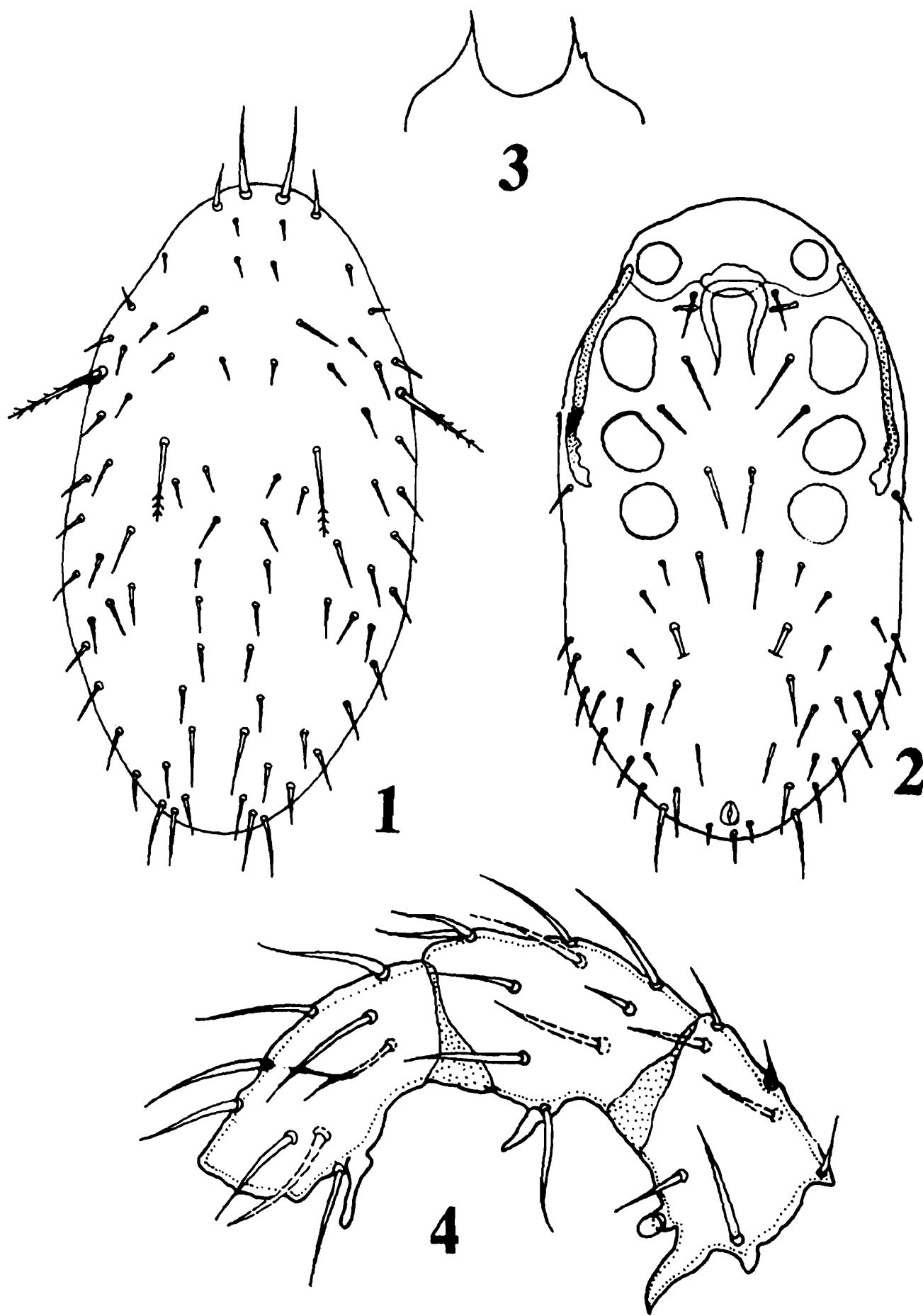
Male : Holodorsal shield 1.315 mm long, 0.775 mm wide, entire, with 43 pairs of simple and pilose setae (Fig. 1). Posterior of idiosoma show tendency of neutrichy.

Genital aperture situated on antero-median margin of holovenral shield. Chaetotactic pattern as in fig. 2. Stigma situated between coxae III and IV; peritreme narrow, extending posterior to coxa I.

Tectum basically with two spines, one spine slightly denticulate (Fig. 3). Palpal trochanter, femur and genu with 2, 5 and 7 setae respectively; apotele 3-tined. Ventrally gnathosma with four pairs of hypostomatic setae. Internal malae partly fringed.

All legs with claws and pulvilli. Distinctive features of femur, genu and tibia of leg II with variously shaped spurs (Fig. 4).

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Figs. 1-4. *Pergamasus (Pergamasus) ranikhetensis* sp. nov., male. 1. Dorsum, 2. Venter, 3. Tectum, 4. Leg II (partly).

Female : Unknown.

Material Examined : Holotype male, ex. leaf litter under raddish and pea plants; Rajpur Gaon, Ranikhet, Almora District, Uttar Pradesh; 20.iv.1971; S. K. Bhattacharyya coll.

Differential Diagnosis : The new species, *Pergamasus (Paragamasus) ranikhetensis* sp. nov. differs more markedly from *Pergamasus (Paragamasus) dilatatellus* Berlese, 1905 by the shape of accessory spur of the femur and the relative length of other spurs of the leg II.

Etymology : The species is named after the type-locality.

***Pergamasus (Pergamasus) longicornis* Berlese**

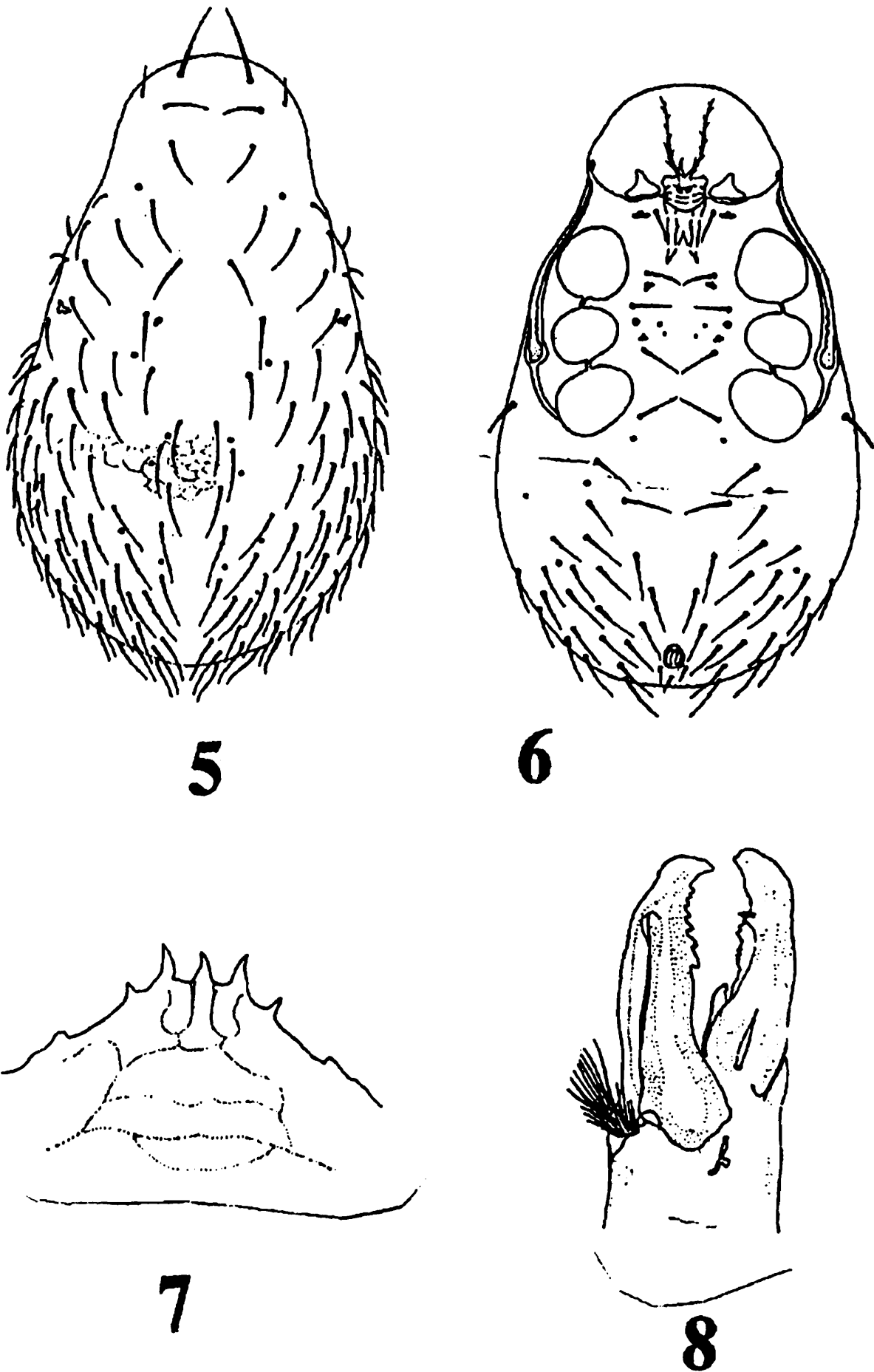
(Text-figs. 5–15)

- 1906 *Gamasus (Pergamasus) crassipes* var. *longicornis* Berlese, *Redia*, 3 : 232.
1906. *Gamasus (Pergamasus) crassipes* (L.) Latr. Berlese, *Redia*, 3 : 229.
1912. *Pergamasus crassipes* (L.) var. *longicornis* : Tragardh, *Arch. Zool. Exper. gen.*, 8 : 523.
1915. *Gamasus (Pergamasus) crassipes* (L.) var. *longicornis*, Tragardh, *The Natural History of Juan Fernandez and Easter Islands*, 3 : 603.
1942. *Pergamasus crassipes* (L.) var. *longicornis*, Womersley, *Trans. Roy. Soc. S. Aust.*, 66(2) : 146.
1943. *Pergamasus crassipes longicornis*, Cooreman, *Bull. Mus. Bel.*, 1963 : 4.
1943. *Amblygamasus septentrionalis belgicus* Cooremann, *Bull. Mus. Bel.*, 1963 : 4.
1961. *Pergamasus crassipes* (L.) var. *longicornis*, Schweizer, *Denks. schweiz. naturf. ges.*, 84 : 59.
1963. *Pergamasus (Pergamasus) longicornis*, Bhattacharyya, *Bull. Br. Mus. nat. Hist. (Zool.)*, 11(2) : 155.
1967. *Pergamasus longicornis*, Athias-Henriot, *Acarologia*, 9(4) : 696.
1969. *Pergamasus (Pergamasus) crassipes*, Holzmann, *Acarologia*, 13 : 38.
1976. *Pergamasus (Pergamasus) longicornis*, Davydovo, *Akad. Nauk SSSR, Novosibirsk*, 16.
1988. *Pergamasus (Pergamasus) longicornis*, Hennessey and Farrier, *N. Carolina Agric. Res. Serv. Tech. Bull.* 285 : 13.
1989. *Pergamasus (Pergamasus) longicornis*, Hennessey and Farrier, *N. Carolina Agric. Res. Serv. Tech. Bull.*, 289 : 54.

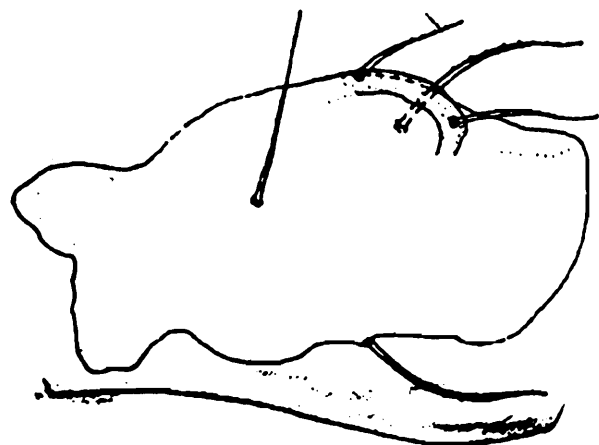
Male : Dark brown, strongly sclerotized. Holodorsal shield 1.275–1.284 mm long, 0.714–0.747 mm wide, pear-shaped, regionally reticulated. Opisthosomal region densely covered with setae (Fig. 5).

Two large presternal shields flanking genital sclerite. Tritosternum with a basal part and a pair of pilose lacinae. Genital lamina produced anteriorly into a sharply pointed spine (Fig. 6) and covering tritosternal base. Chaetotactic pattern of holovenural shield as figured. Stigma placed between coxae III and IV; peritreme extending to coxa I; post-stigmatal extension of peritrematal shield reaching to podal shield of coxa IV.

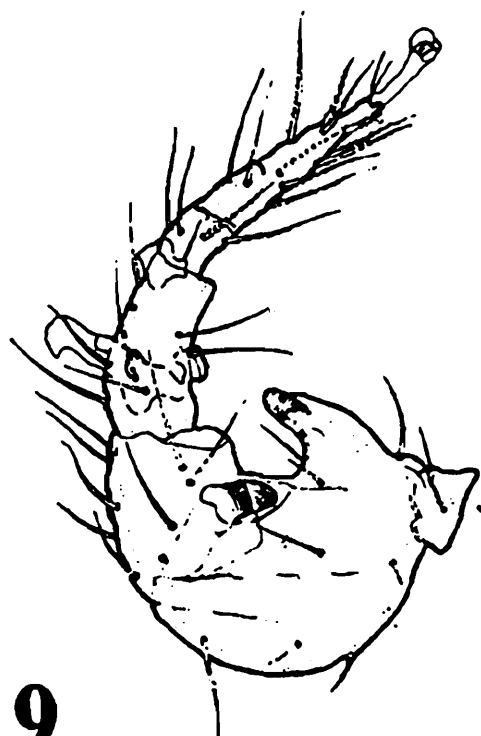
Tectum as in fig. 7. Palpal trochanter without any tubercle; femur bearing a comb-like seta and genu with two spatulate setae. Fixed and movable digits of chelicera with rows of teeth (Fig. 8).



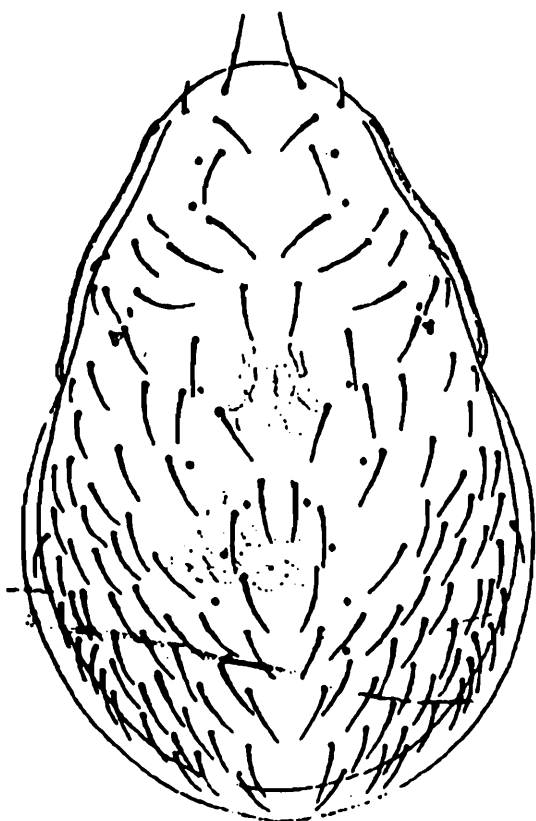
Figs. 5-8. *Pergamasus (Pergamasus) longicornis* Berlese, male. 5. Dorsum, 6. Venter, 7. Tectum, 8. Chelicera.



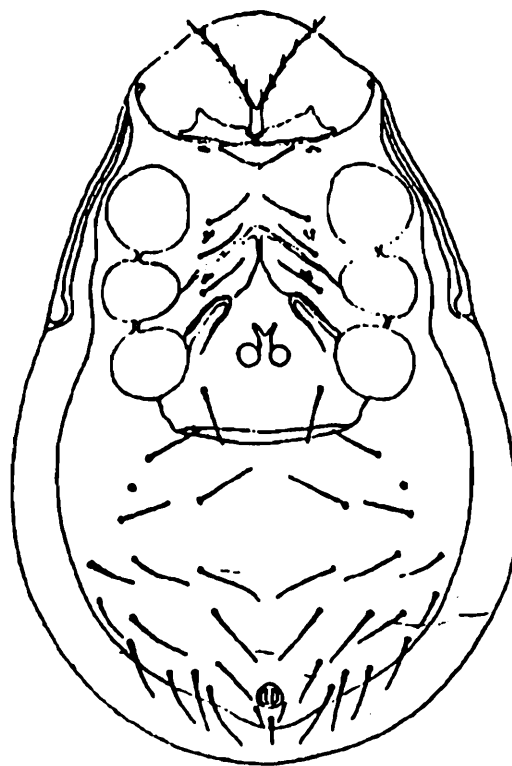
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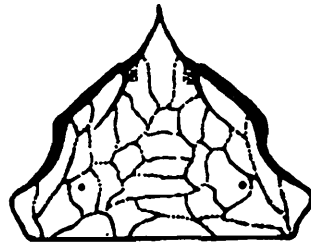
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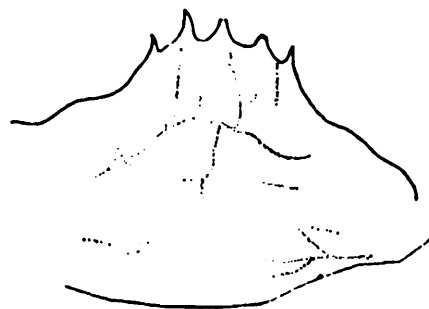
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Figs. 9–10. *Pergamasus (Pergamasus) longicornis* Berlese, male. 9. Armature of leg II, 10. Trochanter of leg IV

Figs. 11–12. *Pergamasus (Pergamasus) longicornis* Berlese, female. 11. Dorsum, 12. Venter.



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Figs. 13–15. *Pergamasus (Pergamasus) longicornis* Berlese, female. 13. Genital shield, 14. Tectum, 15. Chelicera.

Spermadactyl normal. Corniculus distinctly stalled. Entire lateral (outer) margin of internal mala fringed. Hypognathal groove of gnathosoma with eleven rows of denticles.

Leg II variously spurred (Fig. 9). Femur crassata with a strong falcate spur; genual spur tubular. Tibia with a distal, medial and lateral spurs, median process terminating in a hooklike structure. Trochanter of leg IV as in fig. 10.

Female: Dorsal shield 1.268–1.317 mm long, 0.797–0.815 mm wide, oval, regionally reticulated, neutrichous (Fig. 11).

Tritosternum with a long basal part and a pair of pilose lacinae. A pair of broad presternal shields situated near anterior margin of sternal shield and almost meeting in medial line. Metasternal shields free. Endogynium consisting of a pair of round sacs with a bifurcate median process (Fig. 12). Genital shield as in fig. 13. Chaetotaxy of opistogastric shield as delineated. Stigma positioned between coxae III and IV; peritreme extending to coxa I. Peritrematal shield entirely fused with dorsal shield.

Tectum 5-pronged (Fig. 14). Pedipalp essentially same as in male. Dentition of chelicera shown in fig. 15. Proximal portion of internal malae fringed. Hypognathal denticles arranged in twelve rows.

Trochanter of leg IV without any spur.

Material Examined : One male, under grass, Regional Fruit Research Station, Mashorba, Shimla, Himachal Pradesh, 13.ii.1978, S. K. Bhattacharyya coll. Eight males, leaf litter, Botanical Garden, Ooty, Nilgiri Dist., Tamil Nadu, 9.ii.1982, S. K. Bhattacharyya coll. One female, rotten water hyacinth, bank of Ooty Lake, Ooty, Nilgiri Dist., Tamil Nadu, 11.ii.1982, S. K. Bhattacharyya coll. One female, leaf litter, near Aruvankadu Railway Station, Nilgiri Dist., Tamil Nadu, 7.ii.1982, S. K. Bhattacharyya coll. One female, *Datura* leaf litter, Kotagiri, Nilgiri Dist., Tamil Nadu, 14.ii.1982, S. K. Bhattacharyya coll. Four females, wild leaf litter, Kotagiri, Nilgiri Dist., Tamil Nadu, 14.ii.1982, S. K. Bhattacharyya coll. Two females, litter under creeper, Pomberpuram, Kodaikanal, Madurai Dist., Tamil Nadu, 24.ii.1982, S. K. Bhattacharyya coll. Two females, berry leaf litter, St. Mary Road, Kodaikanal, Madurai Dist., Tamil Nadu, 24.ii.1982, S. K. Bhattacharyya coll. Two females, leaf litter, bank of Kodaikanal Lake, Kodaikanal, Madurai Dist., Tamil Nadu, 23.ii.1982, S. K. Bhattacharyya coll.

Distribution : The species is reported from Northern Europe, Norway, Germany, Ireland, Australia, Juan Fernandez and Eastern Islands, Belgium, Switzerland, British Isles, Austria, Spain, France, Hungary, New Zealand, South Africa, U.S.A., Canada.

Type : In Berlese's Collection, Stazione di Entomologia Agraria Firenze, Italy.

Remarks : The species is sympatric and sometimes coexist with *P. (P.) crassipes*. The two species are easily confused but can be distinguished by a number of morphological characters.

ACKNOWLEDGEMENTS

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