



### Short Communication

## *Ixodes (Ixodes) Himalayensis* Dhanda and Kulkarni, 1969 (Ixodoidea: Ixodidae) Description of Male

Shaikh M.N.

National Institute of Virology, 20-A, Dr. Ambedkar Road, Pune-411001, Maharashtra, INDIA

Available online at: [www.isca.in](http://www.isca.in), [www.isca.me](http://www.isca.me)

Received 11<sup>th</sup> June 2013, revised 26<sup>th</sup> July 2013, accepted 21<sup>st</sup> August 2013

### Abstract

*Ixodes himalayensis* Dhanda and Kulkarni 1969 is a rare tick species recorded from Jammu and Kashmir and Himachal Pradesh states of India. The species is related to *Ixodes kashmiricus*. The present paper gives a detailed description of male.

**Keywords:** *Ixodes himalayensis*, taxonomic description, host and distribution, related species.

### Introduction

*I. himalayensis* was first described by Dhanda and Kulkarni<sup>1</sup>. They described female, nymph and larva taken on rodents and shrews from various localities of Himachal Pradesh, India. There has been no description and illustration of male of this species. In the present paper we are reporting the description of the male collected from Jammu and Kashmir and Himachal Pradesh.

### Material and Methods

Taxonomy study of *I. himalayensis* is based on specimens collected from the above states and deposited at National Institute of Virology (NIV) museum. For this purpose light microscope was used for examination of delicate structures of male which was mounted on glass slides and a stereoscopic microscope was used for macrostructures of male. The measurements of the male conscutum are given in millimeter (mm).

### Results and Discussion

Taxonomic Description of male (figure 1-6): Body (figure 1 and 2): A large *Ixodes* bigger than female. Shape is oval, widest at level of coxa IV. Length, 2.94 mm; width, 2.07 mm). Capitulum (figure 3 and 4): Length 0.51 mm to 0.54 mm. Width of basis capituli, 0.255 mm, dorsally widest at juncture of palpi, converging gradually posteriorly to form distinct but small triangular cornua; posterior margin between cornua straight. Palpi short and broad, rounded apically; length, 0.40 mm to 0.45 mm; width, 0.165 mm to 0.170 mm. Setae moderate in number and of varying length. Scutum: 2.43 mm to 1.53 mm long, oval and convex. Scapulae short and blunt, widest near midlength. Cervical grooves shallow but faint, divergent behind. Punctuation are distinct but varying in size in different areas. Setae long

and fine. Legs: Moderately long. Coxae (figure 6): Coxa I with two spurs, outer small, triangular, inner long, coxae II and III with well-developed triangular outer spur, and small distinct inner spur like projection; IV with subtriangular outer spur and ridge like inner spur. Inner spur of coxa I is not as long as in female. Spiracular plate (figure 5): Larger than in female. Outline oblong-shaped, diameter about 0.48 mm. Genital aperture: Situated at level between coxae III. Ventral Plates: Ventral body surface has one paired adanal plates. Anal groove is formed between margins of the adanal plates. Adanal plates shape has narrow and trapezoid ends. Moderate number of setae present. Genital groove is elongated in shape and formed towards anteriorly.

**Host and Distribution:** This species has been recorded to feed on small mammals (Rodents and Shrews) in some districts of Jammu and Kashmir and Himachal Pradesh<sup>1,2</sup>. Districts recorded with this species in Himachal Pradesh are Mahasu, Kinnaur, Kulu, Kangra, Chamba and Lahul and Spiti and in Baramulla in Jammu and Kashmir.

### Conclusion

The male of *I. himalayensis* has a close similarity with that of *I. kashmiricus*, which has been collected from the same area from the rodents, in having the following characters: similar ventral plates; genital opening being situated between coxae III; external coxal spurs being more or less same in shape and size. However, the male of *I. himalayensis* can be distinguished from *I. kashmiricus* by the given characters: internal spur of coxa I being not as much longer as in *I. kashmiricus*, which is reaching up to the coxa II and presence of distinct dorsal cornua in *I. himalayensis* which is absent in *I. kashmiricus*.

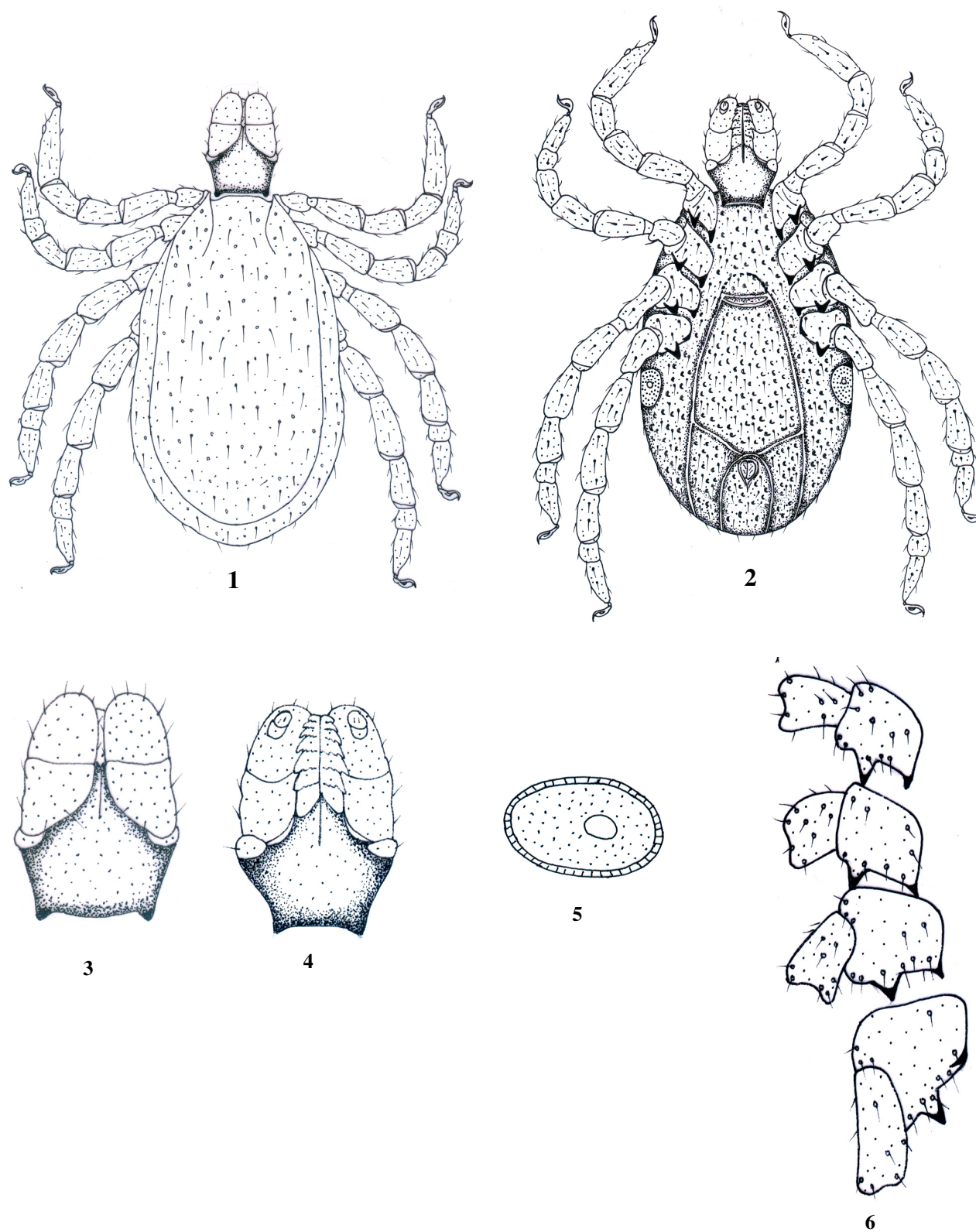


Figure-1-6

*Ixodes himalayensis*. Male. 1. Dorsal View, 2. Ventral View, 3. Capitulum in dorsal view, 4. Capitulum in ventral view, 5. Spiracle, 6. Coxae and trochanters I-IV

## Acknowledgements

We are thankful to the National Institute of Virology, Pune (India) for providing us the laboratory specimens and necessary facilities for our study purpose. We express our sincere gratitude towards S. K. Deshpande, Technical Assistant, National Institute of Virology Pune, India who prepared the illustrations of this species.

## References

1. Dhanda V. and Kulkarni S.M., *Ixodes himalayensis* sp. n. (Acarina: Ixodidae) Parasitizing Small Mammals in Himachal Pradesh, India. *J. Parasitol.*, **55(3)**, 667-672 (1969)
2. Ramchandra Rao T., Dhanda V., Bhat H.R. and Kulkarni S.M., A survey of Haematophagus Arthropods in Western Himalayas, Sikkim and Hill Districts of West Bengal a General Account, *Indian J. Med. Res.*, **61(10)**, 1421-1416 (1973)