ON A COLLECTION OF TETRANYCHID MITES FROM ARUNACHAL PRADESH, INDIA WITH DESCRIPTIONS OF TWO NEW SPECIES

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INTRODUCTION

The information pertaining to mite fauna of Arunachal Pradesh is scanty (Prasad, 1974) and so far as tetranychid mites are concerned, practically nothing is known (Gupta, 1985). The present paper is based upon the collection made during 1981-1983 from five districts viz. Upper Subansiri, Lower Subansiri, West Siang, Lohit and Tirap. Altogether 15 species under 6 genera are treated in this paper, of which two are described here as new to science. All are first reports from the state.

The measurements given in the text are in microns. The types are in the collection of the Zoological Survey of India, Calcutta. The collection pertaining to 1983 was made by both the authors, while that of 1981 was made by the junior author alone.

Family TETRANYCHIDAE

Key to the genera and species of Tetranychidae

1. Tarsus I with single set or without closely associated duplex setae, empodial claw absent with one pair of paraanal setae ................................................. Aponychus bambusae sp. nov.
   - Tarsus I with 2 pairs of duplex setae, the proximal member of each pair shorter than distal member, empodium claw-like or splits distally ................................................. 2

2. With 2 pairs of paraanal setae .............................................................................. 3
   - With 1 pair of paraanal setae ............................................................................... 5

3. Empodium claw-like ............................................................................................. 4
   - Empodium ending with tuft of hairs .................................................................... Eotetranychus, 6

4. Empodium a single claw-like structure with proximoventral hairs ................................................................. Panonychus, 11
   - Empodium splits into 2 claw-like structures ........................................................ Schizotetranychus mansoni

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5. Empodium claw-like with proximoventral hairs, duplex setae of tarsus I distal and approximate.................................................................Oligonychus, 12
- Empodium splits distally, usually into 3 pairs of hairs, duplex setae of tarsus I well separated .................................................................Tetranychus, 14

6. Dorsal idiosomal setae serrate ................................................................. 7
- Dorsal idiosomal setae not serrate ............................................................. 8

7. Aedeagus gradually tapering and forming a broad ventral bent
................................................................................................................... Eotetranychus kankitus
- Aedeagus gradually narrows distally and curves dorsad and forming a distal knob ................................................................. Ebroodyki

8. Distal portion of aedeagus sigmoid ............................................................ E.frosti
- Distal portion of aedeagus curved but not sigmoid ........................................ 9

9. Genital flap with longitudinal striae ......................................................... E. sexmaculatus
- Genital flap with transverse striae ............................................................ 10

10. Peritreme at the distal end as a small bulb ............................................... E. pamelae
- Peritreme at the distal end curved ............................................................. E. indicus

11. Fifth pair of dorsocentrals and 4th pairs of dorsolaterals equal in length
....................................................................................................................... Panonychus citri
- Fifth pair of dorsocentrals about 1/3 length of 4th pairs of dorsolaterals ....... P. ulmi

12. Aedeagus bent ventrad, tarsus I with not more than single tactile seta on venter just distad of duplex setae ......................................................... Oligonychus coffeae
- Aedeagus bent dorsad, although the distal end may be directed ventrad, tarsus I with 2 tactile setae on venter just distad of duplex setae ................. 13

13. Aedeagus with distal end strongly sigmoid ................................................ O. sacchari
- Aedeagus with distal end not strongly sigmoid .......................................... O. oryzae

14. Knob of aedeagus berry-like, rounded anterior projection more strongly developed than the posterior convexity ............................................. Tetranychus neocaledonicus
- Knob of aedeagus not globular, the caudal projection angulate ............... T. cinnabarinus

1. Aponychus bambusae sp. nov.
(Figs. 1 - 7)

Male : Body including rostrum 285 long, 159 wide, oblong. Peritreme at the distal end forming hook-like structure. Palpus with terminal sensillum slender. Idiosoma with dorsal integument wrinkled Idiosomal setae small, serrate and spatulate. Dorsal propodosomal, humerals, second dorsolateral, inner sacrals, clunal setae of same length. Outer sacral absent. I-III dorsocentral setae measure 18-25, II propodosomal-21, III propodosomal-28, humeral-28. Leg with spatulate setae. Tibia I with 1 sensory, 1 spatulate and 5 tactile setae; tarsus I with 1 sensory and 8 tactile setae. Tibia II with 1 sensory, 1 spatulate setae; tarsus II with 1 sensory, 1 spatulate and 9 tactile setae. Aedeagus more or less hook-like structure.
GUPTA & GUPTA: On a collection of Tetranychid mites

Figs. 1-7: *Aponychus bambusae* sp. nov.


**Remarks**: This new species resembles *Aponychus makaoi* Ehara & Wongsiri (1975) in the absence of the outer sacral setae, but is easily distinguished from it by having the
dorsocentral setae being five times longer.

2 **Panonychus citri** (McGregor)


*Material examined*: 1 Male, 10 Females, Arunachal Pradesh, Kimin, 2.xi.1981, ex an undet. plant; 1 (M), 5 (F), Yazuli, 30.x.1981, on pear; 15 (F), Loilang, 22.i.1983, ex vegetable plant; 1 (M), Bogapani, 6.i.1983, ex an undet. plant; 1 (M), 6 (F), Deban, area around Lama Basti, 15.i.1983, ex squash; 2(M), 36(F) on way to Loilang, 7.i.1983, ex banana; 1(M), 19(F), Deban, area around Lama Basti, 15.i.1983, ex pear; 15(F), Tezu, 21.i.1983, ex pear.

*Distribution*: India: West Bengal, Assam, Meghalaya, Arunachal Pradesh, Punjab, Jammu & Kashmir. Outside India: China, Japan, Middle East, South Africa, New Zealand, Argentina, Bermuda, Cuba, Mexico, Florida, California.

3 **Panonychus ulmi** (Koch)


*Material examined*: Several (M), (F), India, Arunachal Pradesh, area around Tezu Circuit House, 22.i.1983, on an undet. plant.


4. **Eotetranychus sexmaculatus** (Riley)


*Material examined*: 1 Male, 1 Female, Arunachal Pradesh, Hyauliang, 26.i.1983, on an undet. plant.

*Distribution*: India: Meghalaya, Arunachal Pradesh, Karnataka, Tamil Nadu. Elsewhere: Taiwan, Formosa, New Zealand, U.S.A.

5. **Eotetranychus frosti** (McGregor)


*Material examined*: 1 Male, 8 Female, Arunachal Pradesh, Ringo, Maru, 25.x.1981, on citrus.

*Distribution*: India: Gujarat, Jammu & Kashmir, Arunachal Pradesh Elsewhere:
Arizona, California, Louiaiana, Missouri, North Dakota, Ohio, New York.

6. Eotetranychus pamelae Manson


*Distribution*: India: Assam, Arunachal Pradesh, Tamil Nadu.

7. Eotetranychus kankitus Ehara


*Distribution*: India: Meghalaya, Arunachal Pradesh, Tamil Nadu.

8. Eotetranychus broodryki Meyer


*Material examined*: 1 Male, 10 Females, Arunachal Pradesh, Area around Dhala tea estate, 19.i.1981, ex tea.

*Distribution*: India: Orissa, Arunachal Pradesh Elsewhere: Rhodesia.

9. Eotetranychus indicus sp. nov.

(Figs. 8-15)

*Male*: Body including rostrum 357 long, 177 wide. Palpus with terminal sensillum 2 times as long as wide; dorsal sensillum much longer, fusiform. Dorsal setae of idiosoma longer than interval between their longitudinal bases. Tibia I with 3 sensory and 7 tactile setae; tarsus I with 1 sensory and 3 tactile setae proximal to duplex setae. Tibia II with 1 sensory and 6 tactile setae; tarsus II with 1 sensory and 2 tactile setae proximal to duplex setae. Aedeagus with proximal portion of shaft curved abruptly and narrowed, distal portion very slender and much similar to that of *E. smithi* Pritchard & Baker.

*Female*: Body including rostrum 432 long, 213 wide. Palpus with terminal sensillum slightly longer than wide; dorsal sensillum much longer. Peritreme ends in hook-like structure. Dorsal idiosomal setae slightly longer than the interval between their longitudinal bases. Tibia I with 2 sensory and 8 tactile setae; tarsus I with 2 sensory and 4 tactile setae.

Remarks: The aedeagus of this species resembles *Eotetranychus smithi* Pritchard & Baker (1955) but differs from it in relative number of tactile and sensory setae of tibia and tarsus of both the sexes.

Figs. 8-15. *Eotetranychus indicus* sp. nov.

10. *Schizotetranychus mansoni* Gupta


Material examined: 3 Males, Arunachal Pradesh, Hapoli Horticultural garden, ex mother plant.
GUPTA & GUPTA: On a collection of Tetranychid mites


11. Oligonychus coffeae (Nietner)


Material examined: 2 Males, 20 Females, Arunachal Pradesh, Dhala tea estate area, 19. i. 1983, ex tea.


12. Oligonychus oryzae (Hirst)


Material examined: 1 Male, 10 Females, Arunachal Pradesh, Yazuli, 30.x.1981, ex paddy.


13. Oligonychus sacchari (McGregor)

1942. Paratetranychus sacchari McGregor, J. Univ. Puerto Rico, 26: 91


14. Tetranychus cinnabarinus (Boisd.)


Material examined: 3 Males, 17 Females, Arunachal Pradesh, Lidabali, 14.x.1981, ex an undet. plant; 2(M), 28 (F), Loilang, 22.i.1983, ex papaya; 1(M), 8 (F), Deban, area around Forest Rest House, ex papaya.

Distribution: India: Orissa, Meghalaya, Arunachal Pradesh, Bihar, Rajasthan, Punjab,
15. Tetranynchus neocaledonicus Andre


Material examined: Several Males, Females, Arunachal Pradesh, Deban around Chakma Basti, 16.i.1983, on papaya.


SUMMARY
Fifteen species of tetranychid mites belonging to six genera are reported here from Arunachal Pradesh. This includes two new species, of Aponychus and Eotetranychus. All are new reports for the state.

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