A new species of *Neotetranychus* Trägårdh (Acari, Prostigmata, Tetranychidae) from Thailand with a key to world species

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**Abstract**

*Neotetranychus lek* sp. nov., a spider mite collected in Thailand, is described and figured. A key to the world species of *Neotetranychus*, based on females, is presented.

**Key words:** mite, taxonomy, female, Trombidiformes, Acariformes

**Introduction**

A microscopic preparation of a spider mite was brought to our attention by Ms. Ploychompoo Konvipasruang, researcher from the Plant Protection Research and Development Office from the Department of Agriculture, Thailand. It proved to be a new species and is herein described, and a key to world species is presented. Measurements are given in micrometers.

*Neotetranychus lek* sp. nov. (Figs. 1–6)

**Diagnosis**

Dorsal integument entirely striated, striae with small irregular lobes. Most dorsal setae (sc₁, sc₂, c₁, c₂, d₁, d₂, e₁, e₂, f₂) long, longer than longitudinal distance to basis of consecutive pair of setae, and set on strong tubercles. Smallest of the known species.

**Female**

Idiosoma 283 long, including gnathosoma 347 long, 255 wide.

Body outline near orbicular, only slightly longer than wide. Dorsal integument entirely striated, striae with small irregular lobes, longitudinal on propodosoma, irregularly transverse between setae c₁-c₁, d₁-d₁, f₁-f₁ and caudally, but longitudinal between setae e₁, and striae longitudinal around bases of tubercles of setae d₁ and e₁, forming a near diamond shaped pattern. Dorsum with 13 pairs of setae, setae c₃ situated more ventrally; setae c₃, f₁ and h₁ are the shortest; the remaining dorsal setae are long, reaching past the bases of setae next behind. Length of setae: v₂ 38 and 40 apart; sc₁ 67, 75 apart, sc₂ 39; c₁ 58, 45 apart, c₂ 49, c₃ 31; d₁ 63, 55 apart, d₂ 58; e₁ broken off, 40 apart, e₂ 49; f₁ 54, 71 apart, f₂ 24; h₁ 24, 22 apart, h₂ 19 and h₃ 18 (h₂ and h₃ ventral). Dorsal setae cylindrical, slightly expanded distally, thickly pubescent, inserted on strong tubercles. Two pairs of pore-like structures dorso laterally, in between setae sc₂ – c₃ and c₃ – d₂ (Fig. 1).
Figure 1. Neotetranychus lek sp. nov. (female). Dorsal view of idiosoma.

**Gnathosoma:** stylophore rounded anteriorly, longitudinally striated. Peritremes straight ending in a slightly expanded bulb. Terminal sensillum of palp (spinneret) as long as broad.

**Ventrally:** genital flap with arched striae; area immediately anterior to it with transverse striae. Medioventral striae without lobes.

**Legs:** leg I longest, 268; leg II shortest, 172; leg III 190 and leg IV 202 long. The setae, solenidia in parentheses, are distributed on leg segments, from coxae to tarsi, as follows:

I: 2 – 1 – 9/10 – 5 – 8 (1) – 13 (1) + 2 duplexes  
II: 2 – 1 – 7 – 5 – 7 – 13 (1) + 1 duplex  
III: 1 – 1 – 4 – 4 – 6 – 10 (1)  
IV: 1 – 1 – 3 – 3 – 6 – 10 (1)  

Femur I presented 9 setae on one leg and 10 setae on the other.

**Type material**

female holotype, from (? – see remarks) cassava, Manihot esculenta Crantz (Euphorbiaceae), Rayong, Thailand, Sept. 22, 2011, coll. Pichate, on a microscopic preparation in the collection of Departamento de Entomologia e Acarologia, Escola Superior de Agricultura “Luiz de Queiroz”, Universidade de São Paulo, 13418-900 Piracicaba, SP, Brazil.

Etymology
The species is named for Mrs. Ploychompoo Konvipasruang whose nickname Lek is here used as the specific designation. Lek is a word from the Thai language and means small. In this way, it also refers to the small size of the mite. The species name is coined by apposition and in Thai lek is both masculine and feminine.

Remarks
The new species presents the same leg chaetotaxy as Neotetranychus asper Feres & Flechtman, 2002, but differs in presenting a striate dorsal integument (ornamentation in calice shaped structures in N. asper.)

The one specimen on which the description is based was collected from a cassava leaf, amidst a population of the cassava green mite, Mononychellus progressivus Doreste, 1981 (specimins identified by Dr. T. Gotoh, Japan). Therefore, and although one species in the genus, N. asper, was described from an Euphorbiaceae (Alchornea
glandulosa Poepp.), cassava might not be the host plant of the new species; it could have drifted by wind dispersion from another host plant. That is, it remains to be ascertained that *N. lek* feeds and reproduces on cassava.

This is the first record of a species of *Neotetranychus* from Asia and now representatives from all inhabited continents are known: five species from the Americas, two species from Europe (including Armenia), one species from Cameroun (Africa), one species from Australia, and which can be separated by the following key.

**Key to the world species of *Neotetranychus* Tragardh**  
(mainly based on females and partially on literature only)

<table>
<thead>
<tr>
<th>Step</th>
<th>Condition</th>
<th>Species</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dorsal setiferous tubercles bearing setae $c_1$ $c_2$ $d_1$ $d_2$ $e_1$ and $e_2$ approximate, almost contiguous. Dorso central and dorso lateral hysterosomal setae about three quarts as long as body length not including gnathosoma.</td>
<td><em>Neotetranychus victoriae</em> Davis, 1969</td>
<td>Australia</td>
</tr>
<tr>
<td>-</td>
<td>Dorsal setiferous tubercles not contiguous; no dorsal hysterosomal seta over half body length</td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td>Dorsal integument mostly striated, striated with small irregular lobes.</td>
<td><em>Neotetranychus lek</em> sp. nov.</td>
<td>Thailand (South East Asia)</td>
</tr>
<tr>
<td>-</td>
<td>Dorsal integument almost entirely granulated, wrinkled, with calyx shaped structures or with reticulate lumps.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>Dorsal integument almost entirely wrinkled or granulated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Dorsal setae bipectinate</td>
<td><em>Neotetranychus raphidoseta</em> Aranda, 2002 in: Feres &amp; Flechtmann, 2002</td>
<td>Brazil (South America)</td>
</tr>
<tr>
<td>-</td>
<td>Dorsal setae more or less cylindrical, strongly pubescent or serrate</td>
<td></td>
<td></td>
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<td>5.</td>
<td>Spinneret (on palp tarsus) long, pointed, about eight times as long as wide.</td>
<td><em>Neotetranychus peniculus</em> Aranda, 2002 in: Feres &amp; Flechtmann, 2002</td>
<td>Brazil (South America)</td>
</tr>
<tr>
<td>-</td>
<td>Spinneret not over three times as long as wide.</td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
<td>Spinneret as long as broad.</td>
<td><em>Neotetranychus asper</em> Feres &amp; Flechtmann, 2002</td>
<td>Brazil (South America)</td>
</tr>
<tr>
<td>-</td>
<td>Spinneret two or three times as long as broad.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Peritremes straight, ending in a bulb</td>
<td><em>Neotetranychus granifer</em> Feres &amp; Flechtmann, 2002</td>
<td>Brazil (South America)</td>
</tr>
<tr>
<td>-</td>
<td>Peritremes distally hooked.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Spinneret twice as long as broad; tibia of leg IV without solenidion; tarsus I with three tactile and one sensory seta proximal to duplex setae.</td>
<td><em>Neotetranychus gloriosus</em> Estebanes &amp; Baker, 1966</td>
<td>Mexico (North America)</td>
</tr>
<tr>
<td>-</td>
<td>Not as above; spinneret three times as long as broad.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. Aedeagus turned dorsad at a right angle, tapering ..........................................................
.................................................................................. Neotetranychus rubi Tragardh, 1915
Sweden and Central Europe

- Aedeagus turned upward and tapering to a sigmoid apex ..............................................
...................................................................... Neotetranychus rubicola Bagdasarian, 1956
Armenia

The characterization of the aedeagi of the males of *N. rubi* and of *N. rubicola* is based on drawings in Reck (1959).

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**References**


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Neotetranychus Trägårdh (Acari, Prostigmata, Tetranychidae)

گونه جدیدی از نوئوترانیکوس از tailând همراه با کلیدشناسی گونه‌های جهان

چکیده

گونه جدید کنن. تارتن جمعیتی شده از tailând به نام Tetranychidae

توضیح و Neotetranychus lek sp. nov. توصیف و Neotetranychus lek (mad) ارایه می‌شود.

ماند: Neotetranychus جنس .

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