

Phalaenopsis Mite, *Tenuipalpus pacificus* Baker (Arachnida: Acari: Tenuipalpidae)¹

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Introduction

Pritchard (1949) refers to *Tenuipalpus pacificus* Baker as the phalaenopsis mite. This flat red mite is one of the most destructive to be found on orchids under Florida greenhouse conditions. It feeds on the leaves of orchids but does not spin a web. Apparently it is an introduced species on orchids from the tropics. It can also be a pest of ferns.

Distribution

T. pacificus was described from specimens intercepted at Hoboken, New Jersey, from the Canal Zone on *Phalaenopsis stuartiana* in 1943 (Baker).

The known distribution is: Australia, Brazil (De Moraes and Freire 2001), England, Germany, Holland, Java, Panama, Philippines, Siam, and the United States.

In the United States it is recorded as being in California, Hawaii (Anonymous 2002), and Florida. It is probably found wherever orchids have been imported directly from South and Central America.



Figure 1. Adult female. Credits:

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Description

The length of the adult female, including the rostrum, is 312 microns and 190 microns wide. The third, terminal, palpal segment is small with one short straight seta and one longer slightly curved seta. These characters cannot be seen on unmounted specimens. The hysterosoma has four pairs of nonflagellate setae and one pair of flagellate setae caudally. The length of the adult male, including the rostrum, is 269 microns and 150 microns wide, and has the same general appearance as the female, except smaller and narrower.

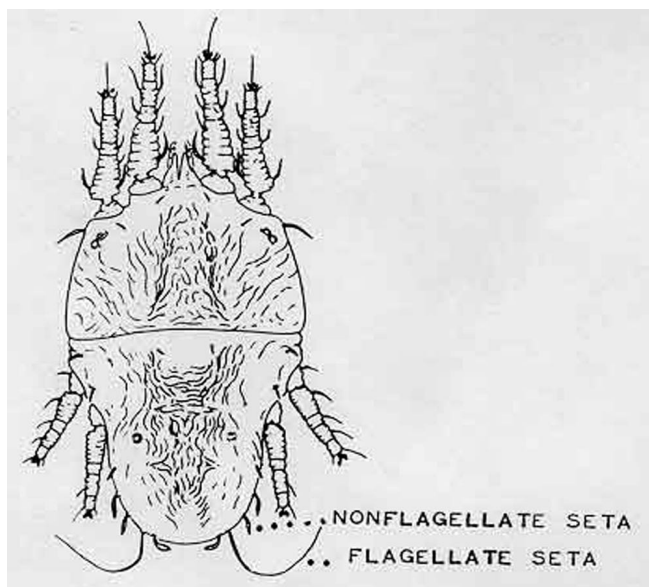


Figure 2. Adult female phalaenopsis mite, *Tenuipalpus pacificus* Baker. Credits: Division of Plant Industry

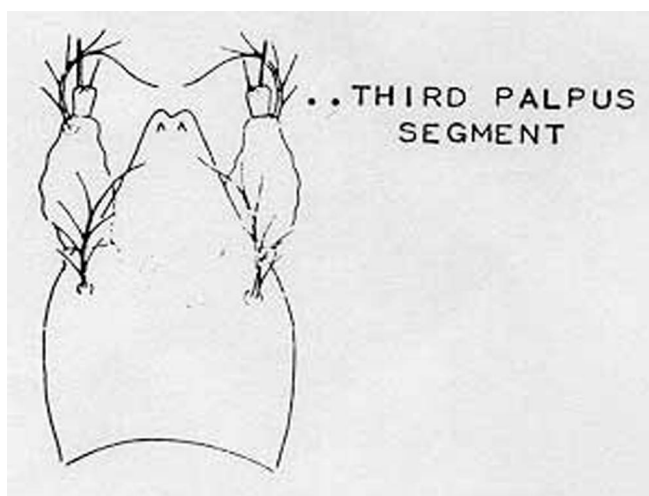


Figure 3. Gnathosoma with palpi.

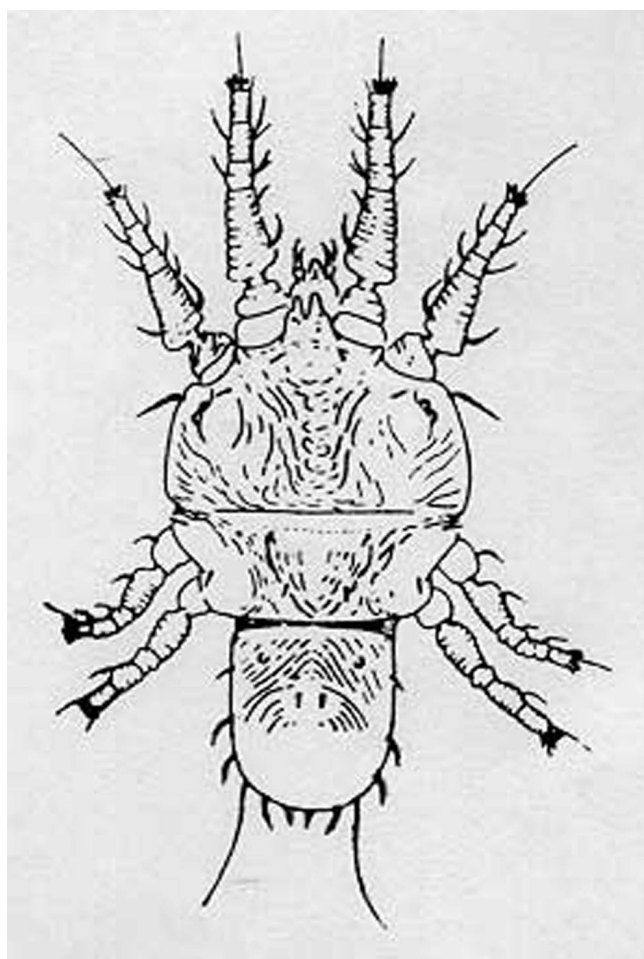


Figure 4. Adult male phalaenopsis mite, *Tenuipalpus pacificus* Baker. Credits: Division of Plant Industry

Biology

Elongate reddish eggs are laid on the surface of the leaf, usually along the midrib. The eggs hatch in about three weeks into the larval stage which has three pairs of legs. All other stages have four pairs of legs. The larva molts into the protonymph in about two weeks. The protonymph molts into the deutonymph in about two weeks and to the adult stage in about two weeks, according to Dosse (1954). The life cycle is approximately two months depending upon the temperature and humidity. There are several generations per year.

Hosts

This mite is host specific to the Orchidaceae and Polypodiaceae plant families.

Known hosts of Orchidaceae: *Aerides*, *Cattleya*, *Cypripedium*, *Dendrobium*, *Grammatophyllum*, *Oncidium*, *Phalaenopsis* and *Saccolabium*.

Known hosts of Polypodiaceae: *Davallia fejeensis* and *Platyserium* sp.

Pritchard AE, Baker EW. 1952. The false spider mites of California (Acarina: Phytoptipalpidae). University of California Publications Entomology. 9: 1-93.

Economic Importance

Many of the false spider mites are polyphagous, but *T. pacificus* is restricted to Orchidaceae and Polypodiaceae. This mite has needle-like cheliceral stylets that pierce the epidermis and remove the chlorophyll, causing the plant tissue to become silvery in appearance and later to turn rusty brown. The white molt skins remain on the leaf and are conspicuous against the rusty brown leaf. The mite feeds and breeds on both sides of the leaf, but prefers the lower surface.

Management

Insect Management Guide for Commercial Orchid Production (<http://edis.ifas.ufl.edu/IG007>)

Insect Management Guide on Landscape Plants (<http://edis.ifas.ufl.edu/IG013>)

Insect Management Guide for Natural Products for Insect Pest Management (<http://edis.ifas.ufl.edu/IN197>)

Selected References

Anonymous. (2002). *Tenuipalpus pacificus*. Bishop Museum-Hawaiian Arthropod Checklist (<http://www2.bishopmuseum.org/HBS/checklist/species.asp?grp=Arthropod&taxID=-820917862>). (2 June 2006).

De Moraes GJ, Freire RAP. (2001). A new species of Tenuipalpidae (Acari: Prostigmata) on orchid from Brazil. *Zootaxa*. (<http://www.mapress.com/zootaxa/2001f/z00001f.pdf>) (2 June 2006).

Dosse G. 1954. *Tenuipalpus orchidarum* Parfitt nun auch in deutschen Gewächshäusern. Zeitschrift fuer Angewandte Entomologie 36: 304-315.

Pritchard AE. 1949. California greenhouse pests and their control. California Agricultural Experiment Station Bulletin 713: 1-71.