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□ Case Report □

A human case of house dust mite *Tarsonemus floricolus* collected from sputum

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Abstract: A 23-year-old medical student showed a positive reaction on a skin test for *Paragonimus westermani*, and two *Tarsonemus floricolus* mites were subsequently found by sputum examination and identified morphologically. Our report is the first human case of *Tarsonemus floricolus* in Korea.

Key words: *Tarsonemus floricolus*, human, sputum

Tarsonemid mites have not been well studied in Korea. In Seoul and Jeonju city, 12,019 mites were collected from house dust, among these only 5 specimens of *Tarsonemus floricolus* were found (Cho, 1980). More recently, dust collected in 50 hospital/clinics in Gyeonggi-do, were found to contain 48 *Tarsonemus fusarii* mites (Goo and Cho, 1989), and Paik et al. (1992) reported 306 tarsonemid mites from house dust in Seoul, which were not identified at the species level. In 1997 Ree et al., in their study on house dust mites in 10 different localities, reported that *Dermato-phagoides farinae* predominated (65.3% of the total), followed by *D. pteronyssinus* (20.6%), but only one specimen of *Tarsonemus fusarii* was collected.

Little is known about the medical significance of tarsonemid mites. Tarsonemid mites have been found in human sputum (Carter et al., 1944; Li and Li, 1990). Here, we report the first human case of *T. floricolus* in Korea.

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Case Record

In April 1997, a 23-year-old medical student showed a positive reaction on skin test reaction for *Paragonimus westermani* during a laboratory parasitology practice. Two subsequent sputum examinations tested at an interval of 3 days revealed the presence of two mites. Each of the mites was mounted with Hoyer`s solution on a slide, and identified morphologically, as a male and female *Tarsonemus floricolus*, although the female specimen was incomplete. The subject had a normal eosinophil count (150/mm^3) and eosinophil ratio (3%) by peripheral blood smear, and his serum IgE level (13.0 IU/ml) was also within normal levels. He was healthy without a previous disease history, and was asymptomatic except for a mild cough.

In the male (Fig. 1A) the length of the idiosoma was 0.14 mm, and the gnathosoma was longer than wide. The palps were cylindrical and nearly parallel, and the sensilla were balloon-shaped and placed near the anterior end of apodeme II. The legs IV possessed a single strong claw and two terminal whiplike setae. In the female (Fig. 1B), the dorsal propodosomal shield was weakly sclerotized. The ventral surface was

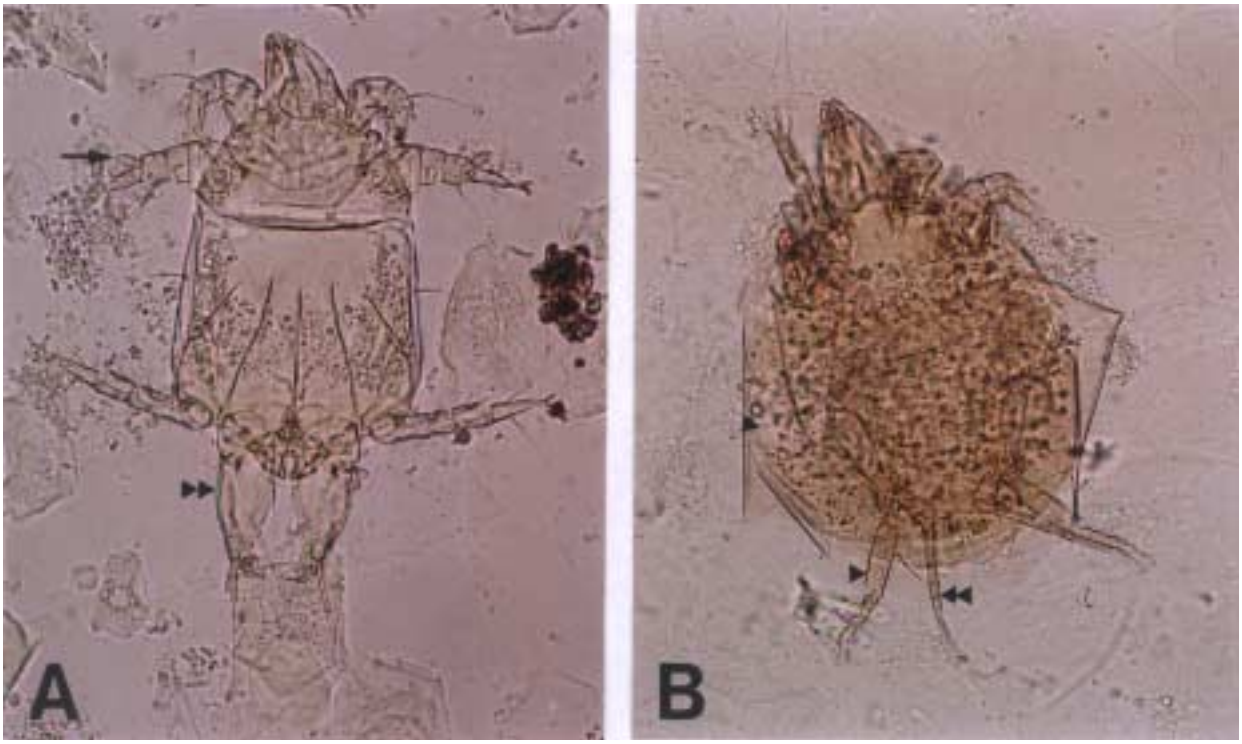

Fig. 1. *Tarsonemus floricolus* collected from sputum. A, *T. floricolus* male (ventral side). Balloon-shaped sensilla (→) positioned near the anterior end of apodeme II. Legs IV (▶▶) with a single strong claw and two terminal whip-like setae. B, *T. floricolus* female (dorsal side), apodemes III (▶) and IV (▶▶) are elongated.

almost wholly covered by four coxal shields, and apodemes III and IV were elongated. Identification was made by referring to Hughes (1976), Ehara (1980), and Sasa and Aoki (1981).

Tarsonemid mites have been found by human skin biopsy, and in urine as well as in sputum (Hewitt et al., 1973; Oehlschlaegel et al., 1983; Bernhard et al., 1986). Moreover, *Tarsonemus* mites are found more frequently in fresh human sputum than other mites. *Tarsonemus granarius* has been found in the sputum of subjects working in grainstores together with another 9 mite species (Carter et al., 1944).

Korsgaard and Hallas (1979) suggested that the tarsonemid mites might be responsible for cases of house dust allergy, which were not ascribable to *Dermatophagoides* mites.

In addition to *Tarsonemus*, *Tyrophagus* sp. and *Dermatophagoides* sp. have also been observed in sputum (Carter et al., 1944; Soya and Jayawondeva, 1945; Van der Sar, 1946).

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