

Dermatitis Caused by *Balaustium murorum*

Toshiko Ido¹, Masanobu Kumakiri¹, Li-Min Lao², Yasuhiro Yano³ and Nobuhiro Takada³

Departments of ¹Dermatology and ³Immunology and Medical Zoology, Fukui Medical University, Shimoaizuki 23-3, Matsuoka-cho, Yosida-gun, Fukui 910-1193, Japan, and ²Department of Dermatology, Zhejiang University, China. E-mail: ido@fmsrsa.fukui-med.ac.jp
Accepted July 24, 2003.

Sir,

We have observed that *Balaustium murorum* (Acarina: Erythraeidae) can cause dermatitis. *B. murorum* has a habit of climbing walls and invading buildings, and has very generalized feeding habits. Its biology is not yet fully known, however, and more attention needs to be given to infestation on buildings, walls and weeds around hospitals during summer. In this paper, we report a case of extensive dermatitis caused by *B. murorum*.

CASE REPORT AND DISCUSSION

A 73-year-old Japanese woman was referred to our hospital on 26 May 1998 with red papules and ecchymosis on the trunk and extremities. She had been confined to another hospital near the sea for 4 years because of a stroke that had left her unable to move the lower extremities. Nursing staff at our hospital noticed that the skin eruption (Fig. 1) had improved after 5 days of



Fig. 1. Red papules and ecchymosis on the upper arm.

topical steroid administration, but that a new eruption had occurred in other places. We checked the patient's room and found numerous bright red mites. The same mites were found on the plants around the hospital and on the concrete walls. Using phenothrin, we eradicated the mites from the hospital and subsequently no new eruptions were reported. However, several of the nursing staff who rid the patient's room of mites began to complain of itching and urticarial red papules. The mites were examined microscopically and electronmicroscopically (Fig. 2) and were identified as *B. murorum*, which have a single pair of anterolateral eyes and a single pair of sensory structures near the eyes, so called urnulae.

B. murorum was originally described in France in 1804 by Hermann (1) as massing on walls in large numbers. The species is widespread and abundant throughout Europe, and is conspicuous by its bright red colour. It can be found on the soil surface, on trees and plants, or climbing on the walls of buildings during the European summer (June, July). The presence of *B. murorum* in Japan was confirmed in the 1980s, and is present in large numbers during the early summer (May, June) (2). *B. murorum* has been reported in New South Wales as a beneficial predator of the red-legged earth mite *Halotydeus destructor* (3). *Balaustium* has very generalized feeding habits (4), its food sources including pollen, leaf tissue and insects. Humans are also attacked, probably in situations that bring large numbers of *Balaustium* into incidental contact. In the

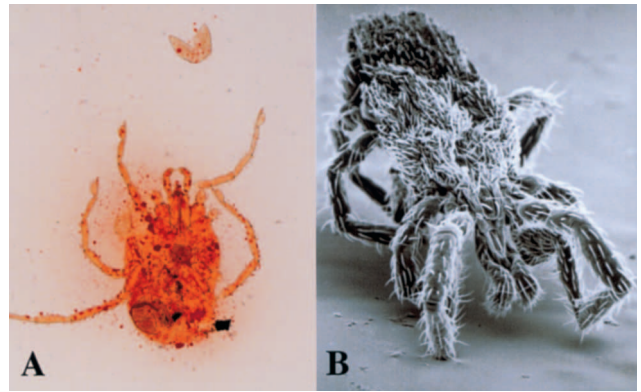


Fig. 2. A. *Balaustium murorum* showing a bright red colour and containing eggs (original magnification $\times 40$). B. General view in scanning electronmicroscopy.

USA, an unidentified species of *Balaustium* has been reported invading buildings and biting humans, the bites causing intense itching and skin inflammation (4). Infants in paediatrics wards in the USA are reported to have been bitten by an unidentified species of *Balaustium* that has been found in cribs and on furniture. In these cases, too, insect bites have manifested in the form of small red patches.

Species of *Balaustium* causing hazardous reactions in humans have not been reported previously in Japan. In our case, the mites that invaded our hospital and caused dermatitis were identified as *B. murorum*. Initially, the response was urticarial papules, and rubbing and scratching might have increased the inflammatory changes and induced eczematization and ecchymosis. Further evidence is thus provided that *B. murorum* can cause dermatitis in humans by biting and incidental contact.

REFERENCES

1. Hermann J. Mémoire Aptérologique. Strasbourg: Levraut, 1804.
2. and Ehara S, ed. Illustrations of the mites and ticks of Japan. Tokyo: Zenkoku Noson Kyoiku Kyokai, 1980: 306–307.
3. James DG. Biological control of earth mites in pasture using endemic natural enemies. Plant Protect Q 1995; 10: 58–59.
4. Newell IM. Feeding habits in the genus *Balaustium* (Acarina, Erythraeidae), with special reference to attacks on man. J Parasitol 1963; 49: 498–502.