

## 4-2. Acaricidal Activity of Butyldenephthalide Identified in *Cnidium officinale* Rhizome Against *Dermatophagoides farinae* and *Dermatophagoides pteronyssinus* (Acari: pyroglyphidae)

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The acaricidal activity of materials derived from the rhizome of *Cnidium officinale* Makino against adults of *Dermatophagoides farinae* (Hughes) and *Dermatophagoides pteronyssinus* (Trouessart) was examined using fabric diffusion method. The biologically active constituent of the *Cnidium* rhizome was characterized as the phthalide butyldenephthalide by spectroscopic analysis, including MS and NMR. At a concentration of  $42 \mu\text{g}/\text{cm}^2$ , butyldenephthalide showed 100% mortality against adults of *D. farinae* and *D. pteronyssinus*. The naturally occurring *Cnidium officinale* rhizome-derived materials merit further study as potential house dust mite-control agents or as lead compounds.

