

Botanical Briefs: Garden Angelica (*Angelica archangelica*)

Charles F. Knapp III, MD; Dirk M. Elston, MD

Numerous studies in the medical literature have investigated the potential beneficial uses of *Angelica archangelica* extracts, which can have anticholinergic,¹ antitumor,²⁻⁴ cytotoxic,⁵ antiproliferative,⁶ antiulcerogenic,⁷ antimutagenic,^{8,9} hepatoprotective, and other effects.^{10,11} Other reports have noted the plant's unwanted effects of occupational asthma and rhinitis as well as its ability to cause both phytophotodermatitis and allergic contact dermatitis.^{12,13}

A member of the umbelliferous (carrot) family Apiaceae, *A archangelica* commonly is found in northern temperate regions of the world, including Finland, Norway, Sweden, Denmark, and Greenland. It requires moist shady areas for proper growth and often is found near riverbanks and ponds. As a biennial, it takes 2 years to complete its life cycle, growing vegetative structures during the summer months, then remaining dormant in winter, and finally flowering and producing fruits and seeds in the subsequent summer. The leaf stalks of *A archangelica* have long been used in confectionery. The roots, stems, seeds, and leaves have been used for their sweet licorice flavor in liqueurs, such as Benedictine, Chartreuse, and vermouth. Other species of *Angelica* continue to be investigated thoroughly for their potential beneficial uses, including cosmetic skin lightening,¹³ cosmetic skin darkening,¹⁴ alternative therapy for recalcitrant atopic dermatitis,^{15,16} treatment of psoriasis through inhibition of elastase,¹⁷ and use in acne treatment as an antichemotactic.¹⁸

To the naive hiker or nature enthusiast, this plant does indeed appear “angelic” with its long stout

stem; broad, finely serrated leaves and leaflets; and myriad of umbels, umbrella-shaped clusters of flowers that radiate a heavenly scent due to the plant's essential oils (Figure).¹⁹ However, porphyrins within the plant may result in quite the devilish burn. All members of the *Angelica* genus contain furocoumarins, compounds with a chemical structure similar to psoralen. Van Dijk and Berrens²⁰ reported phytophotodermatitis caused by *A archangelica* in 1964. Several years later, Nielsen²¹ identified 5-methoxypsoralen and 8-methoxypsoralen in the plant as well as in a number of other *Angelica* species. More recent studies have used spectrophotometry to analyze the presence of additional coumarins in *A archangelica*, including bergapten, xanthotoxin, imperatorin, isoperatorin, phellopterin, and archangelicin.²²⁻²⁷



Long stout stems; broad, finely serrated leaves and leaflets; and myriad of umbels (*Angelica*). Photograph courtesy of Thomas McGovern, MD, Fort Wayne, Indiana.

Dr. Knapp is from the University of South Florida, College of Medicine, Tampa. Dr. Elston is from the Departments of Dermatology and Laboratory Medicine, Geisinger Medical Center, Danville, Pennsylvania.

The authors report no conflict of interest.

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Correspondence: Dirk M. Elston, MD, Departments of Dermatology and Laboratory Medicine, Geisinger Medical Center, 100 N Academy Ave, Danville, PA 17822-5203 (dmelston@geisinger.edu).

In addition to phytophotodermatitis, *Angelica* species have been known to induce allergic contact dermatitis.^{28,29} Reports typically involve confectioners who collect the plant for candying and subsequently experience vesicular hand dermatitis.³⁰ Extracts of the plant are found in some perfumes and are sold by herbalists, creating many potential scenarios of contact dermatitis.

For photodermatitis, treatment is largely symptomatic. Allergic contact dermatitis to *Angelica* species will respond to topical or systemic corticosteroids.

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