

Phytophotodermatitis in a Butterfly Enthusiast Induced by Common Rue

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PRACTICE POINTS

- It is important to inquire about patients' professions and hobbies, which may lead to the diagnosis, as in this case of a butterfly enthusiast trying to attract the giant swallowtail butterfly with the common rue plant.
- One should suspect phytophotodermatitis with phototoxic findings in bartenders, citrus farm workers, gardeners, chefs, and kitchen workers, especially those handling limes and celery.

To the Editor:

Phytophotodermatitis is common in dermatology during the summer months, especially in individuals who spend time outdoors; however, identification of the offending plant can be challenging. We report a case of phytophotodermatitis in which the causative plant, common rue, was not identified until it was revealed that the patient was a butterfly enthusiast.

A 60-year-old woman presented to the outpatient dermatology clinic in late summer for a routine skin examination. An eruption was noted over the right thigh and knee that had first appeared approximately 2 weeks prior. The rash started as pruritic blisters but gradually progressed to erythema and then eventually to brown markings, which were observed at the current presentation. Physical examination revealed hyperpigmented, brown, streaky, linear patches and plaques over the right thigh, knee, and lower leg (Figure). When asked about her hobbies, the patient reported an affinity for butterflies and noted that she attracts them with specific species of plants in her garden. She recalled recently



Phytophotodermatitis presenting as hyperpigmented, brown, streaky, linear patches and plaques over the right thigh, knee, and lower leg.

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planting the herb of grace, or common rue, to attract the giant swallowtail butterfly (*Papilio cresphontes*). Upon further inquiry, she remembered working in the garden on her knees and digging up roots near the common rue plant while wearing shorts approximately 2 weeks prior to the current presentation. Given the streaky linear pattern of the eruption along with recent sun exposure and exposure to the common rue plant, a diagnosis of phytophotodermatitis was made. No further treatment was sought, as the eruption was not bothersome to her. She was intrigued that the common rue plant had caused the dermatitis and planned on taking proper precautions when working near the plant in the future.

In this case, the observed phototoxic skin findings resulted from exposure to common rue (*Ruta graveolens*), a pungently scented evergreen shrub native to the Mediterranean region and a member of the Rutaceae family. Extracts have been used in homeopathic practices for bruises, sprains, headache, neck stiffness, rheumatologic pain, neuralgia, stomach problems, and phlebitis, as well as in seasonings, soaps, creams, and perfumes.¹ The most commonly encountered plants known to cause phytophotodermatitis belong to the Apiaceae and Rutaceae families.² Members of Apiaceae include angelica, celery, dill, fennel, hogweed, parsley, and parsnip. Aside from the common rue plant, the Rutaceae family also includes bergamot orange, bitter orange, burning bush (or gas plant), grapefruit, lemon, and lime. Other potential offending agents are fig, mustard, buttercup, St. John's wort, and scurfpea. The phototoxic properties are due to furocoumarins, which include psoralens and angelicins. They are inert until activated by UVA radiation, which inflicts direct cellular damage, causing vacuolization and apoptosis of keratinocytes, similar to a sunburn.³ Clinical findings typically present 24 hours after sun exposure with erythema, edema, pain, and occasionally vesicles or bullae in severe cases. Unlike sunburn, lesions often present in linear, streaky, or bizarre patterns, reflective of the direct contact with the plant. The lesions eventually

transition to hyperpigmentation, which may take months to years to resolve.

Other considerations in cases of suspected phytophotodermatitis include polymorphic light eruption, actinic prurigo, hydroa vacciniforme, chronic actinic dermatitis, solar urticaria, drug reactions, porphyria, Smith-Lemli-Opitz syndrome, lupus erythematosus, and dermatomyositis.⁴ Clinicians should suspect phytophotodermatitis with phototoxic findings in bartenders, citrus farm workers, gardeners, chefs, and kitchen workers, especially those handling limes and celery. As in our case, phytophotodermatitis also should be considered in butterfly enthusiasts trying to attract the giant swallowtail butterfly. The caterpillars feed on the leaves of the common rue plant, one of a select few plants that giant swallowtail butterflies use as a host due to its bitter leaves that aid in avoiding predators.⁵

This case illustrates a unique perspective of phytophotodermatitis, as butterfly enthusiasm is not commonly reported in association with the common rue plant with respect to phytophotodermatitis. This case underscores the importance of inquiring about patients' professions and hobbies, both in dermatology and other specialties.

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