

Botanical Briefs: Buttercup – *Ranunculus* Species L.

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Clinical Importance/ Cutaneous Manifestations

Contact with fluid from freshly damaged buttercup plants leads to linear or bizarre patterns of erythema and subepidermal blistering that has been confused with phytophotodermatitis. Unlike the sun-induced reaction, no hyperpigmentation follows the vesiculobullous eruption. Dermatitis from “rolling in the meadow” was ascribed to contact with buttercups in 1932.¹

The vesicant properties of the *Ranunculus* species was known to Dioscorides 2000 years ago, and Culpeper noted in 1653 that one species “was sharp and biting to the taste and blistered the tongue,” and an ointment of the leaves would produce blisters on the skin.¹ American Indians have used buttercup sap in an astringent ointment for hemorrhoids, in cold remedies, and to revive unconscious people.²

Family/Distribution of Plant

Ranunculaceae, known as the buttercup family, encompasses at least 62 genera and 2450 species that grow primarily in northern temperate and cold climates.^{3,4} The genus *Ranunculus* comprises at least 400 species and includes the plants commonly known as *buttercup* and *crowfoot*.³

Nomenclature

The name *Ranunculus* is derived from the Latin diminutive *rana*, meaning a *frog*, which refers to the many species of this plant found growing in wet or damp areas.⁵

Identifying Features/Plant Facts

Ranunculus species are predominantly annual, perennial, or biannual herbs, with leaves occurring



Figure 1. Roadside buttercups (*Ranunculus* species) growing in Michigan's Upper Peninsula.

basally in rosettes. Leaves are usually lobed or irregularly and finely cut. Depending on the species, flowers can be solitary or in groups on branched stems called panicles. Buttercups usually are found in moist woods, meadows, fields, pastures, and along roadsides (Figure 1). Buttercups can be identified by the single, terminal, cup-shaped flowers composed of 3 to 7 green sepals and

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Figure 2. *Ranunculus adoneus* seen near Loveland Pass in the Colorado Rocky Mountains. (Photograph courtesy of Denver Botanical Gardens.)

5 glossy yellow petals that give it a “buttery” appearance (Figure 2).

Dermatitis-Inducing Plant Parts

The sap of the buttercup contains irritant substances. Therefore, virtually any part of the plant, if freshly damaged, can produce a vesicant reaction.

Irritants

Members of the buttercup family contain the glycoside ranunculin. When a buttercup is damaged, ranunculin is converted to the unsaturated lactone protoanemonin. Because protoanemonin rapidly polymerizes to anemonin (a nonirritant), only freshly damaged plants can cause a reaction. The amount of ranunculin varies between individual plants of the same species; members of different species; and, at different times of the year, in the

same plant. The highest ranunculin content is found in flowering plants.¹

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