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A NEW FRITILLARIA FROM OREGON

HELEN M. GILKEY

In southwestern Oregon and northwestern California—that area known by all West Coast taxonomists as rich in endemics—one of the most conspicuous wayside flowers is that of the "red bell", "red lily", or "scarlet fritillary", *Fritillaria recurva* Benth. No species of this genus thus far described from Western America approaches it in brilliance of color.

In 1941, however, Mr. L. G. Gentner, entomologist and assistant superintendent of the Southern Oregon Branch Experiment Station at Medford who, with his wife and two daughters perhaps comes nearer knowing every inch of Jackson and Josephine counties with their insects and plants than any other person in the state, reported what appeared to him an undescribed species of *Fritillaria*. The previous year his daughter Laura had brought in for her garden a plant supposed to be the common "red bell", but which, when it flowered, was noticeably different from *F. recurva*. The area, however, from which it had been collected was by this time forgotten. Numerous trips were made by the family in an endeavor to find the plant, but not until Katherine, another daughter, recognized the new lily in a flower arrangement at the home of a friend, was the original location rediscovered in the vicinity of Jacksonville.

As brilliant in color as *F. recurva*, the blossom of this new form is consistently of a different shade of red; its flowering period begins two weeks later; the plant is typically more robust; and the flower shape so different that regardless of other dissimilarities, plants of the two entities can readily be distinguished from a car moving rapidly on the highway.

Since the first report, it has been possible to make intensive studies of plants of both forms in all stages, not only in the field and from generous collections provided by Mr. Gentner, but also from plants grown at the Oregon State College Herbarium and in the Gentner garden. As a result of these studies, the "new" form appears, in the morphology of the flower as well as in the superficial aspects of the plant previously mentioned, so distinctly

different from any species thus far described, as to merit specific rank and recognition. It is a pleasure, therefore, to describe this beautiful species and to perpetuate in it the name of the family who discovered it. Colors indicated in the English diagnosis are from Ridgway's Chart.

Fritillaria Gentneri sp. nov. Caulis robustus 3–6 dm. altus, folia glauca lanceolata obtusa ad linearia acuta 7–15 cm. longa 0.7–1.5 cm. lata, flores 1–5 (raro 8 vel 9) pedicellis gracilibus, perianthium infundibuliformum vel campanulatum puniceum sanguineum rubiginosum vel purpureum maculis pallidis luteis notatum segmentis 3.5–4 cm. longis apicibus haud recurvatis glandulis conspicuis, capsula 2–2.5 cm. longa 2.5–3.5 cm. lata late alata.

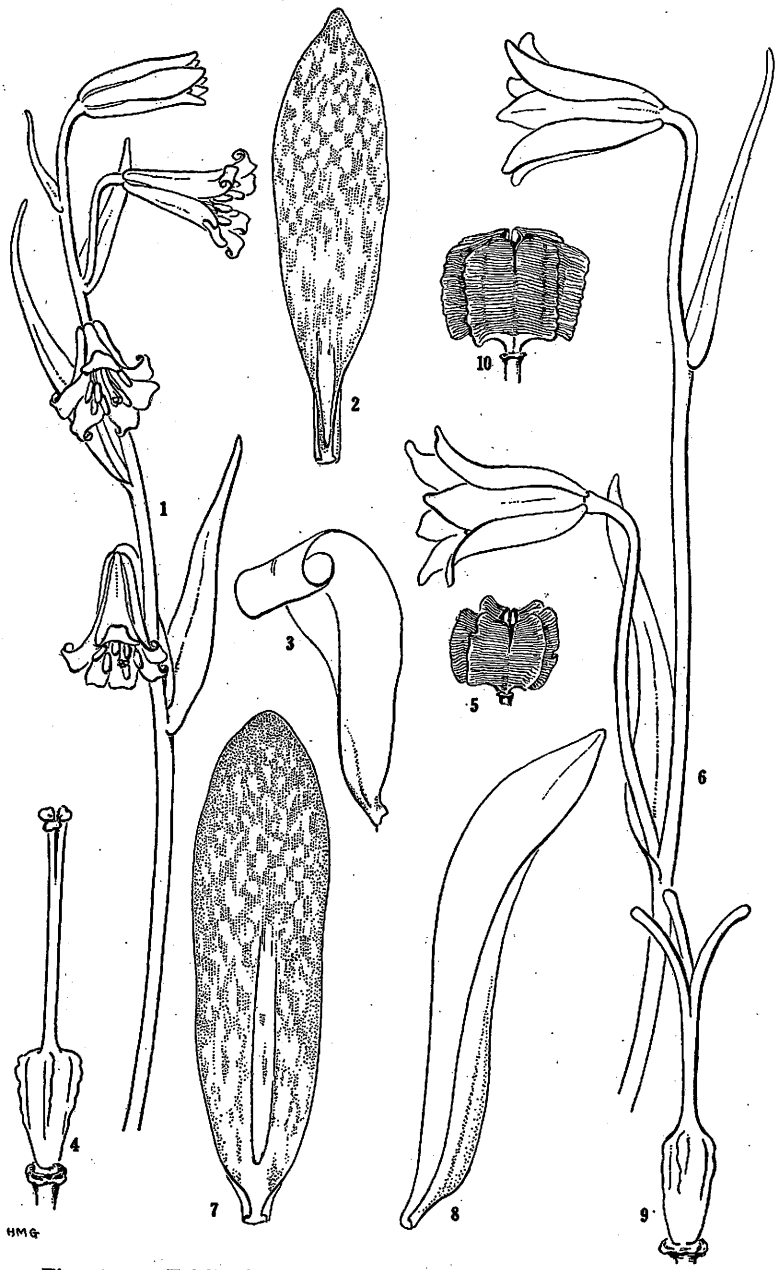
Bulb fleshy, the axis wide and flattened vertically in older specimens, with several large fleshy scales surrounded by numerous small rice-grain scales; stem typically robust, 5–7 dm. (measured from bulb to tip), reddish below ground line, glaucous green to glaucous purple above, or minutely purple-mottled; leaves generally lanceolate, sometimes broadly linear, 7–15 cm. long, 0.7–1.5 cm. broad near base, often in 2 whorls of 3 and sometimes with a pair of one or 2 alternate leaves above, but in larger specimens frequently with 5 to a whorl and several extra leaves above or between whorls; flowers solitary or often in bracted racemes, 1–5 (rarely 8 or 9), on long slender pedicels; perianth infundibuliform to campanulate, 3.5–4 cm. long, the segments overlapping, with somewhat spreading but not recurved tips, varying through Carmine, Oxblood Red, Maroon, Purple, mottled with pale yellow, segments keeled beneath by presence of deep and conspicuous glands; stamens included; style generally reaching anther tips, branches split nearly one-half the length of the style, spreading, stigmas inconspicuously capitate; capsule truncate or rounded at apex, truncate to slightly cordate at base, reaching 2–2.5 cm. in length, 2.5–3.5 cm. in width, broadly winged, the wings dentate.

Type. Vicinity of Jacksonville, Jackson County, Oregon, 19 April 1950, *Gentner* and *Gilkey* (Oregon State College no. 75839). Known additional locations. Jackson County: near State Highway 238, 6 miles southwest of Jacksonville; Holcomb Springs, 15 miles northwest of Jacksonville; Murphy. Josephine County: near Grants Pass.

This species, because it is "red", is most likely to be confused superficially with *F. recurva* to which it is perhaps most closely related. The points clearly differentiating the two are indicated

EXPLANATION OF FIGS. 1–10.

FIGS. 1–5. *Fritillaria recurva: 1,* flowering stalk, ×2/3; *2,* outer perianth segment, face view, ×2; *3,* outer segment, profile to show short gland, ×2; *4,* pistil, ×2; *5,* capsule, ×2/3. FIGS. 6–10. *Fritillaria Gentneri: 6,* flowering stalk, ×2/3; *7,* outer perianth segment, face view, ×2; *8,* outer segment, profile, showing long gland, ×2; *9,* pistil, ×2; *10,* capsule, ×2/3.



Figs. 1–10. *Fritillaria recurva* and *F. Gentneri.*

in the illustrations and in the table in which flower characters are compared.

COMPARISON OF FLOWER CHARACTERS IN FRITILLARIA GENTNERI AND F. RECURVA

	F. Gentneri	F. recurva
Shape	Broadly campanulate; perianth segments oblanceolate, obovate, or oblong, tapering gradually downward, overlapping, somewhat spreading at tips but not recurved.	Narrow, perianth segments oblanceolate or obovate, tapering quite abruptly downward, tending to separate for nearly entire length, strongly recurving at tips.
Basic color of perianth	Carmine, Ox-blood Red, or Dark Maroon-Purple—all "bluish" shades of red.	Jasper Red, Scarlet Red, Scarlet, Nopal Red—all "yellowish" shades of red--to Pale Orange-Yellow or Chamois.
Gland	Conspicuous, extending half the length of the segment, forming a conspicuous keel on the dorsal surface.	Extending one-fourth the length of the segment or less.
Stamens	Generally equaling the pistil in length, not conspicuously exposed by recurving of perianth.	Generally exceeding the pistil, conspicuously revealed by recurving of perianth.
Style branches	Equaling nearly half the length of the style, widely spreading.	Equaling less than one-fourth to one-third the length of the style, erect or nearly so.

Fritillaria recurva Benth. var. *coccinea* Greene with perianth segments generally not recurved, and with fewer bulb scales, otherwise has *F. recurva* characteristics, its color being an even more vivid scarlet.

Comparison of *F. Gentneri* was made also with *F. adamantina* Peck (1937) which is described as "reddish" ("pale reddish mottled with deeper purplish spots." Peck). The type specimen, located in the Peck Herbarium at Salem, Oregon, as well as fresh plants collected by Mr. Gentner in the type locality (Diamond Lake, Oregon) were consulted, and indicated no close relationship between the two. In the present author's opinion, *F. adamantina* presents a closer kinship to the *F. lanceolata* complex or, according to Dr. Peck (1937), to *F. multiflora,* than to either *F. Gentneri* or *F. recurva,* as suggested by Mrs. Beetle (1944); and it cannot from any point of view be confused with either of the latter.

Fritillaria Gentneri forms almost a pure stand in its type locality and in several other areas from which it is known. In some cases, however, it overlaps with *F. recurva,* but there is no indication of intermediate forms. The species is remarkably constant in size and color. *Fritillaria recurva,* on the other hand, is widely variable, but deviations in color are never in the direction of *F. Gentneri.*

Unfortunately, in most species of *Fritillaria,* color characters become considerably obscured by drying; and in pressed specimens it is sometimes difficult to distinguish boundaries of glands,

however conspicuous they may be in fresh material. In the case of *F. recurva* and *F. Gentneri,* however, pistil characters and flower shape can be relied upon for diagnosis under any conditions thus far encountered.

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A CYTOTAXONOMIC APPROACH TO ESCHSCHOLTZIA

HARLAN LEWIS AND RICHARD SNOW

The genus *Eschscholtzia* has received varied taxonomic treatments during the last half century, ranging from the recognition of over 100 Californian species by Greene (1905) and Fedde (1909) to seven by Jepson (1925). There is good reason to believe that neither of these extremes represents the actual situation. We wish here, however, only to indicate the important contributions that cytological observations can make to an understanding of the relationships and to the delimiting of species within this genus.

One example concerns *Eschscholtzia minutiflora* Watson and *E. Parishii* Greene. *E. minutiflora* is widespread over both the Colorado and Mohave Deserts, and extends into Baja California, Arizona, Nevada, and southern Utah. It is variable throughout this range, but can usually be recognized most readily by its small flowers (petals less than 8 mm. long), and short-apiculate buds. The stamens number about 12, with anthers about as long as the filaments.

Eschscholtzia Parishii, listed in current manuals as a variety of *E. minutiflora* or as a synonym of *E. minutiflora* var. *darwinensis* Jones, has a more restricted range than *E. minutiflora.* It occurs