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FIRST RECORD OF *CROCOSMIA* × *CROCOSMIIFLORA* (IRIDACEAE) IN THE NATURALIZED ARKANSAS FLORA

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ABSTRACT

The first naturalized occurrence of *Crocosmia* × *crocosmiiflora* in the Arkansas flora is reported here from Miller County. In 2024, a naturalized population of about 200 plants was discovered within and at the edge of highly disturbed urban woods within the city of Texarkana. The population consists of large and small groups of plants and isolated individuals. Spread and establishment appears to be primarily asexual via cormels and stoloniferous offsets, with some possible secondary dispersal from water. The initial source of the plants is unknown, although horticultural discards of *C.* × *crocosmiiflora* plants are suspected.

Crocosmia × *crocosmiiflora* N.E. Br. (copper-tips; falling-stars; montbretia) is a cormose, stoloniferous perennial of horticultural origin (Bailey & Bailey 1976; de Voss 1984; Goldblatt 2002). This species is cultivated in Arkansas and has been observed previously in the state aggressively spreading directly from plants in cultivation (Fig. 1). Until now, however, no truly naturalized records of it from Arkansas were documented (Gentry et al. 2013; Kartesz 2015; Serviss & Peck 2023; Weakley 2023). In 2024, a large, naturalized population of *C.* × *crocosmiiflora* was discovered in and at the edge of moist, highly disturbed urban woods within the city of Texarkana in Miller County (Figs. 2–6). The population numbers about 200 plants and consists of a few large groups (each of two dozen or more plants), along with numerous smaller groups and scattered individuals. Most plants are growing in dense shade. Only one plant had reproductive structures (Fig. 5). This record also represents the first known occurrence of the genus *Crocosmia* outside of cultivation in the Arkansas flora.

Crocosmia × *crocosmiiflora* is documented from the naturalized floras of several southern and west coast states, along with British Columbia (Goldblatt 2002; Diggs et al. 2006; Wunderlin & Hansen 2011; Spaulding 2023). It also is widely naturalized in the Neotropics, Madagascar, and locally in the Pacific Islands (Goldblatt 2002). It should be expected outside of cultivation elsewhere in Arkansas.

Spread and establishment at the Miller County site appears to be primarily via a combination of cormels and stoloniferous offsets (Fig. 5). As some groups of plants are separated from others by several meters, spread by seed and/or transport of other propagules via water is plausible. Evidence of sporadic but recurring water movement through the site is apparent, and many plants are distributed along the path of water movement. A residential area borders the site, and while no cultivated plants of the species are evident, the initial plants that gave rise to the population likely were deposited at the site as horticultural discards (much horticultural waste is present). Subsequent establishment and spread autonomously from a combination of cormels, stoloniferous offsets, and perhaps seeds is evident.

Voucher specimen. **Arkansas.** Miller Co.: Texarkana, W end of East 42nd St., immediately NW of 2323 E 42nd St., 33.464730°N, 94.015192°W, large, naturalized population of about 200 plants in and at the edge of moist, highly disturbed urban woods that border an upslope residential area, no cultivated plants apparent in the vicinity but much horticultural waste present, 9 Jul 2024, *Serviss 8793* (HEND, ANHC).

Figure 1. *Crocosmia* x *crocosmiiflora* in Clark Co., Arkansas spreading aggressively via corms and stoloniferous offsets from cultivated plants. All plants in the photograph, along with many others not shown, are spontaneous and have spread through mesic soil and dense colonies of *Iris pseudacorus* and *Liriope spicata*.

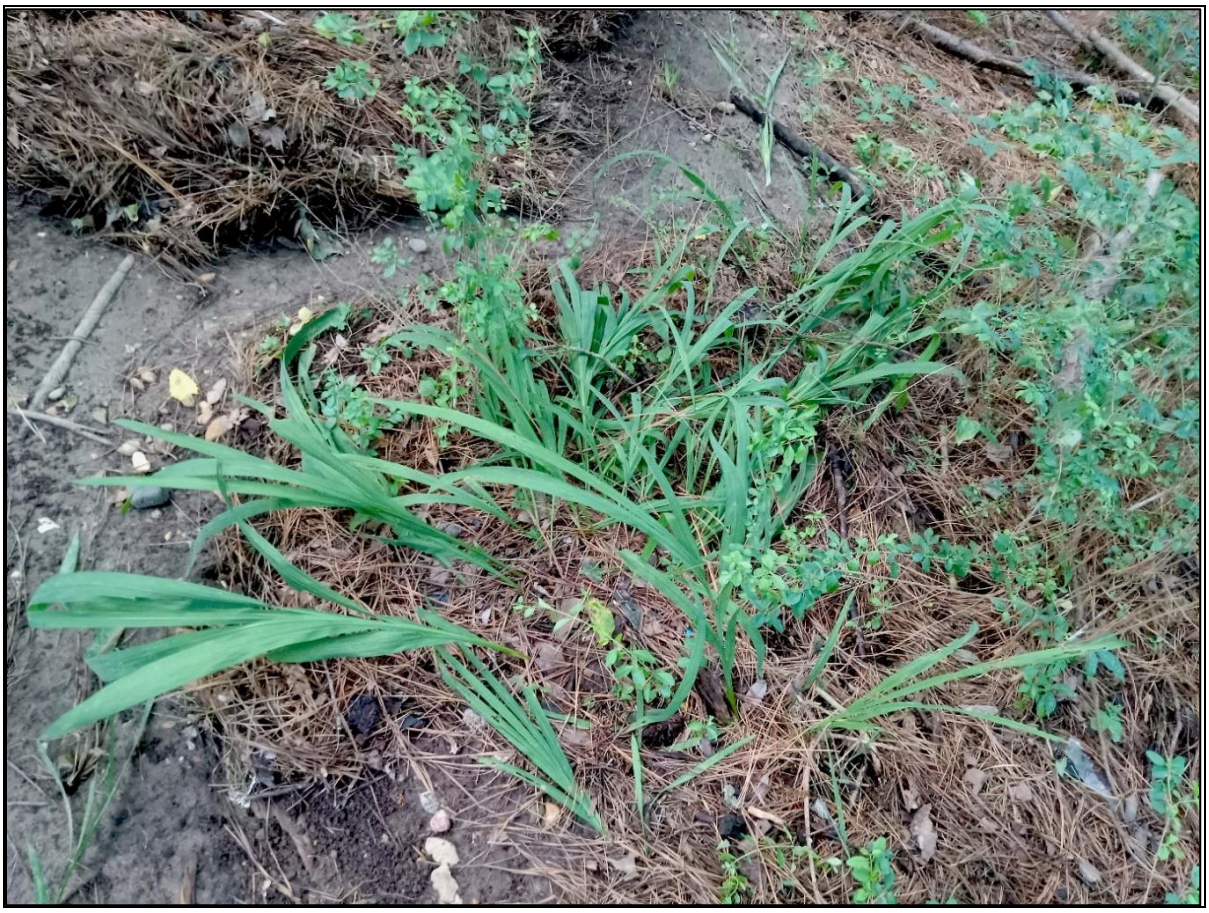

Figure 2. *Crocosmia* × *crocosmiiflora* naturalized in Miller Co., Arkansas. One of a few larger groups of plants growing in highly disturbed urban woods. Smaller and younger plants are toward the bottom of the photograph. The site is downslope from a bordering residential area, adjacent to places of intermittent water movement.

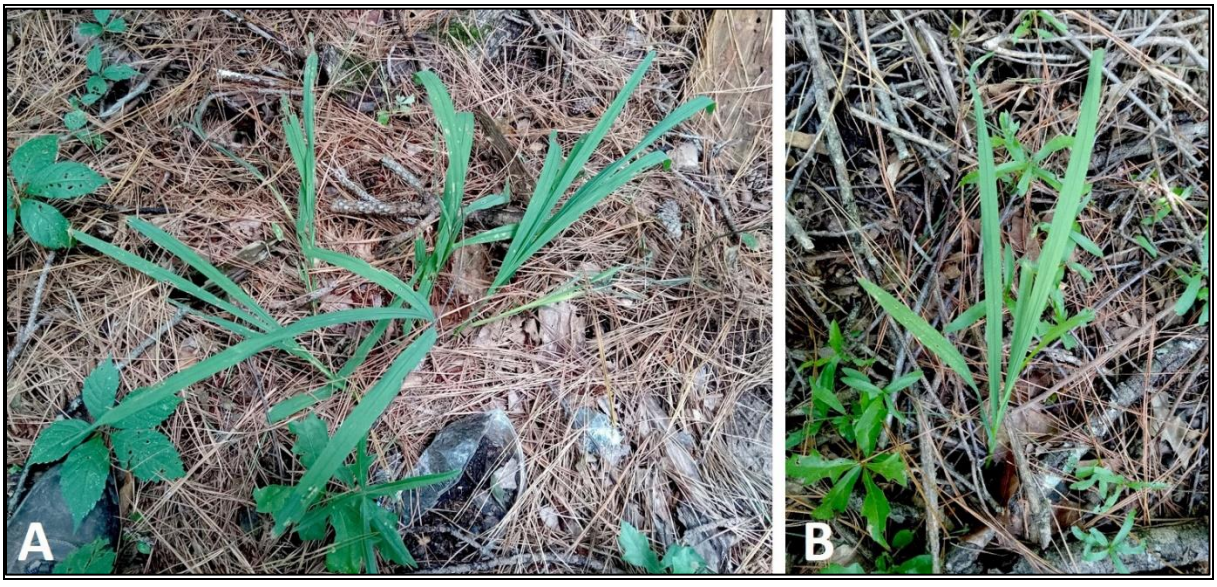

Figure 3. A–B. *Crocosmia* × *crocosmiiflora* naturalized in Miller County. A. Small group of younger plants. B. Individual plant. Many occurrences similar to these are present at the site.

Figure 4. *Crocosmia* x *crocosmiiflora* naturalized in Miller County. Large group consisting of dozens of plants at the edge of moist, disturbed urban woods directly bordering a residential area. These plants are separated from the main population by several tens of meters and may represent a distinct colonization event. Many other exotic taxa, such as *Ligustrum sinense*, *Liriope graminifolia*, *Lonicera japonica*, *Nandina domestica*, *Photinia serratifolia*, and *Triadica sebifera*, also are present.

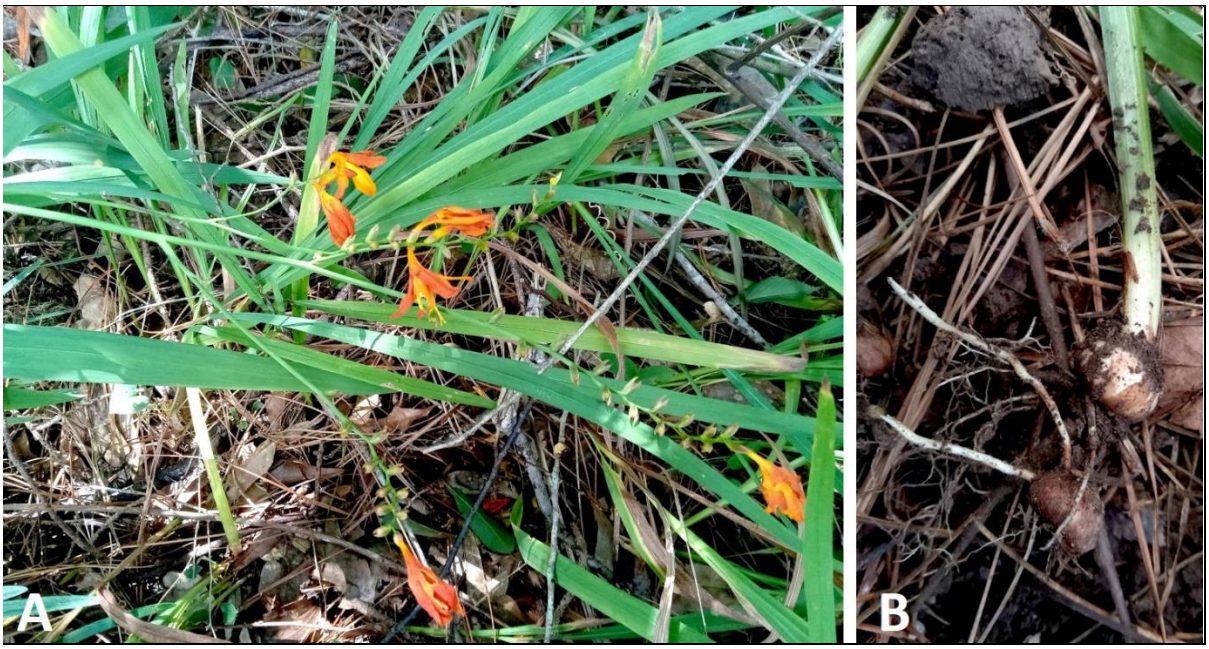

Figure 5. A–B. *Crocosmia* × *crocosmiiflora* naturalized in Miller County. A. Mature, reproductive age plants — one with flowers. B. Different plant showing stem, corms, and stolons — the two corms are connected.

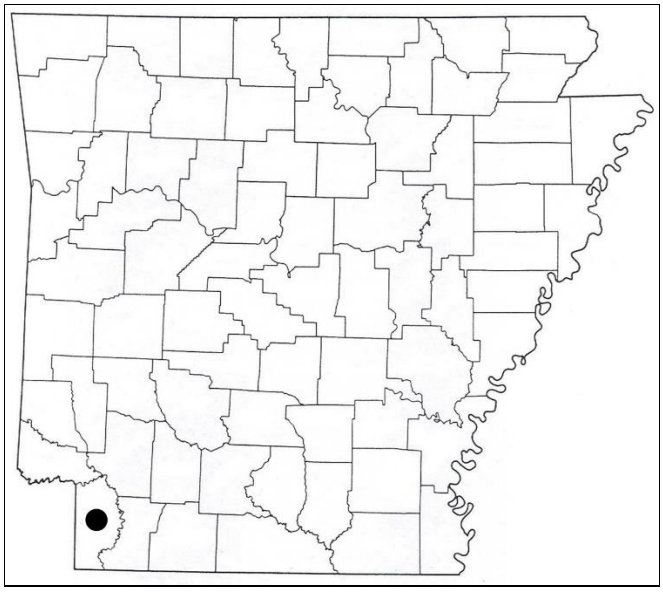

Figure 6. County distribution of naturalized *Crocosmia* × *crocosmiiflora* in Arkansas.

The potential for establishment of *Crocosmia* × *crocosmiiflora* in the flora is high because of its ability to produce large numbers of plants/ramets via stolons and cormels, under favorable conditions. The species prefers moist sites, including roadside ditches, stream banks, and low or alluvial woods; however, it also will establish and persist even on mesic to dry, well-drained sites, especially if shaded. *Crocosmia* × *crocosmiiflora* apparently does sometimes set seed in North America (Goldblatt 2002; Spaulding et al. 2023), although Goldblatt (2002) noted that some forms of it are partially to completely sterile. No fruits were observed on the Miller County plants.

Crocosmia in the Arkansas flora is distinguished from most other Iridaceous genera by its many-flowered, distichous inflorescences, bright orange to reddish orange flowers, and production of both corms and stolons. Morphologically similar taxa currently known from the state's flora include two species of *Gladiolus* — *G. communis* and *G.* x *gandavensis*. The two genera can be distinguished using the following key (modified from Serviss & Campbell 2024).

1. Inflorescence distichous; flowers typically 5 cm or less in diameter with the perianth tube straight, bright orange to reddish-orange without white nectar guides; plants cormose and stoloniferous ..... **Crocosmia**

1. Inflorescence essentially secund, sometimes weakly distichous in the lower portion; flowers typically wider than 5 cm in diameter with the perianth tube curved, magenta with white nectar guides on the sepals or of various colors and without white nectar guides; plants cormose but not stoloniferous ..... **Gladiolus**

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