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Palmetto



Golden-dewdrop

Duranta erecta (Verbenaceae)

by Daniel B. Ward



The Golden-dewdrop (*Duranta erecta* L.) is an attractive shrub found in many South Florida ornamental plantings. Since it is so familiar in cultivation, and since most recent books treat it as an exotic, the occasional plants encountered in the wild are assumed to be introductions, not natives of Florida. But this interpretation is of recent standing. For nearly one hundred years, from the time of its first reporting to past the middle of the 20th century, influential writers thought it to be native. It is worth review of the history of this plant, to see which interpretation is most likely correct. And, incidentally, to determine its correct scientific name.

First, the name. The earliest Florida report, by A.W. Chapman (1860), cited "*Duranta Plumieri* Jacq." from "South Florida." That name, widely used in the early literature, was the work of the Austrian botanist, Baron Nikolaus Joseph von Jacquin, in 1760. By the first years of the 20th century, however, it was widely recognized that Jacquin's name was a synonym of an earlier name, published by Carl Linnaeus in 1753. But which name? Linnaeus had published two names – *Duranta repens* and *Duranta erecta* – on the same page and on the same date, apparently of the same plant.

Priority of publication, of course, is a basic principle of the *International Code of Botanical Nomenclature*, the law book that governs how our plants are named. If all else is equal, the earliest published name is the legitimate name.

But how do you deal with two names published simultaneously? Do you select the first name listed? What if both are on the same page? (Linnaeus in 1753, toward the top of page 637, recorded *Duranta repens*, then immediately below it he listed *Duranta erecta*.) Do you pick the more appropriate epithet? (*Duranta erecta* is the only one that fits the upright shrubby Golden-dewdrop.) Do you choose the one with the most accurate description? (*Duranta repens* was described as "spinosa," while *Duranta erecta* was said to be "inermis." The Golden-dewdrop usually has spurs that can be thought

of as spines.) Do you abandon both names as "irredeemably ambiguous," and seek immortality by making up a new name, with yourself as author?

The *Code* gives us the answer. Buried in its dense thicket of technical prose is Article 11.5, that "when, for any taxon of the rank of family or below, a choice is possible between legitimate names of equal priority in the corresponding rank...the first such choice to be effectively published... establishes the priority of the chosen name...over the other competing name..." More simply put, the first author to choose between the two names must be followed.

But, as they say, the devil is in the details. This rule dates only from the mid-20th century, and any number of earlier authors may have used one of the two names and treated the other as a synonym. And of course there is no index to every use of these names throughout the world's literature. Thus one early choice may be assumed the earliest, and is followed by reputable botanists. Then an even older publication may be found that makes the same choice, but the other way around. Proper botanists are then obligated to reverse their usage, to the confoundment (and annoyance!) of good folks who just want to know what to call the plant.

The situation wasn't helped by Linnaeus himself. Ten years later, in 1763 he used Jacquin's name, *Duranta Plumieri*, and cited his own two names as synonyms. Why he did so we now can't say. But priority of publication hadn't yet become thought of as important, and Linnaeus may have believed that Jacquin had better information than his own. In any event, the prestige of Linnaeus led to Jacquin's name being used by nearly all early botanists.

However, as the importance of fixed rules of nomenclature gained popularity in the late 19th century, with priority a fundamental principal, authors dug back into the earliest publications and resurrected many long-forgotten names. They came upon an 1891 paper by Carl Ernst Otto Kuntze, a German botanist and gadabout described by the staid

authors of *Taxonomic Literature* (1979) as a “polemic nomenclatural reformer,” who used *Duranta repens*, with *D. erecta* as a synonym. R.W. Sanders (1984), then at Fairchild Tropical Botanic Garden, in his careful synopsis of the species and hybrids of *Duranta*, accepted this basis for *D. repens*. Under the assumption that the problem had been resolved, nearly all botanists then dropped *D. Plumieri* and took up *Duranta repens*. That is the name you will find in most 20th century floras and horticultural guides, the name we have all used for so long.

Then Gail Bromley (1984), a nomenclaturalist at Kew, England, published a brief note, turning these names upside down. It appears there was an earlier writer who in 1877 combined the two names for a single species – a little-remembered English botanist, William Hiern, and it wasn’t surprising his action had been overlooked, for he buried it in a treatment of Brazilian plants published in an obscure Copenhagen journal. But, unequivocally, he had used *Duranta erecta*, and had listed *D. repens* as a synonym.

It has taken, now, nearly two decades for Bromley’s report to percolate its way into American botany. Only within recent years have a few floristic writers (cf. Wunderlin, 1998) switched to *Duranta erecta*. What we must now fervently hope is that no eager researcher discovers a still earlier publication favoring *D. repens*!

With an understanding now in hand as to why we use *Duranta erecta* as the scientific name of the Golden-dewdrop, it is time to turn to determination of its status as either native or introduced into Florida. As noted, A.W. Chapman (1860) reported the plant from “South Florida.” By that reference he almost surely meant Key West, the home of John Blodgett, a physician who sent plants to Chapman in Apalachicola and to Dr. John Torrey in New York. [Torrey’s collections formed the nucleus for what is now the magnificent herbarium of the New York Botanical Garden.] Chapman visited Blodgett once, in the 1840s, but obviously remained in close correspondence with him until Blodgett’s death in 1853. [For an excellent, comprehensive account of these early Florida botanists, see Wunderlin & Hansen, 2000.]

Chapman, by and large, had no interest in cultivated plants. His publications addressed only species he found in the wild, though sometimes he noted them to be only in the vicinity of habitations. The words “native,” “introduced,” “exotic,” “escaped”, etc., were unfamiliar to him. Thus one must read between the lines to interpret his phrase “South Florida.” Surely, in the absence of any qualifying comment, he thought the plant to grow without cultivation, either from his own observation in the 1840s or that of Dr. Blodgett.

Chapman’s report – with the same interpretation as given here – and Blodgett’s few specimens sent to John Torrey (now in New York) may be all that was available to other floristic writers. J.K. Small’s voluminous but hurriedly written *Flora of the Southeastern United States* (1903) relied almost exclusively on Chapman’s books and on the then-sparse collections of the New York Botanical Garden – this was before the days of Small’s extensive personal botanical ventures in Florida – and he accepted the plant as native. In Small’s better-known (and better written!) later flora (1933), he unequivocally reported *Duranta repens* from “hammocks, Everglade Keys, Fla. And Florida Keys.”

Harold N. Moldenke, who devoted many years to an exhaustive study of the Verbenaceae, and who as a young man often visited South Florida, in 1944 reported Golden-dewdrop (as *D. repens*) only “in cultivation” in Miami.

Then came a book, now remembered by its old friends, Erdman West and Lillian Arnold’s *The Native Trees of Florida* (1946). This book, the first popular guide to Florida’s trees, was reprinted many times (through 1956) and was influential as an independent (and illustrated!) documentation by



Duranta erecta – photo by Marjorie Shropshire

Florida-based botanists. And West & Arnold, not only by the title of their publication (“Native...”), but by their text (“native only in the Everglade Keys and the Florida Keys”), effectively established the plant as a Florida native.

The inimitable George Avery, long resident and keen observer of the South Florida flora, frequently encountered Golden-dewdrop on his rambles. His observations are recorded in a series of meticulous notebooks, zealously guarded at Fairchild (with a copy given to D.B.W.). By his notations it is clear he considered the plant to be part of our flora. He found it in dooryards and plantings, on Key West, Summerland, and Sugarloaf. And in a hammock at Redlands, south Dade, on 1 June 1967, he encountered what he called “native plants.”

Avery’s use of “native” should not be interpreted as reflecting to him what we think of by that term. We must keep in mind that the significance of “native” is of recent origin; Avery surely no more thought of the Redlands plants as of pre-Columbian origin that he did of the “conchs” on Key West. We would now likely call the Redlands plants “escaped” or “naturalized,” and as such he is correct, of course, in treating them as part of our flora.

And some years ago the present writer contentedly accepted *Duranta repens* as a member of the state’s native tree flora (Ward, 1991).

But then, slowly, individuals with personal knowledge of South Florida botany began to raise the question of Golden-dewdrop’s nativity. E. L. Little, taxonomist for the United States Forest Service, in his first checklist (1953), had accepted *Duranta repens* as native. Probably following West & Arnold, Little correctly noted it to be “usually seen only as a shrub,” and included it as a small-type addendum. Then in his revised checklist (1979) he qualified his statement even further by suggesting it to be “perhaps introduced.”

Barry Tomlinson (1980), then based at Fairchild Tropical Botanic Garden, addressing the biology of native trees, mentioned the species – apparently indicating his acceptance of it as a tree – but said it “occasionally volunteers” and omitted it from his list of native species.

Other observers of the South Florida flora supported the belief that Golden-dewdrop is only introduced. Daniel F. Austin and Roy Woodbury (pers. comm., Nov. 1993) agreed that it never occurs in undisturbed locations. And in preparation of the present text, rather extensive questioning of other knowledgeable South Florida botanists turned up nobody who could cite where the plant was to be found in an undisturbed place.

And that observation – that *there is no undisturbed habitat in Florida where Golden-dewdrop may be expected to occur* – is the definitive datum excluding the plant from the native flora. A plant species – if it is truly native – *must* have a niche where it is at home, where one can expect to find it, where it is a stable part of the indigenous flora. A plant that is sometimes present, sometimes not, whose numbers either increase rapidly or soon disappear, and whose value as an ornamental can explain the waifs that are found outside of cultivation, is almost surely not native.

I wish to thank Daniel F. Austin and the late Roy Woodbury for their personal observations of our South Florida flora.

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The purpose of the Florida Native Plant Society

is to conserve, preserve, and restore the native plants and native plant communities of Florida.

Official definition of native plant:

For most purposes, the phrase Florida native plant refers to those species occurring within the state boundaries prior to European contact, according to the best available scientific and historical documentation. More specifically, it includes those species understood as indigenous, occurring in natural associations in habitats that existed prior to significant human impacts and alterations of the landscape.

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