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:t. 1971, *Carr* 17 (PRE); Farm Hauchab-
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8 Sept. 1897, *Schlechter* 11451 (BM, K); 6
'ontein, 11 Sept. 1961, *Hardy* 673 (BM, K,
)61, *Van Breda* 1346 (PRE); Modderdrift,
Inter Verleptpraam et Natvoet, *Drège* s.n.

ch, Mar. 1909, *Pearson* 4413 (K); between
915, *Pearson* 9296 (K); Otjosondu, 11 Jan.

LUDED SPECIES

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Lam. (see notes above).

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A new species of *Thyrsanthemum*

AMERICAN COMMELINACEAE: IV*

D. R. HUNT

Summary. A description of *Thyrsanthemum goldianum* D. R. Hunt, sp. nov., is given, preceded by a brief review of the genus.

The genus *Thyrsanthemum* was established by Pichon in 1946 for a Mexican species described by Martens & Galeotti under both *Tradescantia* and *Dichorisandra*, but lacking the diagnostic characters of the androecium and seeds of the latter genus, and having an inflorescence structure unlike that of *Tradescantia*. A few years before Pichon's paper the species in question, *Thyrsanthemum floribundum* (Martens & Gal.) Pichon, had been placed in *Aneilema* by Woodson (as *A. holosericea* (Kunth) Woodson), together with a second species *A. macrophylla* Greenman (i.e. *Thyrsanthemum macrophyllum* (Greenman) Rohweder). The actinomorphic flower of the two species effectively excludes them from that genus also, however, and the segregate genus has been upheld by Rohweder and Brenan in their papers on the classification of the family. As Rohweder suggested, the genus is of particular interest in the lack of specialization in both flower and inflorescence. It appears to be a rather primitive member of the family, from which it is possible to imagine ancestral links with *Murdannia*, *Aneilema*, *Tinantia* and even *Dichorisandra* on the one hand and *Gibasis* and *Tradescantia* etc. on the other. Its geographical occurrence as a genus endemic in southern Mexico is no doubt also of significance, since it is in this area that the *Tradescantieae* are most richly developed.

Thyrsanthemum is represented in the living collections at Kew by several gatherings made in Mexico by the writer in 1969–73. These have been examined cytologically by my colleague Dr. K. Jones. The complements are asymmetric with $2n = 28$, 30 or 32 smallish, mostly acrocentric chromosomes and although it offers no strong indication of affinities the nature of the karyotype seems to accord with the morphological inferences already drawn.

As noted above, two species of this genus have been recognized hitherto. In our cultivated material these are readily differentiated by features of the inflorescence and flowers but some herbarium specimens (where floral structure is not always readily discerned) seem more equivocal. The two species are apparently characteristic of different climatic-vegetational zones and further study may show to what extent their intergradation is ecoclinal. On the basis of the material examined, a third species, newly described below, is characteristic of another zone and might seem to invite interpretation as a third ecotype in the series. It is distinctive, however, particularly in the inflorescence, and readily differentiated from the two previously known. First collected in 1911 by C. R. Orcutt and in 1934 and 1938 by G. B.

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* Continued from Kew Bulletin 31: 104 (1976).

Hinton, it was recollected by the present writer in company with Mr. D. B. Gold in 1971 whilst looking for *Tradescantia llamasii* Matuda and survived a number of years in cultivation at Kew. Its description below is preceded by a brief synopsis of the genus.

Thyrsanthemum *Pichon* in Not. Syst. (ed. Humbert) 12: 224 (1946); Rohweder in Abh. Auslandsk. 61 (C.18): 166 (1956); Brenan in Bot. Journ. Linn. Soc. 59: 358 (1966). Type: *Tradescantia floribunda* Martens & Gal.

Caulescent perennial herbs with tuberous roots, erect or decumbent, more or less pubescent, with spirally arranged leaves. Inflorescence a terminal thyrse of numerous simple cincinni, each cincinnus subtended by a subulate bract; individual cincinni several-flowered, the axis with short internodes between the flowers and a short or elongate sterile basal rhachis or peduncle; bracteoles small, not or scarcely imbricate. Flowers actinomorphic; sepals 3, free; petals 3, free; stamens 6, equal, free, filaments pilose, anther-connective narrow, anthers dehiscing by slits; ovary 3-locular with 2 superposed ovules in each loculus. Fruit a capsule with up to 6 seeds; seeds exarillate with linear hilum and lateral or sublateral embryostega.

KEY TO SPECIES OF THYRSANTHEMUM

1. Bracts subtending the individual cincinni, including the lowermost, usually less than 1 cm long, not rigid and usually early deciduous, especially from the lower cincinni; thyrse densely pubescent, usually many-branched and dense, but the branches relatively lax:
   2. Sterile rhachis of cincinnus evident, c. 4–10 mm; pedicels 1–2 mm long; flowers about 1·5 cm in diameter, purplish pink, petals c. 7·5 mm long, sepals c. 5 mm long at anthesis, glandular-pubescent . . . . . 1. **T. floribundum**
   2. Sterile rhachis of cincinnus not evident or very short; pedicels about 0·5 mm long; flowers about 1·2 cm in diameter, pinkish or white, petals c. 5·5 mm long, sepals c. 4·5 mm long at anthesis, pubescence dense, eglandular. . . 2. **T. macrophyllum**
1. Bracts subtending the individual cincinni subulate, rather rigid, persistent, the lowermost about 1·5–3 cm long; thyrse finely pubescent, few-branched and open, but the branches relatively stiff. Sterile rhachis of the cincinni pronounced, 5–30 mm long; pedicels 0·5 mm long or less; flowers about 1 cm in diameter, petals 4·5 mm long, sepals 3·5 mm at anthesis, eglandular . . . 3. **T. goldianum**

1. **T. floribundum** (*Martens & Gal.*) *Pichon* in Not. Syst. 225 (1946); Rohweder in Abh. Auslandsk. 61 (C.18): 166 (2956).

Tradescantia floribunda Martens & Galeotti in Bull. Acad. Brux. 9(2): 377 (1842). Type: Mexico, Oaxaca, pine-oak forest, 8–9000 ft. [2450–2750 m], fls. purple, 1840, *Galeotti* 4952 (K, isotype).

Dichorisandra longifolia Martens & Gal. in *op. cit.*: 378 (1842). Type: Mexico, Hidalgo, Metztitlan, San Pedrito, on calcareous rocks, alt. 4500–5000 ft. [1350–1500 m.], fl. rose, *Galeotti* 4942.

Tradescantia holosericea Kunth, Enum. Pl. 4:
Monogr. Phan. 3: 302 (1881). Type:
Karwinsky.

T. galeottiana Kunth, Enum. Pl. 4: 696 (184

[*D. ehrenbergiana* Klotzsch ex C. B. Clarke, *l*

Tradescantia longifolia (Martens & Gal.) G
33: 471 (1898).

Aneilema holosericea (Kunth) Woodson in *A*
(1942); Matuda in An. Inst. Biol. Mex. *2*

This purplish-pink-flowered plant has l
various habitats in the vicinity of the city of
Although collected by Galeotti in pine/oa
typical in the semi-dry vegetation of centr
espinoso' (thorn scrub). *T. macrophylla*, by
roadside banks etc. at generally lower elevat
of the semi-tropical zone to the southwes
account for the occurrence of *T. floribunda* i
T. macrophylla. The specimens from NW. M
broadly cordate leaf-bases and cincinni wh
stipitate than those of Oaxaca, etc. Specime
are at Kew:

MEXICO. Oaxaca, in Monte San Felipe, [
near Oaxaca, 7–8000 ft. [2150–2450 m],
rose (type coll. of *Tradescantia holosericea* Ku
[1850 m], 15 July 1897, *Pringle* 6711; ruins
Aug. 1969, *Hunt* 7230 (transparencies) cul
(2n = 32); 10 km NW. of Huajuapan de Le
Sanchez-Mejorada 2303 (K, MEXU). Puebla,
June 1910, *Nicolas*. Guerrero, 3 miles [4·8 k
[1850 m], 11 Sept. 1970, *Walker* 70.0
[Yurécuaro], 5500 ft. [1700 m], lava fields,
miles [16 km] W. of Zamora on road to Jiq
damp rich soil among rocks and luxurian
Hjerting & Lester 1506:—fls. pale pink.

2. **T. macrophyllum** (*Greenman*) *Rohwede*
166 (1956).

Tradescantia macrophylla Greenman, in Proc
Syntypes: Mexico, Morelos, Cuernavaca,
Pringle 7224; *ibidem*, 21 Aug. 1897, *Pringl*

T. holosericea β *dracaenoides* C. B. Clarke, in
Type: Mexico, Oaxaca 1842–3, *Ghiesbreg*

Aneilema greenmanii Woodson, in Ann. Mis
Matuda, in An. Inst. Biol. Mex. 26: 314

T. dracaenoides (C. B. Clarke) Greenman, in

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Michoacan. The following specimens are in

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& Galeotti in Bull. Acad. Brux. 9(2): 377
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otti 4942.

Tradescantia holosericea Kunth, Enum. Pl. 4: 92 (1843); C. B. Clarke in DC., Monogr. Phan. 3: 302 (1881). Type: Mexico, Oaxaca, S. Felipe, *Karwinsky*.

T. galeottiana Kunth, Enum. Pl. 4: 696 (1843). Type: *Galeotti* 4952.

[*D. ehrenbergiana* Klotzsch ex C. B. Clarke, *l.c.* (1881), pro syn.]

Tradescantia longifolia (Martens & Gal.) Greenman in Proc. Amer. Acad. 33: 471 (1898).

Aneilema holosericea (Kunth) Woodson in Ann. Miss. Bot. Gard. 29: 147 (1942); Matuda in An. Inst. Biol. Mex. 26: 312 (1956).

This purplish-pink-flowered plant has been collected several times in various habitats in the vicinity of the city of Oaxaca, in Puebla and Hidalgo. Although collected by Galeotti in pine/oak forest it appears to be more typical in the semi-dry vegetation of central Mexico known as 'matorral espinoso' (thorn scrub). *T. macrophylla*, by contrast, occurs on rocky slopes, roadside banks etc. at generally lower elevations in the deciduous woodland of the semi-tropical zone to the southwest. This ecological zoning may account for the occurrence of *T. floribunda* in NW. Michoacan, rather than *T. macrophylla*. The specimens from NW. Michoacan are characterized by broadly cordate leaf-bases and cincinni which are longer and more stiffly stipitate than those of Oaxaca, etc. Specimens from the following collections are at Kew:

MEXICO. Oaxaca, in Monte San Felipe, [c. 1833], *Andrieux* 54; mountains near Oaxaca, 7–8000 ft. [2150–2450 m], 1840, *Galeotti* 4952:—fls. violet-rose (type coll. of *Tradescantia holosericea* Kunth); hills near Oaxaca, 6000 ft. [1850 m], 15 July 1897, *Pringle* 6711; ruins of Monte Alban alt. 2200 m, 5 Aug. 1969, *Hunt* 7230 (transparencies) cult. Kew accn. no. 504-69.04181 (2n = 32); 10 km NW. of Huajuapan de Leon, alt. c. 1800 m., 16 July 1974, *Sanchez-Mejorada* 2303 (K, MEXU). Puebla, Santa Barbara, near Puebla, 20 June 1910, *Nicolas*. Guerrero, 3 miles [4·8 km] W. of Chilpancingo, 6100 ft. [1850 m], 11 Sept. 1970, *Walker* 70.039. Michoacan, Monte Leon [Yurécuaro], 5500 ft. [1700 m], lava fields, 19 Aug. 1902, *Pringle* 8733; 10 miles [16 km] W. of Zamora on road to Jiquilpan, Santiago, alt. 1700 m, in damp rich soil among rocks and luxuriant herbs, 15 Sept. 1958, *Hawkes, Hjerting & Lester* 1506:—fls. pale pink.

2. **T. macrophyllum** (*Greenman*) *Rohweder* in Abh. Auslandsk. 61 (C.18): 166 (1956).

Tradescantia macrophylla Greenman, in Proc. Amer. Acad. 33: 472 (1898). Syntypes: Mexico, Morelos, Cuernavaca, bluffs of barranca, 26 July 1896, *Pringle* 7224; *ibidem*, 21 Aug. 1897, *Pringle* 6695 (K).

T. holosericea β *dracaenoides* C. B. Clarke, in DC., Monogr. Pl. 3: 302 (1881). Type: Mexico, Oaxaca 1842–3, *Ghiesbreght* s.n. (K).

Aneilema greenmanii Woodson, in Ann. Miss. Bot. Gard. 29: 147 (1942); Matuda, in An. Inst. Biol. Mex. 26: 314 (1956). Type: as *T. macrophylla*.

T. dracaenoides (C. B. Clarke) Greenman, in *op. cit.* 39: 70 (1903).

Above about 1000 m elevation this appears to be the characteristic species of the 'selva baja caducifolia' (low deciduous woodland) vegetation of Guerrero, Morelos, SW. Puebla, SW. [state of] Mexico and parts of Michoacan. The following specimens are in the Kew herbarium:

MEXICO. State of Mexico, district of Temascaltepec, Chorrera, alt. 1230 m, on a hill among rocks, 23 June 1932, *Hinton* 753; Ypericones, on hill, 25 July 1933, *Hinton* 4368:—fls. white; Tenayac, alt. 1470 m, on rocks, 17 Aug. 1933, *Hinton* 4436; Valle de Bravo, by the lake, alt. 1770 m, calcareous banks, 10 Sept. 1971, *Hunt* 8119:—fls. pink, cult., Kew accn. no. 337–71.03012 (2n = 30); below Valle de Bravo, road to Tingambato, alt. 1170 m, roadside banks, 10 Sept. 1971, *Hunt* 8120, also cult., Kew accn. no. 337–71.03013 (2n = 30). Michoacan, district of Zitácuaro, Zitácuaro–Las Anonas, alt. 1575 m, in barranca, 23 Aug. 1938, *Hinton* 13139:—fls. pink ('Rodilla de Gallina'). Morelos, Cuernavaca, alt. 5000 ft., [1500 m], bluffs of barranca, 21 Aug. 1897, *Pringle* 6695. Guerrero, district of Mina, Aguazarca–Filo, in llano, 7 Dec. 1937, *Hinton* 10505:—fl. white. Oaxaca, without further data, 1842–3, *Ghiesbreght*.

3. **T. goldianum** *D. R. Hunt* sp. nov.; a congeneris inflorescentia exiliore minus pilosa bracteis praesertim infimis longioribus ac persistentibus cincinnis valde stipitatis recedit. Typus: Mexico, *Hinton* 13082 (holotypus, K).

Herba perennis, tuberosa, caule erecto vel decumbenti usque 1 m alto. Folia spiraliter disposita lanceolata, acuminata, subpetiolata, basi vaginantia, usque 40 cm longa, 7 cm lata, chartacea, viridia non glaucescentia, supra minute et sparse pubescentia vel glabra, subtus pallidiora pubescentia vel subglabra. Thyrsus terminalis, usque 60 cm longus, prope basin pauciramosus, axibus pubescentibus; bracteae subulatae, persistentes, infimae c. 1·5–3 cm longae; cincinni basi 5–30 mm stipitati, c. 5–10-flori, minute bracteolati, internodiis brevibus 1–1·5 mm. Flores parvi, albi, subsessiles, pedicellis minus quam 1 mm longis; sepala elliptica, cucullata, c. 3·5 mm longa, eglanduloso-pubescentia, brunneo-viridia; petala trullata, 4·5 mm longa, 3·5 mm lata, alba; stamina 6, libera, aequalia, 5 mm longa, filamentis 3·5 mm longis barbatis antheris allantoideis approximatis subparallelis 1·5 mm longis, connectivo non dilatato; ovarium triloculare, c. 1·2 mm diametro, dense glanduloso-pubescens, ovulis in quoque loculo 1–2; stylus gracilis, 3 mm longus, glaber, stigmate minute penicillato-capitellato. Capsula c. 6 mm diametro, trigona, apice mucronata, firma, glabrescens; semina cinerea, usque 6, elliptica, 4 mm longa, vel 3, semi-elliptica, 2·5 mm, hilo lineari, embryostega laterali impressa.

MEXICO: Guerrero, district of Coyuca, Balderrama, on hill, 26 Aug. 1934, *Hinton* 6501 (K, MICH); Michoacan, district of Zitácuaro, Tuxantla-San Carlos, moist shady chaparral, 1 Aug. 1938, *Hinton* 13082 (K, holotype):—fl. white; 2 km beyond Tingambato on road from Valle de Bravo, rocky hillsides in low deciduous forest, alt. 840 m, 10 Sept. 1971, *Hunt* 8121 (K):—fl. white, also cult. Kew accn. no. 337–71.03014 (2n = 28). Locality uncertain: coll. 1910–11, *Orcutt* 4184 ('number possibly wrong' according to annotation by N. Y. Sandwith) (K).

Thyrsanthemum goldianum occurs at a lower elevation than *T. macrophyllum* in a type of deciduous woodland believed to be characteristic of much of the Rio Balsas basin. The region has few roads at present and is little explored botanically.

It is a pleasure to name this species for Mr. Dudley Gold of Cuernavaca, a keen student and collector of the Mexican flora for many years whose hospitality and companionship have been enjoyed by many visiting botanists.

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