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(12) **United States Plant Patent**  
**Blom**(10) **Patent No.:** US PP23,616 P3  
(45) **Date of Patent:** May 21, 2013(54) **CHrysanthemum PLANT NAMED**  
**'ZANMUDANDE'**(50) Latin Name: *Chrysanthemum×morifolium* Ramat.  
Varietal Denomination: **Zanmudande**(75) Inventor: **Wilhelmus Bernardus Blom,**  
Leimuiden (NL)(73) Assignee: **Chrysanthemum Breeders Research**  
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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 94 days.

(21) Appl. No.: **13/200,327**(22) Filed: **Sep. 23, 2011**(65) **Prior Publication Data**

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(51) **Int. Cl.**  
**A01H 5/00** (2006.01)(52) **U.S. Cl.**  
USPC ..... **Plt./295**(58) **Field of Classification Search** ..... Plt./295  
See application file for complete search history.*Primary Examiner* — Annette Para(74) *Attorney, Agent, or Firm* — Steptoe & Johnson LLP(57) **ABSTRACT**

A *chrysanthemum* plant named 'Zanmudande' characterized by its medium sized blooms with yellow ray florets and prolific branching; natural season flower August 13 (week 33) blooming for a period of 5 weeks.

**3 Drawing Sheets****1**

Botanical designation: *Chrysanthemum×morifolium* Ramat.

Cultivar denomination: 'Zanmudande'.

**RELATED CULTIVARS**

This new plant cultivar 'Zanmudande' is related to 'Zanmutang' (U.S. Plant patent application Ser. No. 13/200,328), a sibling from the same cross with parent plants.

**BACKGROUND OF THE INVENTION**

The present invention relates to a new and distinct cultivar of *Chrysanthemum* plant, botanically known as *Chrysanthemum×morifolium* Ramat., commercially known as a garden mum, and hereinafter referred to by the cultivar denomination 'Zanmudande'. 'Zanmudande' is a product of a breeding and selection program for outdoor pot mums (garden mums) which had the objective of creating new cultivars with a double type inflorescence, a natural season flower date around August 13 (week 33), blooming for a period of 5 weeks. 'Zanmudande' is a seedling resulting from a cross of the female parent id 21570 with the male parent id 23262. Both parents are unpatented plants. Plants of the new cultivar 'Zanmudande' differ from plants of the female parent in the following characteristics. (1) Plant vigor and (2) Natural season flower date. (1). Plants of the seedling are more vigorous than plants of the female parent. (2) Plants of the seedling flower earlier in the season than plants of the female parent. Whereas plants of the new cultivar 'Zanmudande' differ from plants of the male parent in the following characteristics. (1) Plant vigour and (2) Natural season flower date. (1). Plants of the seedling are less vigorous than plants of the male parent. (2) Plants of the seedling flower earlier in the season than plants of the male parent.

The new and distinct cultivar was discovered and selected as a flowering plant by Wilhelmus Bernardus Blom on a cultivated field in Rijenhout, The Netherlands in 2005. The first act of asexual production of 'Zanmudande' was accom-

**2**

plished when vegetative cuttings from the initial selection in 2005 were propagated further in a controlled environment in Rijenhout, The Netherlands. The new cultivar has been found to retain its distinctive characteristics through successive propagations.

**BRIEF DESCRIPTION OF THE DRAWINGS**

10 The present invention of a new and distinct variety of *Chrysanthemum* is shown in the accompanying drawings, the color being as nearly true as possible with color photographs of this type.

FIG. 1 shows a plant of the cultivar in full bloom.

15 FIG. 2 shows the various stages of bloom of the new cultivar.

FIG. 3 shows the various stages of foliage of the new cultivar.

**DESCRIPTION OF THE INVENTION**

20 The observations and measurements were gathered from plants grown out door in Rijenhout, The Netherlands under natural day length and temperature and planted in week 23 in 2005. The natural blooming date of this crop was August 13 (week 33). The average height of the plants was 35 cm. No growth retardants were used. No tests were done on disease or insect resistance or susceptibility. No tests were done on cold or drought tolerance. This new variety produces medium sized blooms with yellow ray florets blooming for a period of 5 weeks.

25 From the cultivars known to inventor the most similar existing cultivar in comparison to 'Zanmudande' are 'Mermaid Yellow Improved' (U.S. Plant Pat. No. 18,905) and 'Zanmugolmine' (U.S. Plant Pat. No. 22,618). When the three cultivars are being compared the following differences are noticed: (1) Inflorescence size. And (2) Color ray-florets. (1) The inflorescences of 'Mermaid Yellow' are larger than those of 'Zanmudande' and 'Zanmugolmine'. (2) The ray florets

are more dark yellow in 'Zanmudande' than in 'Mermaid Yellow' and 'Zanmugolmine'.

The following is a description of the plant and characteristics that distinguish 'Zanmudande' as a new and distinct variety.

The color designations are taken from the plant itself. Accordingly, any discrepancies between the color designations and the colors depicted in the photographs are due to photographic tolerances. The color chart used in this description is: The Royal Horticultural Society Colour Chart, edition 2001.

TABLE 1

Detailed Botanical Description		
Bud		
Size	Small; cross-section 6 mm, height 6 mm	
Shape	Round	
Texture	Pubescent	
Outside Color	Greyed-green 138A	
Phyllaries		
Number	18-20, arranged in 2 rows	
Shape	Elliptic	
Apex	Acute	
Base	Truncate	
Margin	Entire	
Color	Upper surface: Green 137B Lower surface: Green 137D	
Length and width	5 mm; 3 mm	
Texture	Pubescent	
Inflorescences		
Type	Double	
Height	1.8-2 cm	
Diameter	5 cm	
Peduncle length	8-9 cm	
Peduncle color	Green 137D	
Peduncle diameter	1.5 mm	
Peduncle texture	Pubescent	
Number per branch	Approx 5 inflorescences	
Duration of flowering	5 weeks	
Seeds	Produced in small quantities, ovate, Greyed-brown 199A, length 1.5 mm, diameter 0.5 mm	
Fragrance	Faint chrysanthemum odor	
Color		
Center of inflorescences	Immature stage: Yellow-orange 15A Mature stage: Yellow 13 A	
Color of upper surface of the ray-florets	Yellow 12B	
Color of the lower surface of the ray-florets	Yellow 11B	
Tonality from Distance	A garden mum with yellow blooms	
Color of the ray-florets after aging of the plant	Yellow 12C	
Ray florets		
Texture	Upper and lower surface smooth	
Number	150-170	
Shape	Elliptic	
Apex	Dentate	
Base	Attenuate	
Cross-section	Concave	
Longitudinal axis of majority	Straight to Reflexing	
Length of corolla tube	3 mm	
Ray-floret margin	Entire	
Ray-floret length	1.2-2 cm	
Ray-floret width	6-8 mm	
Ratio length/width	Medium	
Disc florets	Absent	

TABLE 1-continued

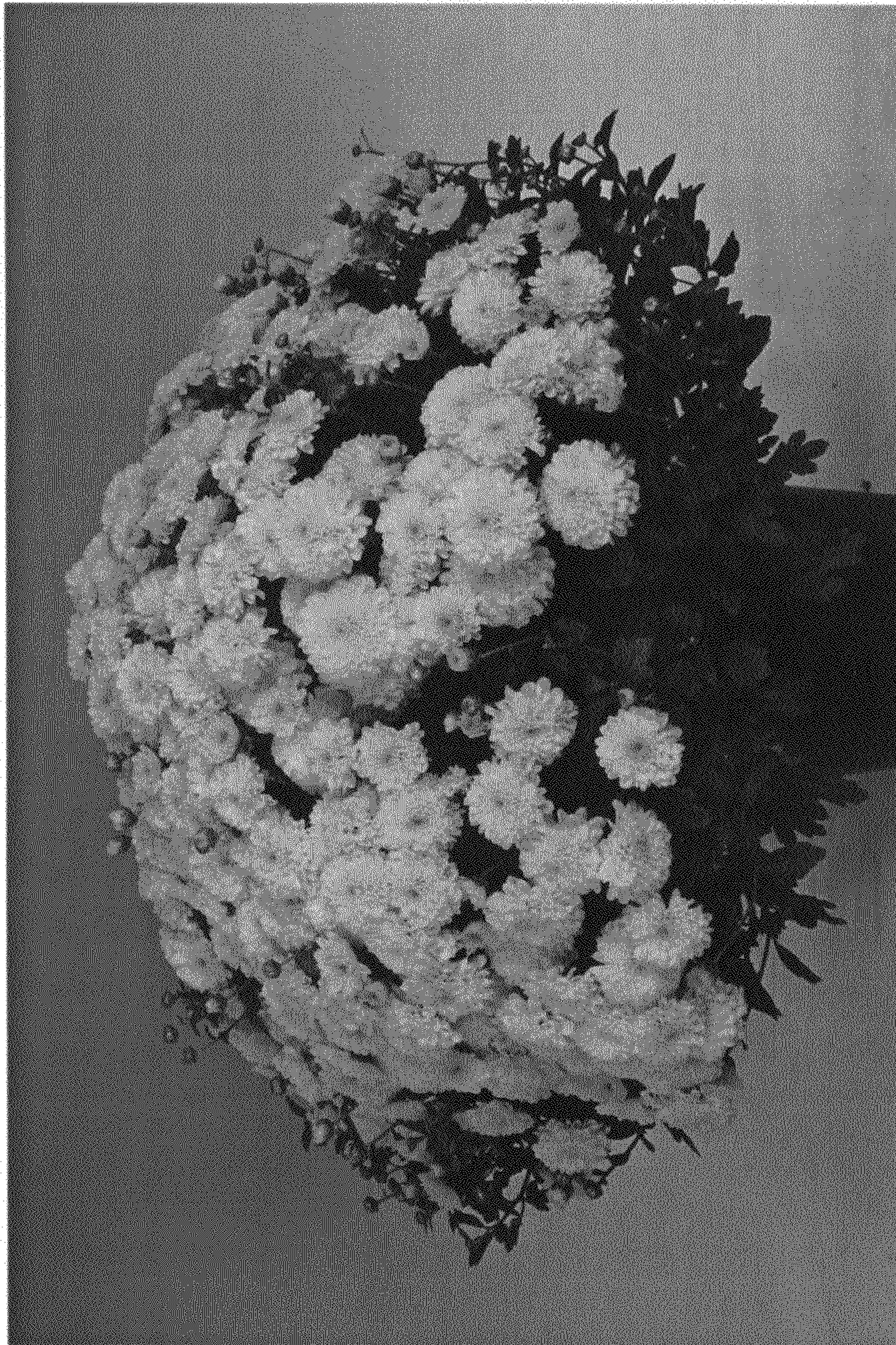
Detailed Botanical Description		
Receptacle		
5	Color	Green 138D
	Shape	Conical raised
	Height	3 mm
	Diameter	4 mm
	Reproductive Organs	
10	Androecium	Absent
	Gynoecium	Present on ray florets
	Style color	Yellow-green 154C
	Style Length	3 mm
	Stigma color	Yellow 7A
	Stigma Width	1 mm
15	Ovary	Enclosed in calyx
	Plant	
	Form	Grown as a spray type pot mum, outdoor raised and mounded
20	Growth habit	Spherical shape
	Growth rate	High
	Height	35 cm
	Width	50 cm
	Stem Color	Greyed-brown 199A
	Stem Strength	Medium
	Stem Brittleness	Brittle
25	Stem Anthocyanin Coloration	Not observed
	Internode length	3-4 cm
	Length of lateral branch	From top to bottom 22 to 25 cm
	Lateral branch color	Green 137 C
	Lateral branch, attachment	Medium strength
	Lateral branch diameter	2 mm
30	Branching (average number of lateral branches)	Prolific with 7-8 breaks after pinching
	Natural season blooming date	August 13 (week 33)
	Foliage	
35	Leaf color	Upper side: Green 138A Lower side: Green 138B
	Color midvein	Upper side: Yellow-green 147D Lower side: Yellow-green 148D
	Size	Small; length 3.5-5 cm, width 2.4-3 cm
	Quantity (number per lateral branch)	20-22
40	Shape	Elliptic
	Texture upper side	Sparsely pubescent
	Texture under side	Pubescent
	Venation arrangement	Palmate
	Shape of the margin	Serrated
	Shape of Base of Sinus Between Lateral Lobes	Rounded
45	Margin of Sinus Between Lateral Lobes	Diverging
	Shape of Base	Attenuate
	Apex	Mucronulate
	Petiole length	0.6-1 cm
	Petiole diameter	2 mm
50	Petiole color	Yellow-green 147D

TABLE 2

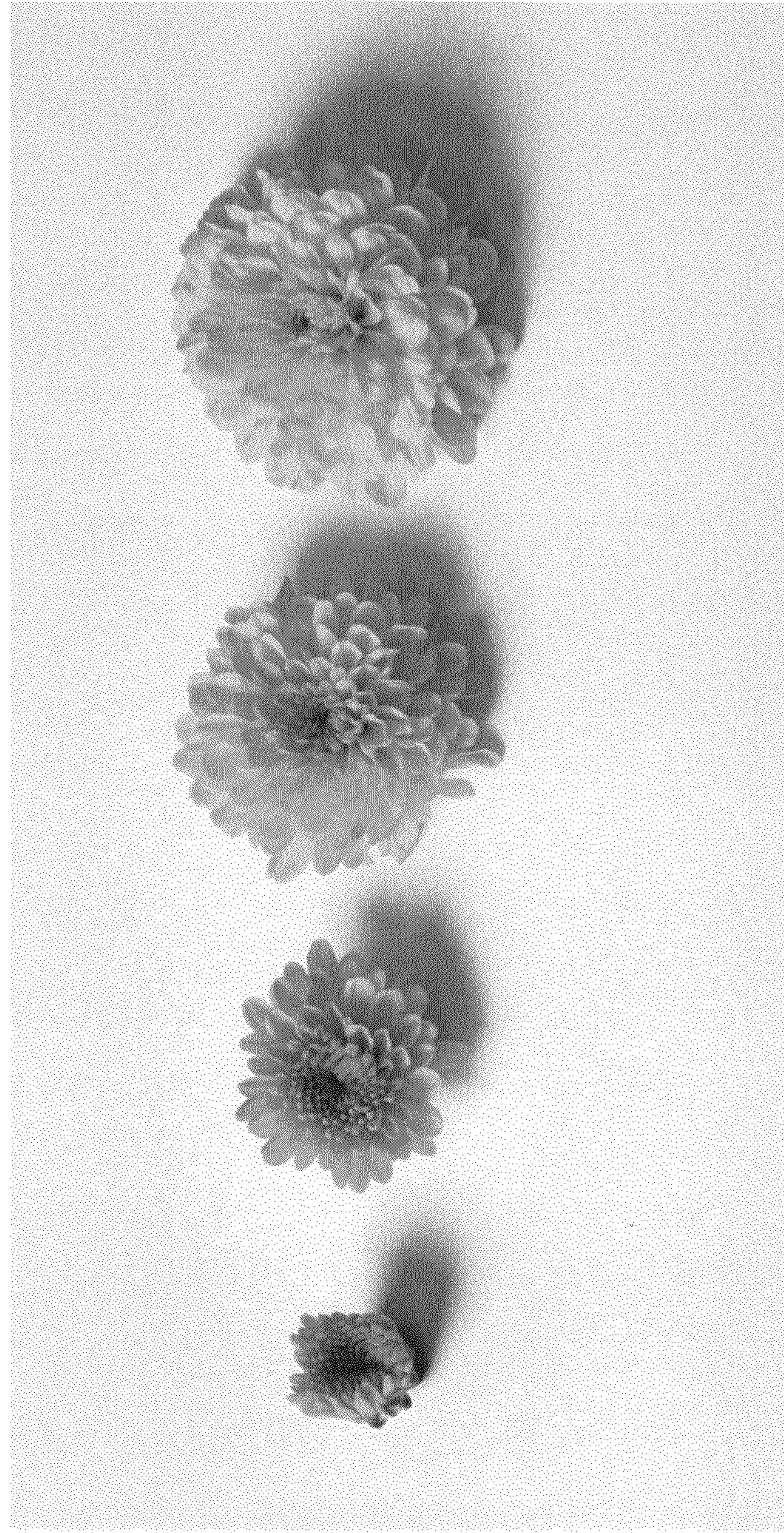
Differences with the comparison varieties				
'Zanmudande'	5 cm	5-7 cm	5 cm	
'Mermaid Yellow'	Yellow 12B	Yellow 8B	Yellow 8A	
'Zanmugolmine'				

I claim:

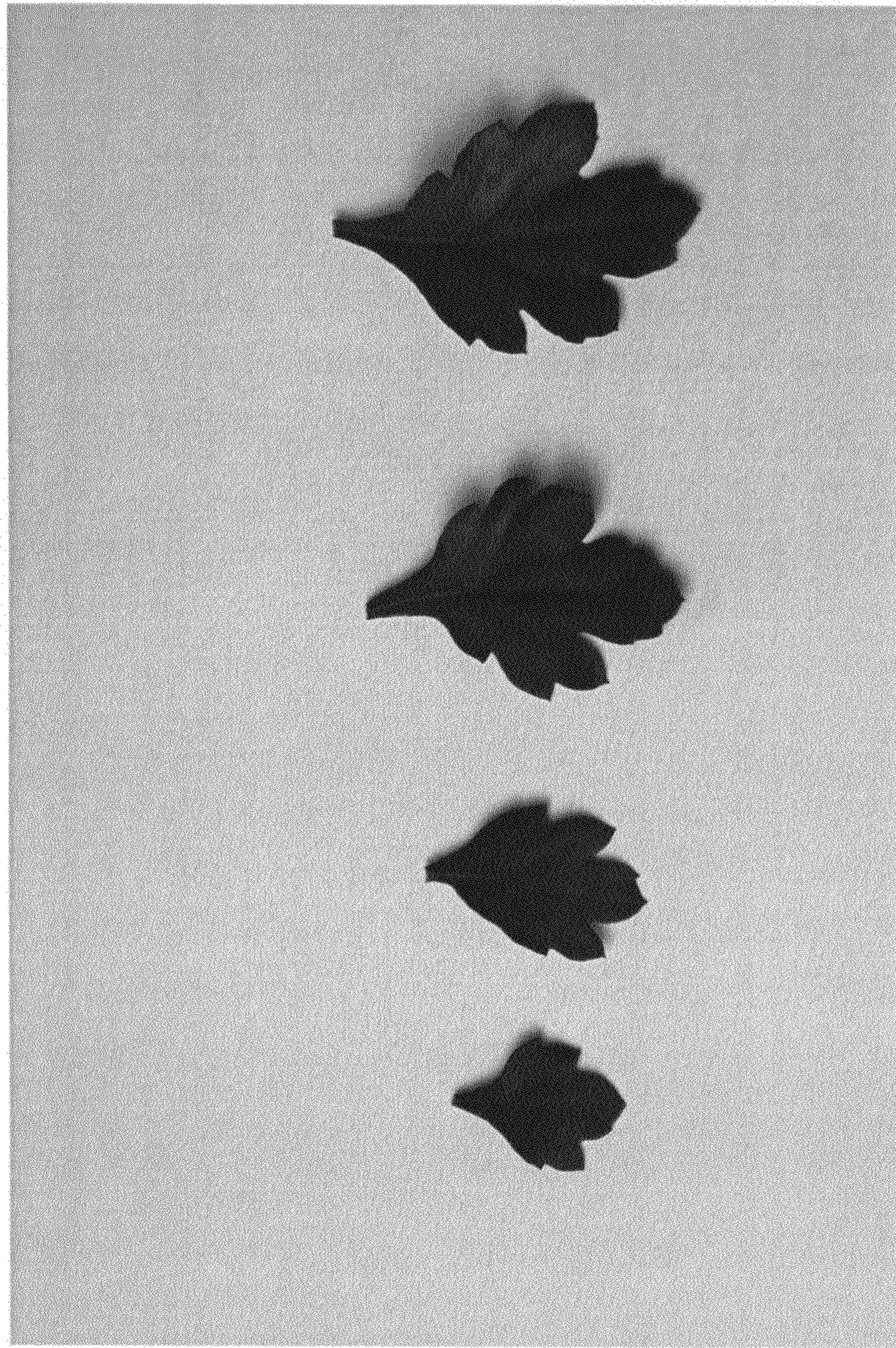
1. A new and distinct *Chrysanthemum* plant named 'Zanmudande' as described and illustrated.



**FIG. 1**



**FIG. 2**



**FIG. 3**