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Tachibana et al.

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[54] VERBENA PLANT—‘SUNMAREF TP-C’
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Related U.S. Application Data

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[57] ABSTRACT

Disclosed herein is a spreading growth habit verbena plant having long stems. The plant has abundant branching and each node in the branches that contacts the ground commonly forms deep-spreading roots. The plant forms numerous flowers in ascending spikes with a great profusion of blooms. The flowers exhibit petals having a purplish red coloration, with a small pale purplish pink eye. The plant is highly resistant to heat, cold, rain, diseases, and pests.

4 Drawing Sheets

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This application is a continuation of application Ser. No. 08/100,261, filed Aug. 2, 1993, now abandoned.

BACKGROUND OF THE VARIETY

The present invention relates to a new and distinct 5 variety of verbena obtained from crossing of one verbena plant (♀) which was selected from a crossing of ‘Rainbowcarpet Brightpurple’ (♀) and a wild type of verbena plant (♂) native to Brazil, and ‘Rainbowcarpet Red’ (♂). The ‘Rainbowcarpet Brightpurple’ and 10 ‘Rainbowcarpet Red’ parents are botanically known as *Verbena* × *hybrida* Voss.

Verbena of the presently commercialized ‘Rainbowcarpet’ series is a semi-erect growth habit having medium stems, medium branching, and a scant number of 15 flowers in a spike, and has moderate tolerance to heat and cold. Accordingly, this invention was aimed at obtaining a new variety having a spreading growth habit, much branching, numerous flowers in ascending spikes, high tolerance to heat and cold, and resistances 20 to diseases and pests, which are superior to those of said ‘Rainbowcarpet’ series, and also having a purplish red color.

A crossing of ‘Rainbowcarpet Brightpurple’ as the 25 female parent and a wild type of verbena plant native to Brazil as the pollen parent was practiced, in 1988, at the Plant Biotechnology Laboratory, Institute for Fundamental Research of SUNTORY Ltd., residing at 2913-1 Torihara, Hakushu-cho, Kitakoma-gun, Yamanashi-ken, Japan. From this crossing, 75 seedlings were obtained in the spring of 1988, then a crossing of the 30 seedlings which was selected from the 75 seedlings as the female parent and ‘Rainbowcarpet Red’ obtained from TAKII SEED & SEEDLING Corp., as the pollen parent was practiced at the same place. From this crossing 60 seedlings were obtained in the summer of 1988, from which 6 seedlings were selected, propagated by cutting and then grown as a trial by flower bedding and potting from the spring of 1989. Only one of the 6 40 resulting plants was selected. The botanical characteristics of the finally-selected plant were then examined, using a similar varieties, ‘Rainbowcarpet Rose’ and ‘Rainbowcarpet Brightpurple’, for comparison, from the spring of 1990. As a result, it was concluded that this

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verbena plant is distinguishable from any other variety whose existence is known to use, and this new variety of verbena plant was named ‘Sunmaref TP-C’ (Tapien Coralred ®).

In the following description, the color-coding is in accordance with the Horticultural Colour Chart of the Royal Horticultural Society, London, England (RHS Color Chart), and the Inter-Society Color Council-Nation Bureau of Standards Color Name (ISCC-NBC Color Name). A color chart based on The Japan Color Standard for Horticultural Plants (JHS Color Chart) is also added for reference.

‘Rainbowcarpet Brightpurple’ used as the female parent in the obtaining of one verbena plant used as the female parent in the breeding of this new variety ‘Sunmaref TP-C’ is one of the ‘Rainbowcarpet’ series bred by the TAKII SEED & SEEDLING Corp., Japan. The ‘Rainbowcarpet’ series includes ‘Rainbowcarpet Rose’, ‘Rainbowcarpet White’, ‘Rainbowcarpet Red’, and the like. The main botanical characteristics of ‘Rainbowcarpet Brightpurple’ are as follows.

Plant:

Growth habit.—Semi-erect.
Plant height.—25–30 cm.
Plant extension.—30–35 cm.
Blooming period.—Late April to November.

Stem:

Diameter.—2–3 mm.
Anthocyanin pigmentation.—Absent.
Branching.—Medium.
Pubescence.—Some pubescence commonly is present.
Length of internode.—35–40 mm.

Leaf:

Phyllotaxis.—Opposite.
Shape of blade.—Broadly ovate.
Length.—20–25 mm.
Width.—15–20 mm.
Depth of incision.—Deep.
Color.—Deep yellow green (R.H.S. 141A, J.H.S. 3706).
Pubescence.—Some pubescence commonly is present.

Flower:

- Direction*.—Ascending.
Outward curvature of petal.—Slightly curved.
Diameter.—10–15 mm.
Length.—13–15 mm.
Color.—Vivid purple (R.H.S. 82A, J.H.S. 8606).
Color intensity.—Absent.
Overlapping of petals.—Separate.
Spike.—25–30 mm in length; and 30–35 mm in diameter.
Calyx.—0.5–1.0 cm.
Anthocyanin pigmentation of calyx limb.—Present.
Peduncle.—Less than 2 mm in diameter; and 6.0–8.0 cm in length.
Number of flowers.—Few (9 ± 2).
Reproductive organs.—1 pistil and 5 stamens.
Physiological and ecological characteristics.—Moderate resistance to pests and diseases, and moderate tolerance to cold and heat.

The plant used as the pollen parent in the obtaining of the female parent in the breeding of this new variety 'Sunmaref TP-C' is a wild type of verbena plant native to South Brazil and this wild type of plant is presently maintained at the Plant Biotechnology Laboratory of SUNTORY Ltd. The main botanical characteristics of the pollen parent are as follows.

Plant:

- Growth habit*.—Spreading.
Plant height.—10–15 cm.
Plant extension.—80–100 cm.
Blooming period.—Late April to November.

Stem:

- Extending*.—40–50 cm.
Diameter.—2–3 mm.
Anthocyanin pigmentation.—Absent.
Branching.—Abundant.
Pubescence.—Medium.
Length of internode.—20–30 mm.

Leaf:

- Phyllotaxis*.—Opposite.
Shape of blade.—Ovate.
Length.—15–20 mm.
Width.—10–15 mm.
Depth of incision.—Deep.
Color.—Deep yellow green (R.H.S. 141A, J.H.S. 3706).
Pubescence.—Medium.

Flower:

- Direction*.—Ascending.
Outward curvature of petal.—Slightly curved.
Diameter.—10–15 mm.
Length.—12–15 mm.
Color.—Brilliant purple (R.H.S. 86C, J.H.S. 8604).
Color intensity.—Absent.
Overlapping of petals.—Separate.
Spike.—30–40 mm in length; and 35–40 mm in diameter.
Calyx.—0.5–1.0 cm in length.
Anthocyanin pigmentation of calyx limb.—Absent.
Peduncle.—1–2 mm in thickness; and 30–50 mm in length.
Number of flowers.—Medium (10 ± 2).
Reproductive organs.—1 pistil and 5 stamens.
Physiological and ecological characteristics.—High resistance to diseases and pests, and high tolerance to heat and cold.

'Rainbowcarpet Red' used as the pollen parent in the breeding of this new variety 'Sunmaref TP-C' is one of the 'Rainbowcarpet' series bred by the TAKII SEED & SEEDLING Corp., Japan. The main botanical characteristics of the 'Rainbowcarpet Red' are as follows.

Plant:

- Growth habit*.—Semi-erect.
Plant height.—25–30 cm.
Plant extension.—20–25 cm.
Blooming period.—Late April to November.

Stem:

- Diameter*.—2–3 mm.
Anthocyanin pigmentation.—Absent.
Branching.—Medium.
Pubescence.—Some pubescence commonly is present.
Length of internode.—35–40 mm.

20 Leaf:

- Phyllotaxis*.—Opposite.
Shape of blade.—Broadly ovate.
Length.—20–25 mm.
Width.—15–20 mm.
Depth of incision.—Shallow.
Color.—Deep yellow green (R.H.S. 141A, J.H.S. 3706).
Pubescence.—Some pubescence commonly is present.

30 Flower:

- Direction*.—Ascending.
Outward curvature of petal.—Slightly curved.
Diameter.—10–15 mm.
Length.—13–15 mm.
Color.—Vivid red (R.H.S. 42A, J.H.S. 0707).
Color intensity.—Absent.
Overlapping of petals.—Separate.
Spike.—25–40 mm in length; and 30–35 mm in diameter.
Calyx.—0.5–1.0 cm in length.
Anthocyanin pigmentation of calyx limb.—Present.
Peduncle.—Less than 2 mm in diameter; and 6.0–8.0 cm in length.
Number of flowers.—Medium (10 ± 2).
Reproductive organs.—1 pistil and 5 stamens.
Physiological and ecological characteristics.—Moderate resistance to diseases and pests, and moderate tolerance to cold and heat.

- 50 This new variety of verbena plant, 'Sunmaref TP-C' was asexually reproduced by cuttings at the aforementioned the Plant Biotechnology Laboratory, Institute for Fundamental Research of SUNTORY Ltd., residing at 2931-1 Torihara, Hakushu-cho, Kitakoma-gun, Yamanashi-ken, Japan, and the homogeneity and stability thereof were confirmed.

SUMMARY OF THE VARIETY

- The new variety of verbena plant has a spreading growth habit having very long stems and being very low in height, and the spreading area of plant is broad and thus is very different from similar varieties, 'Rainbowcarpet Rose', and 'Rainbowcarpet Brightpurple'. The plant has abundant branching and forms numerous flowers in ascending spike, with a great profusion of blooms which are clearly distinguishable from the similar varieties, 'Rainbowcarpet Rose', and 'Rainbowcarpet Brightpurple', and the whole bush remains in bloom

for a considerable period of time, longer than the blooming period of 'Rainbowcarpet Rose'. The length of internode of the new variety is slightly shorter than that of similar varieties, with each node that contacts the ground commonly forms deep-spreading roots, which firmly hold to the ground. The petal color of the flowers changes from vivid purplish red color (at the beginning of blooming) to right purplish pink color with small plate purplish pink eye color. The plant is highly resistant to cold, heat, diseases, and pests.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a photograph of flowers of the new variety of verbenas plant;

FIG. 2 is a photograph giving a partial view of the new variety of verbenas plant planted in a flower bed;

FIG. 3 is a photograph showing, in numerical order, a cluster (1), a flower (2), a bud (3), a surface view of the flower (4), a rear view of the flower (5), a cross-sectional view of the flower (6), and a branch (7), of the new variety of verbenas plant; and

FIG. 4 is a photograph showing, in numerical order, a cluster (1), a flower (2), a bud (3), and a branch (4) of a similar variety 'Rainbowcarpet Rose', in comparison with corresponding items (5-8) of the new variety of verbenas plant.

DESCRIPTION OF THE VARIETY

The botanical characteristics of the new and distinct variety of verbenas plant, 'Sunmaref TP-C' are as follows.

Plant:

Growth habit.—Spreading.

Plant height.—20-25 cm.

Spreading area of plant.—The stem extends to a length of 40-50 cm, with semi-upward portion at the end, and thus the spreading area of the plant is 80-100 cm.

Growth.—Very vigorous with abundant branching and a great profusion of blooms; the whole bush remaining in bloom for a considerable period of time.

Blooming period.—Late April to November, in all areas of Japan.

Ploidy.—Normal.

Stem:

Diameter.—Less than 2 mm.

Anthocyanin pigmentation.—Absent.

Branching.—Abundant; each node contacting the ground commonly forms deep-spreading roots.

Length of internode.—25-35 mm.

Pubescence.—Some pubescence commonly is present.

Leaf:

Phyllotaxis.—Opposite.

Shape of blade.—Progressively cut deeply into the branches in 2 to 3, or more, stages.

Length.—30-35 mm.

Width.—20-25 mm.

Depth of incision.—Deep.

Color.—Moderate yellow green (R.H.S. 137C, J.H.S. 3712).

Pubescence.—Some pubescence is commonly present.

Stipules.—Absent.

Flower:

Direction.—Ascending.

Outward curvature of petal.—Slightly curved.

Diameter.—15-20 mm.

Length.—14-16 mm.

Cluster.—Umbel; formed from 8 flowers.

Color.—Vivid purplish red (R.H.S. 57B, J.H.S. 9707), at the beginning of blooming; right purplish pink (R.H.S. 65B, J.H.S. 9203), at full blooming, with an eye color which is pale purplish pink (R.H.S. 62D, J.H.S. 9202).

Color intensity.—Present.

Overlapping of petals.—Separate.

Spike.—30-40 mm in length; and 40-50 mm in diameter.

Calyx.—0.8-1.0 cm in length. It is typical for the genus.

Anthocyanin pigmentation of calyx limb.—Generally present in no particular pattern.

Peduncle.—2-3 mm in thickness; and 7.0-10.0 cm in length.

Number of flowers.—Medium (8±2).

Reproductive organs.—1 pistil and 5 stamens. Seeds commonly are formed in a very low frequency.

Physiological and ecological characteristics: High tolerance to cold and heat. The new variety is perennial and has satisfactory withstood temperatures as low as 0° C. and as high as 35° C. when grown in the field at Osaka, Japan. Also strong resistance to pests and diseases, particularly powdery mildew. The pinching of spent spikes commonly is necessary for a continuation of blossom production. Thinning is not required to maintain the new variety.

This new variety of verbenas plant is most suitable for flower bedding and pitting, particularly in planters, and is further serves well as a ground cover. The new variety grows well in full sun, and has no particular fertilizer requirement for good performance. The plant also grows well in the shade, but commonly does not bloom well in the absence of sunlight. A very strong resistance to mildew is exhibited by the new variety.

The plant of this new variety, 'Sunmaref TP-C' is presently planted and maintained at the Plant Biotechnology Laboratory, Institute for Fundamental Research of SUNTORY Ltd., residing at 2913-1 Torihara, Haku-shu-cho, Kitakoma-gun, Yamanashi-ken, Japan.

We claim:

1. A new distinct variety of verbenas plant, substantially as herein illustrated and described, characterized particularly as to novelty by (A) a spreading growth habit with long stems, (B) the formation of abundant branching with each node of said spreading branches that contacts the ground commonly forming deep-spreading roots, (C) the formation of many flowers borne on ascending spikes to create a great profusion of blooms, (D) the formation of flowers that have petals which exhibit a purplish red coloration with a small pale purplish pink eye coloration, and (E) a high resistance to heat, cold, rain, diseases and pests.

* * * * *

Fig. 1



Fig. 2



Fig. 3

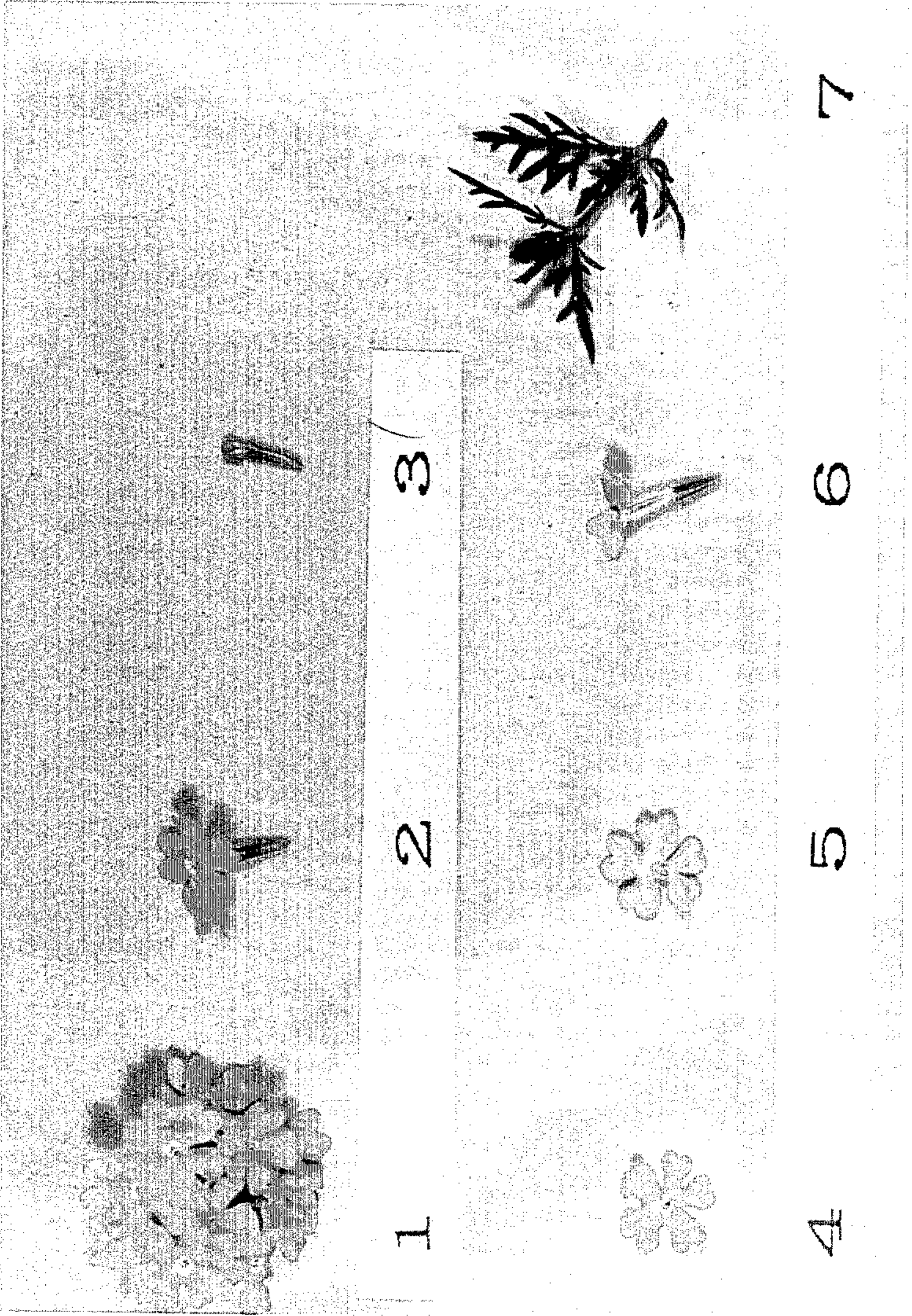


Fig. 4

