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Viola dirphyra (Violaceae), a new species from Evvia island, Greece

A. TINIAKOU

RÉSUMÉ

TINIAKOU, A. (1991). *Viola dirphyra* (Violaceae), une espèce nouvelle de l'île d'Eubée, Grèce. *Candolle* 46: 119-124. En anglais, résumés français et anglais.

Viola dirphyra est décrite d'Eubée (Mer Egée). Ses relations avec d'autres espèces voisines sont brièvement présentées, son nombre chromosomique ($2n = 40$) et son caryotype sont donnés.

ABSTRACT

TINIAKOU, A. (1991). *Viola dirphyra* (Violaceae), a new species from Evvia island, Greece. *Candolle* 46: 119-124. In English, French and English abstracts.

Viola dirphyra is described from Evvia island (Aegean sea). Its relationships with other related species are briefly discussed and its chromosome number ($2n = 40$) and karyotype are given.

Viola dirphyra Tiniakou, spec. nov. (Figs. 1, 2).

Typus: Insula Euboea: mons Dirphys, in declivibus meridio-orientalibus, prope fontem Lyri, alt. 1250-1300 m, in silva *Abietis cephalonicae*, solo calcareo. *Tiniakou 1572* (holotypus in UPA, isotypus in M).

Planta perennis, glabra. Radix 4-15 cm longa, in parte suprema saepe 1-3 rosulas cauliferas emittens. Caules erecti ad ascendentes, glabri, (5-)7-10(-12) cm longi. Folia omnia glabra vel raro in parte inferiore laxa pilosa. Folia basalia rosulata, viridia, lamina (1.4-)1.7-2.4(-2.8) × (1.3-)1.6-2.7 cm, reniformi vel cordato-reniformi, crenulata, ad basin late cordata, sinu aperto, apicem obtusa ad subobtusa; petioli (1.8-)2.5-5 cm longi, glabri. Folia caulina alterna, lamina (1.5-)1.7-3(-3.5) × (1.3-)1.7-3 cm, cordata ad oblongo-cordata, crenulata, ad basin late cordata, sinu multo aperto, apicem subacuta vel obtusa; petioli (0.6-)1-2(-4) cm longi, glabri. Stipulae foliorum basium (6.5-)9-12.5 × (0.5)1-1.8 mm, oblongo-lanceolatae, acutae, glabrae, dense fimbriatae, fimbriis ca. 2.5 mm longis; stipulae foliorum inferiorum caulinum 8-13 × 1.2-2 mm, lanceolatae, acutae, sparse fimbriatae vel subintegrae, glabrae; stipulae foliorum superiorum caulinum (8-)10-16(-20) × 2-3.5(-4.2) mm, lanceolatae, acutae, sparse brevifimbriatae vel dentatae ad integrae, glabrae. Pedunculi (2.9-)5-6.5(-8) cm longi, glabri. Bracteolae 4-6(-7.5) × (0.4-)0.5-1(-1.3) mm, oblongo-lanceolatae, glabrae, ad basin sparse brevifimbriatae. Flores inodori, coeruleo-violacei, (1-)1.4-2 × (1-)1.2-1.7(-2) cm. Sepala (6-)7-9(-11) × 1.5-2.1 mm, lanceolata, acuta, glabra, appendicibus 0.4-0.8(-1) mm longis, rectangularibus ad trapeziformibus. Petala superiora (11-)12-13 × 3.5(-4.5) mm, anguste obovata, non imbricativa; lateralia (12-)13-14 × (3.8-)4(-5) mm, anguste obovata, ad basin barbata; petalum infimum (13-)15-17(-18.5) × (5-)5.5-6.5(-7) mm, oblongo-trapeziforme, in fronte sub-emarginatum, lineis 3-5, violaceis. Calcar (3.8-)5-6(-6.2) × (1.1-)1.5-2 mm, deorsum curvatum, pallide coeruleo-violaceum. Stamina cum antherae ca. 2 × 1.5 mm, ad marginem papillosa, appendicibus ovato-triangularibus, ca. 2 × 1.5 mm. Ovarium ovatum, glabrum, ca. 2 mm longum; stylus 2-2.5 mm longus; stigma dense papillosum. Capsula 0.7-1 × 0.5 cm, ellipsoidea, acuta, glabra. Semina ca. 2.2 × 1.2 mm, ellipsoidea, pallide brunnea.

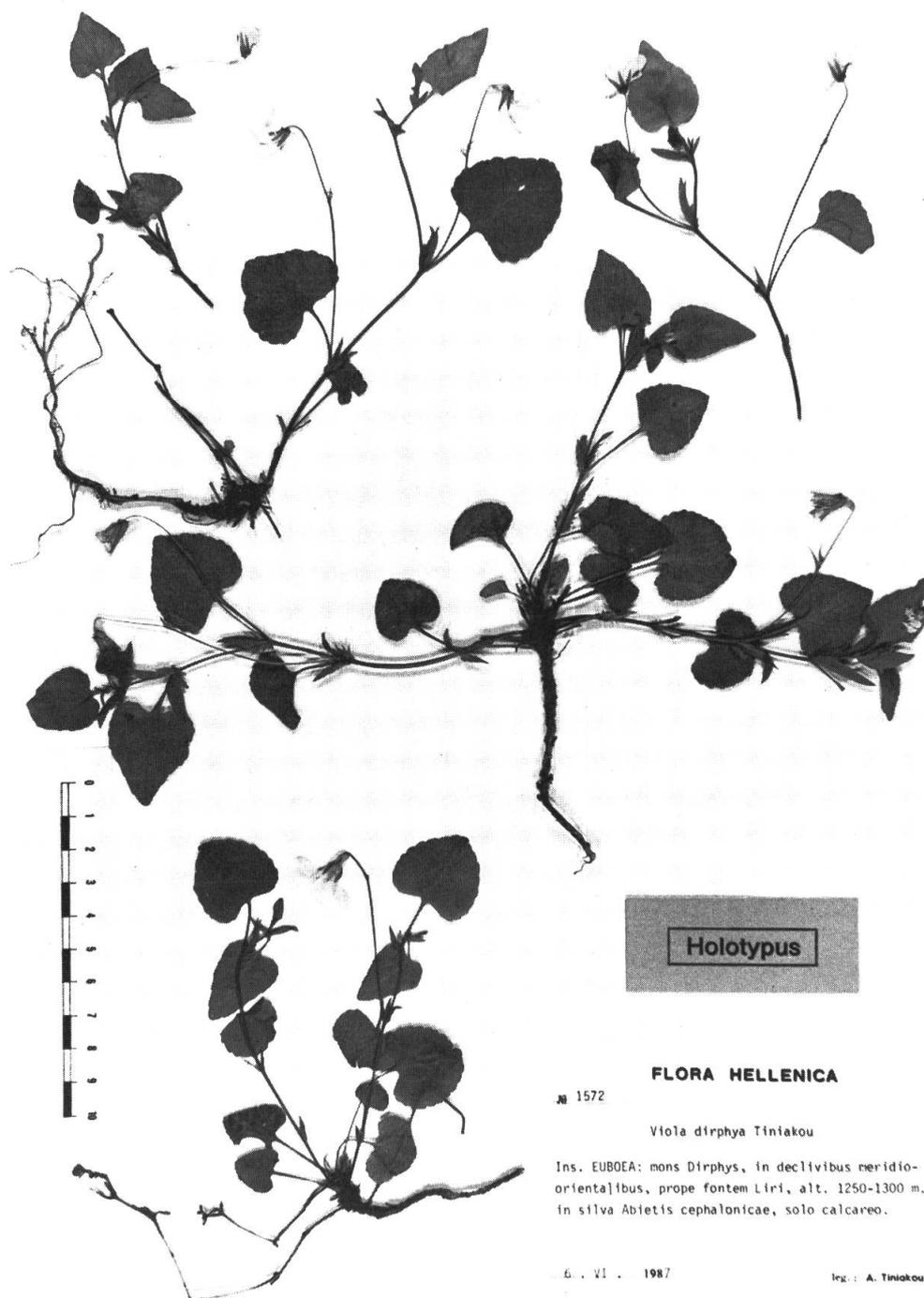


Fig. 1. — *Viola dirphyia* Tiniakou.

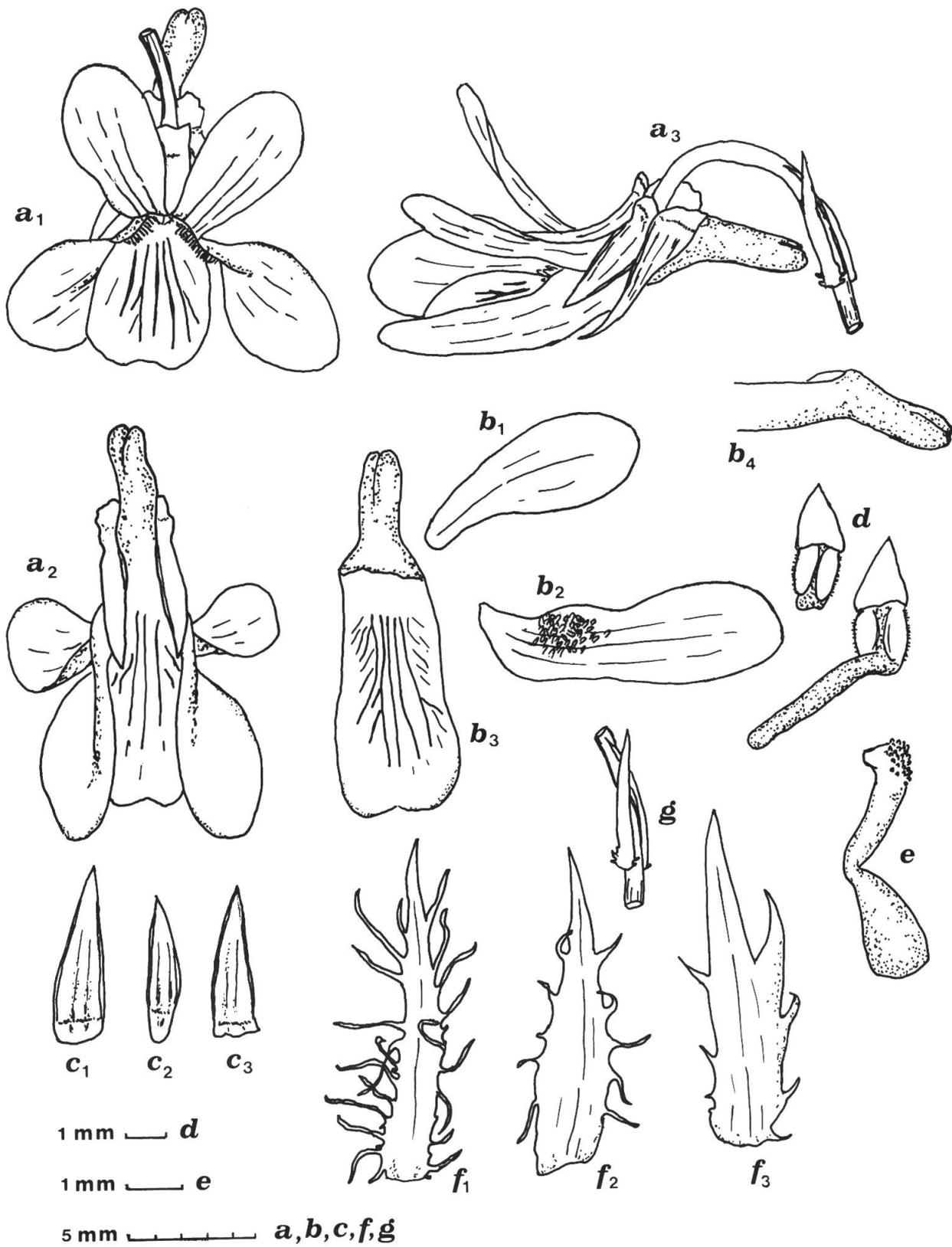


Fig. 2. — *Viola dirphyia* Tiniakou.

a, flower (a¹, frontal; a², dorsal; a³, lateral); b, petals (b¹, upper; b², lateral; b³, lower; b⁴, spur); c, sepals (c¹, lower; c², lateral; c³, upper); d, stamens; e, ovary and style; f, stipules (f¹, basal; f², lower cauline; f³, upper cauline); g, bracts.

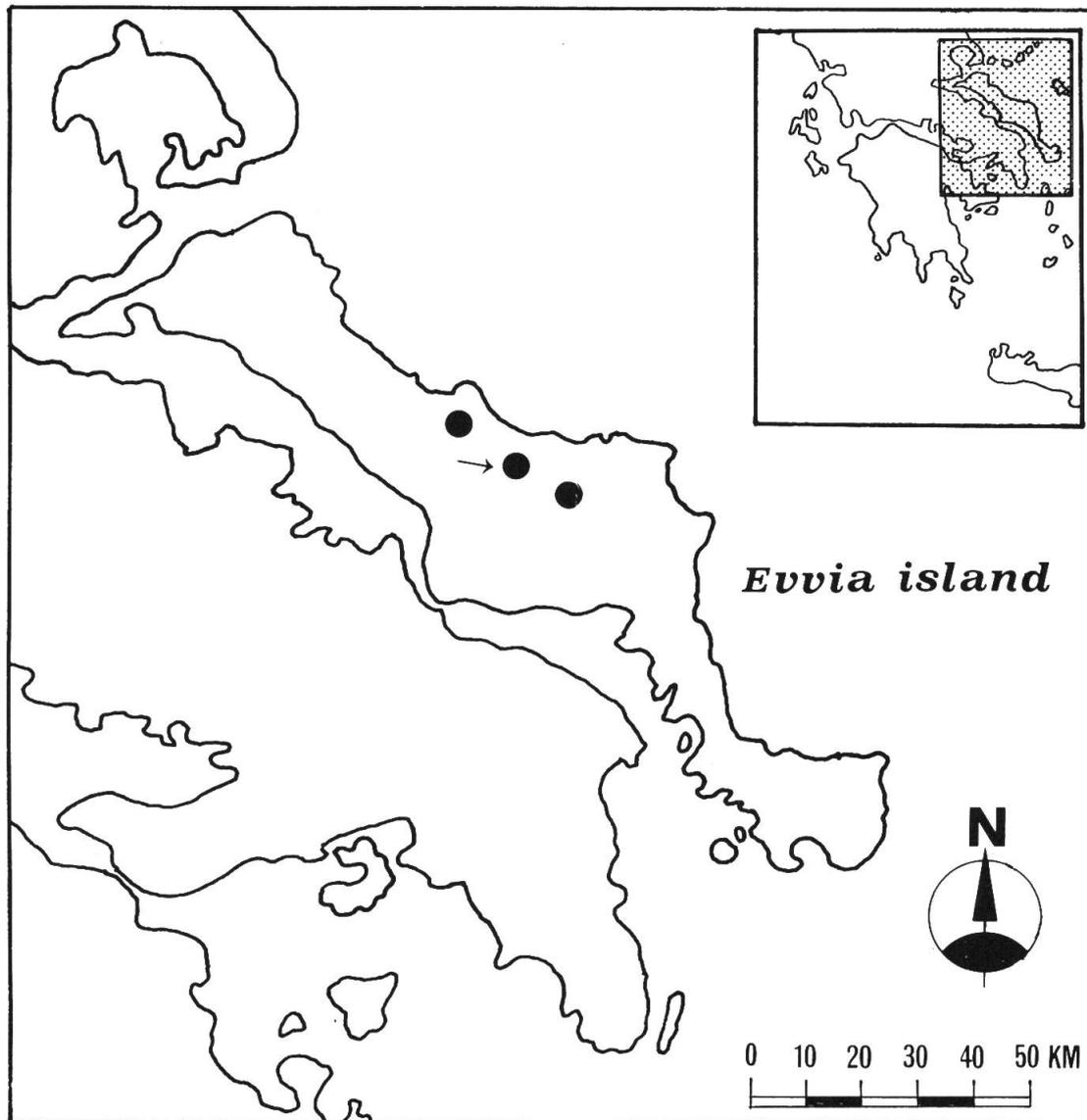


Fig. 3. — Geographical localization of *Viola dirphyta*. The arrow indicates the type locality.

Perennial herb, caulescent, glabrous. Root 4-15 cm long, branched at the upper part, often ending in 1-3 rosettes of basal leaves. Stems ascending or erect, glabrous, (5-)7-10(-12) cm long, 1-3 from each rosette. Leaves green with shallowly crenate margins, glabrous or with short hairs scattered in the lower part of the upper blade-surface; basal leaves forming rosettes, blade (1.4-)1.7-2.4(-2.8) × (1.3-)1.6-2.7 cm, reniform or cordate-reniform, broadly cordate at the base with very shallow sinus and obtuse or subobtuse apex, petioles (1.8-)2.5-5 cm long, glabrous; cauline alternate, blade (1.5-)1.7-3(-3.5) × (1.3-)1.7-3 cm, cordate or oblong-cordate, broadly cordate at the base with very shallow sinus and subacute or obtuse apex, petioles (0.6-)1-2(-4) cm long, progressively shorter towards apex, glabrous. Stipules of the basal leaves (6.5-)9-12.5 × (0.5-)1-1.8 mm, oblong-lanceolate, acute, glabrous, densely long-fimbriate, fimbriae ca. 2.5 mm long; stipules of the lower cauline leaves 8-13 × 1.2-2 mm, lanceolate, acute, irregularly fimbriate or subentire, glabrous; stipules of the upper ones (8-)10-16(-20) × 2-3.5(-4.2) mm, lanceolate, acute, short-fimbriate or dentate to entire, glabrous. Peduncles (2.9-)5-6.5(-8) cm long, glabrous. Bracts 4-6(-7.5) × (0.4-)0.5-1(-1.3) mm, at the upper part of the peduncle, oblong-lanceolate, glabrous, shortly-fimbriate at the base. Flowers scentless, pale bluish-violet, (1-)1.4-2 × (1-)1.2-1.7(-2) cm. Sepals

(6-)7-9(-11) × 1.5-2.1 mm, lanceolate, acute, glabrous, with appendages 0.4-0.8(-1) mm long, quadric or trapezoid. Petals: upper (11-)12-13 × 3.5(-4.5) mm, narrowly obovate, not overlapping; lateral (12-)13-14 × (3.8-)4(-5) mm, narrowly obovate, bearded at the base; lower (13-)15-17(-18.5) × (5-)5.5-6.5(-7) mm, oblong-trapezoid, deeply cuped, emarginate at apex, with 3-5 dark-violet veins. Spur slender, curved downwards or rarely straight, (3.8-)5-6(-6.2) × (1.1-)1.5-2 mm, pale bluish-violet, obtuse. Stamens with anthers ca. 2 × 1.5 mm, papillose at margins, with ovate-triangular appendage, ca. 2 × 1.5 mm. Ovary ovate, glabrous, ca. 2 mm long; style 2-2.5 mm long, densely papillose at summit. Capsule 0.7-1 × 0.5 cm, trigonous-ellipsoid, acute, glabrous. Seeds 2.2 × 1.2 mm, elliptical, pale-brown, with inconspicuous elaiosome.

Habitat. — Limestone or schist soils, 1250-1300 m alt., in *Abies* forest or under shrubs and ferns in the mountainous zone. Flowering from May to June.

Chromosome number: $2n = 40$.

Specimens seen

Insula Euboea: mons Dirphys, in declivibus meridio-orientalibus, prope fontem Lyri, alt. 1250-1300 m, in silva Abietis cephalonicae, solo calcareo. *Tiniakou 1572, 1584* (UPA). Pyxaria, *Phitos 10336* (UPA). Mount Xerovouni, *Sfikas 2185* (UPA).

V. dirphys is endemic to Central Evvia (mountains Dirphys, Pyxaria, Xerovouni) (Fig. 3).

Taking into consideration the not leafy stipules, the existence of stems, the basal leaf-rosettes, the trigonous explosive capsules and the seeds with inconspicuous elaiosome, *V. dirphys* belongs to sect. *Viola* L. subsect. *Rostratae* Kupffer.

The representatives of this subsection in Evvia are *V. reichenbachiana* Jordan (RECHINGER, 1943, 1961 as *V. silvestris* Lam.; PHITOS, 1960), *V. riviniana* Reichenb. (RECHINGER, 1943, 1961; PHITOS, 1960) and *V. sieheana* W. Becker (RAUS, 1986; TINIAKOU, unpubl.). The detailed morphological comparison of *V. dirphys* to the other taxa mentioned above lead us to the following conclusions.

Comparing to *V. reichenbachiana* and *V. riviniana*, *V. dirphys* has broader, obtuse, more glabrous leaves with shallow basal sinus, fewer leaf crenations and stipules progressively larger toward apex. Especially, concerning *V. reichenbachiana*, *V. dirphys* has lateral petals exceeding distinctly the deeply cuped lower one and spur not tapering toward tip; as to *V. riviniana*, *V. dirphys* has bracts short fimbriate at the base, sepals with short appendages, upper petals not overlapping, lateral petals exceeding the lower one, and spur slender, curved downwards, instead of the stout, obtuse, curved upwards or straight spur of *V. riviniana*.

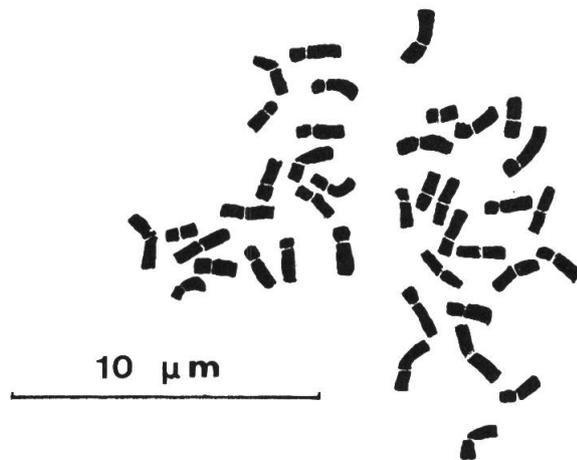


Fig. 4. — Mitotic metaphase plate of *Viola dirphys* with $2n = 40$ chromosomes.

The differences of *V. dirphya* from *V. sieheana* are: leaves with more shallow basal sinus, sepals with short appendages, shape of the flowers (rectangular or broad triangular in *V. dirphya*, quadratic in *V. sieheana*, in face view), not overlapping upper petals and slender spur (stout, curved upwards or straight in *V. sieheana*).

The chromosome number $2n = 40$ was counted in root tips of living plants collected from the type locality and cultivated in the experimental botanical garden of UPA. Permanent preparations were made using the squash technique of ÖSTERGREN & HENEEN (1962). For pretreatment 2mM 8-hydroxyquinoline was used for about four hours.

From the above mentioned related taxa, *V. riviniana* has $2n = 40$ too (FEDOROV, 1969; HESS & al., 1970; LÖVE & LÖVE, 1974; TINIAKOU, unpubl. for Greek material), whereas *V. reichenbachiana* has $2n = 20$ (FEDOROV, 1969; HESS & al., 1970; LÖVE & LÖVE, 1974; TINIAKOU, unpubl. for Greek material) and *V. sieheana* $2n = 60$ (VALENTINE, 1962; HARVEY (in litt.); TINIAKOU, unpubl. for Greek material).

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