

Wiehler 1968a

X Koellikohleria, a new hybrid genus (Gesneriaceae).

Baileya 16: 29-34, fig. 1-3.

REFNO: 1788

KEYWORDS:

Hybridization, Koellikeria, Kohleria, xKoellikohleria

Arboretum),
and description

10-11.

der zweite Reise
flanzen. Teil III.

cta Bot. Neerl.

ed in the United

page 2: 301-316.

an 4(6): 9.

× *Koellikohleria*, a New Hybrid Genus [Gesneriaceae]

Hans J. Wiehler*

In an effort to explore generic limitations among the Gesneriaceae of the American tropics, a series of intergeneric crosses has been attempted recently in the conservatory of the L. H. Bailey Hortorium, Cornell University. Some of these crosses resulted in bi-generic hybrids, of which one shows horticultural potential and is described here for the first time.

The hybrid is a cross between *Koellikeria erinoides* (DeCandolle) Mansfeld and *Kohleria spicata* (H. B. K.) Oersted. The seed parent, *Koellikeria erinoides*, collected by Henry Teuscher in Venezuela before 1954, is a low-growing plant with a rosette-type habit, about 20 cm. (8 inches) tall, and bears inflorescences in the form of slender racemes which terminate the stem or arise from the axils of the decussately arranged, white-spotted leaves. The small flowers are borne on alternately positioned pedicels subtended by small, narrow bracts. The strongly bilabiate corolla, about 10 mm. long, is ruby-red in color on the dorsal side of the tube (Royal Horticultural Society Colour Chart no. 827; this chart is used also for all subsequent color values expressed in numbers); the ventral side is white, the two lobes of the short upper lip are garnet lake (no. 828), and the three lobes of the lower lip are white with ciliate margins; the throat has a small yellow spot. The stomatomorphic stigma is included. The nectary consists of a thin annular disk.

The pollen parent, *Kohleria spicata*, reaches a height up to about 14 dm. (4 1/2 feet). It was collected by Mr. C. Horich (*Horich 59.180*) in Costa Rica. The leaves are decussate or ternate, and the inflorescence (despite the specific epithet) is not a spike but is basically thyrsoid, becoming racemose apically. On the upper part of the stem the leaves become progressively smaller, with 1-3 pedicellate flowers on a short peduncle in the axil of each leaf or bract. In contrast to *Koellikeria*, the leaf or bract arrangement in the inflorescence is decussate. The corolla tube, 18 mm. (3/4 inch) long, is mandarin red (no. 17) on the outside, yellow with red spots inside, and the five essentially equal lobes of the limb are orient red (no. 819). The bilobed stigma is included. The disk consists of five equal, separate nectariferous glands.

*The L. H. Bailey Hortorium, Cornell University, Ithaca, N. Y.

Both parents possess scaly rhizomes, but, while Koellikeria erinoides has only one short flowering period each year and remains dormant for about five months, Kohleria spicata in cultivation sprouts new shoots periodically and blooms more or less continually.

In the taxonomic literature these two genera belong to different tribes, mainly because of the shape of the nectaries (a ring versus separate glands). They also differ in leaf arrangement in the inflorescence (alternate in Koellikeria, opposite in Kohleria), in corolla shape (attracting different pollinators?), and in the shape of the stigma (stomatomorphic in Koellikeria, bilobed in Kohleria [if section Moussonia is excluded - a recommendation to be made in a future article]).

The genus Koellikeria consists of one or two species, ranging from Colombia to Bolivia and Venezuela, while there are about 50 described species of Kohleria, distributed from Mexico to northern South America and Trinidad.

× Koellikohleria, genus hybridum novum.
[Koellikeria Regel × Kohleria Regel.]

× Koellikohleria rosea, species hybrida nova.
[Koellikeria erinoides (DeCandolle) Mansfeld × Kohleria spicata (H. B. K.) Oersted.]

Herba humilis, ad 30 cm. alta, rhizomatibus vermiformibus, ad 3 cm. longis, squamosis, albis. Caules, petioli, folia, inflorescentiae, calyces, et ovaria pilis albidis pilosa. Folia opposita, breviter petiolata, laminis ovatis vel obovatis, 6-14 cm. longis, 4-5 cm. latis, crenatis, supra viridibus, immaculatis, subtus pallidioribus vel purpurascensibus. Inflorescentiae thyrsoidae in caule primario et in ramis brevibus axillaribus terminales, 10-12 cm. longae, bracteis decussatis, ovatis, 5 mm. longis, pedunculo in axilla bracteae cuiusque brevi, 1-3 mm. longo, 1-3-floro, pedicellis 10-12 mm. longis bracteola ovata 1-3 mm. longa subtentis. Calycistubus 4 cm. longus, pallide viridis, lobi elliptici vel obovati, obtusi, 4 mm. longi, supra aeneovirides et aeneonervati, subtus rubiginosi. Corolla 14 mm. longa, limbo subbilabiato, 10 mm. in diam., lobis quattuor superioribus patentibus, lobo infimo horizontali, omnibus magenteo-roseis. Stamina quattuor, inclusa, antheris binatim connatis, filamentis dorsalibus eis ventralibus brevioribus. Discus nectarifer annularis, aliquantum angularis et eo Koellikeriae erinoidis crassior. Stylus 9 mm. longus infra stigma aliquantum bilobatum trichomatibus capitatis glandularibus vestitus.

Small herbaceous plant, attaining a height of 30 cm., from scaly white rhizomes up to 3 cm. long, 1 cm. thick. Stem, petioles, leaves, inflorescences, calyces, and ovaries pilose with clear,

Koellikohleria
and remains
ation sprouts
nually.

g to different
ring versus
n the inflor-
) , in corolla
shape of the
eria [if sec-
e made in a

es, ranging
are about 50
to northern

eria spicata

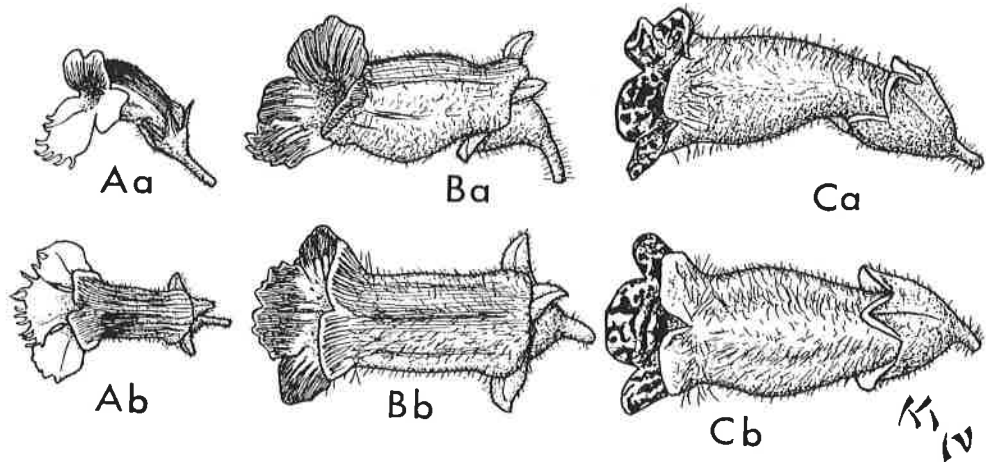
ormibus, ad
lia, inflor-
ia opposita,
cm. longis,
subtus pal-
rsoideae in
ales, 10-12
, pedunculo
loro, pedi-
a subtentis.
vel obovati,
rati, subtus
10 mm. in
nfimo hori-
r, inclusa,
ventralibus
n angularis
ongus infra
andularibus

from scaly
t, petioles,
with clear,



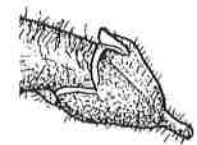
1. \times Koellikohleria rosea H. Wiehler. Plant grown in conservatory at Cornell University. (Scale in inches.)

uniseriately celled trichomes. Stem short, internodes 1-2 cm. long. Leaves opposite, congested, petiolate, ovate to obovate, with crenate margins, 6-14 cm. long, 4-5 cm. wide, upper surface dark green, without the white spots present in the seed parent, lower surface variable in color depending on exposure to sunlight, from pale green with reddish veins to dark purple with lighter veins. Inflorescences thyrsoid, slender, 10-12 cm. long, terminal on the stem and on short branches in the axils of the upper leaves, each bearing up to 34 flowers; bracts ovate, 5 mm. long, 2-3 mm. wide, decussately arranged; peduncles short, 1-3 mm. long, bearing 1-3 pedicellate flowers, the pedicels 10-12 mm. long, subtended by minute bracteoles; calyx tube pale green, 4 mm. long, equal in length to the elliptic or obovate, obtuse lobes which are bronzy-green and bronze-nerved inside, brownish-red outside; corolla 14 mm. long, exterior of tube oxblood red (no. 00823/2) posteriorly in a well-demarcated stripe, sordid white anteriorly except for the purplish hairs, the interior of the tube white, limb weakly bilabiate, 10 mm. in diameter, the upper four lobes spreading, the erose lowermost lobe horizontal and continuing the line of the tube, all magenta rose (no. 027), the lower three additionally marked with two white stripes each. Stamens four, included, connate in pairs by their anthers, the filaments of the dorsal pair shorter than those of the ventral pair. Nectariferous disk annular, somewhat angular and thicker than that of the maternal parent, surrounding the semi-inferior ovary at the base of the corolla; style 9 mm. long, slender, covered with capitate, glandular trichomes below the slightly bilobed stigma.



3. Flowers of the bigeneric hybrid and of its parents: A, *Koellikeria erinoides*; B, \times *Koellikohleria rosea*; C, *Kohleria spicata* (a, side view; b, as seen from above). All $\times 2$.

des 1-2 cm.
obovate, with
surface dark
arent, lower
nlight, from
ghter veins.
rminial on the
leaves, each
3 mm. wide,
bearing 1-3
subtended by
ng, equal in
are bronzy-
e; corolla 14
osteriorly in
cept for the
dly bilabiate,
g, the arose
the tube, all
marked with
ate in pairs
r than those
what angular
ng the semi-
ng, slender,
ghtly bilobed



Ca



eria erinoides;
o, as seen from

2. Plants of the bigeneric hybrid and of its parents: at left, *Koellikeria erinoides* (G-125); at center, *Kohleria spicata* (G-331); at right, the hybrid, \times *Koellikohleria rosea* (G-1218). Grown in conservatory at Cornell University.

Type: Cultivated in conservatory at Cornell University, Ithaca, New York (under number G-1218), Sept. 24, 1968, H. Wiehler 6814 (Deposited in the herbarium of the L. H. Bailey Hortorium, Cornell University).

Like the paternal parent, the hybrid, at least under greenhouse conditions, does not show any tendency towards dormancy. New shoots from the rhizomes continue to produce flowering stems.

Reciprocal crosses were attempted but did not take. It may be that the style of Kohleria spicata is too long for the shorter pollen tubes of Koellikeria erinoides to reach the ovules. The pollen of the hybrid exhibits 5-6 percent stainability in aniline blue and lactophenol, indicating a very low degree of fertility.



Book Reviews

RARE WILD FLOWERS OF NORTH AMERICA, by Leonard Wiley. 501 pp., 81 black and white photographs, 5 line drawings. Published by the author, 2927 Southeast 75th Avenue, Portland, Oregon 97206. 1968, \$12.50, postpaid in U. S. and Canada; all other countries \$12.75, postpaid.

In a short introduction, the author describes how he classifies flowers as common, unusual, scarce, rare, very rare, or extremely rare. The first chapter suggests equipment to use for a plant- or seed-collecting expedition and how to get the plants back to the garden in growing condition.

The following pages tell in satisfying detail the history, description, rarity, distribution, propagation, culture, and flowering time of each of the 95 species of plants listed by Mr. Wiley as rare. The account of each plant is preceded by a good photograph. Of especial interest to gardeners are the author's references to his own successes and failures in growing these rarities or to the experiences of his friends. Interesting also are his stories of his first finding these plants in their native homes. The plants are listed in alphabetical order by scientific name. A common name is also given if the plant has one.

The last chapters are short. One is on rock gardens or specialized rockeries and procedures, the other on the wild flower garden, as suitable for accommodating these rare plants.

This book will appeal to the serious horticulturist for being scientifically accurate, yet written in an interesting, readable style. It belongs on the shelf of everyone interested in wild flowers and of every good gardener.

L. M. McDaniel

Baileya

A Quarterly Journal of Horticultural Taxonomy

Vol. 16

Spring 1968

No. 1

↳ The Identity of <i>Gesneria pedunculosa</i> [Gesneriaceae] D. L. Denham	1
↳ <i>Sinningia Richii</i> , a New Species [Gesneriaceae] C. D. Clayberg	5
Notes on the Nomenclature of Some Aizoaceae C. Weber	9
Two New Combinations in <i>Braunsia</i> [Aizoaceae] E. Murray	13
Notes on the Cultivated Liliaceae 7. <i>Lilium lancifolium</i> Thunb. vs. <i>L. tigrinum</i> Ker J. Ingram	14
Notice of Recent Reprints of Botanical Works.	19
Sources of Native North American Plants P. A. Hyypio	20
↳ <i>Kohleria hirsuta</i> and <i>Seemannia latifolia</i> in Cultivation [Gesneriaceae]. M. Raymond	23
➤ × <i>Koellikohleria</i> , a New Hybrid Genus [Gesneriaceae] H. J. Wiehler	29
Book Reviews.	34
Errors and Corrections, Volume 15 (1967).	36

