

## *Eriobotrya fulvicoma* (Rosaceae), a new species from Guangdong Province, China

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*Eriobotrya fulvicoma* W.Y. Chun ex W.B. Liao, F.F. Li & D.F. Cui, a new species endemic to Xinyi, Guangdong Province, China, is described and illustrated. It differs from the morphologically close *E. deflexa* by having papery leaves (*vs.* leathery in *E. deflexa*), leaf margin shallowly but sharply serrate and not revolute (*vs.* coarsely obtusely serrate and revolute), 1–2 cm long petioles (*vs.* 2–6 cm), 8–10.5 mm long petals (*vs.* 5 mm), and ca. 4.5–6 mm long styles (*vs.* 2–3 mm).

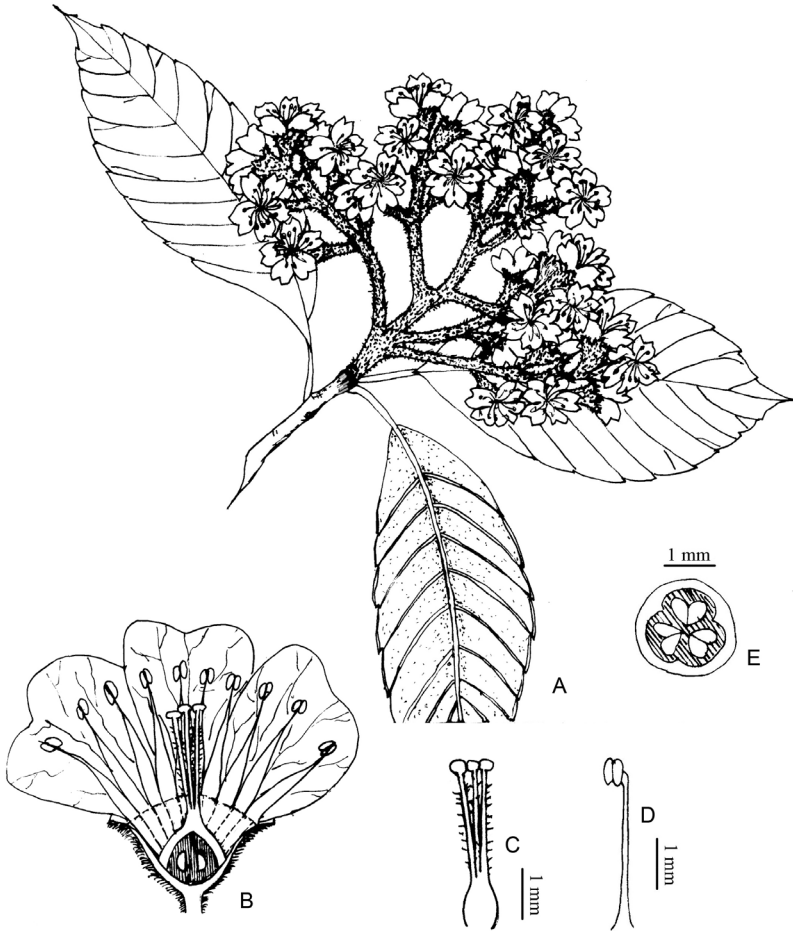
*Eriobotrya*, a genus of evergreen plants, belongs to the family Rosaceae, subfamily Maloideae (Lindley 1822, Schulze-Menz 1964) or subtribe Malinae (tribe Maleae, subfamily Amygdaloideae) (Evans 1999, Potter *et al.* 2007). The generitype *E. japonica* was described from Nagasaki, Japan, by Thunberg, who named it *Mespilus japonica* (Thunberg 1784, Soriano *et al.* 2005). In 1790, it was moved to *Crataegus* by J. Lindley and renamed *Crataegus bibas* (Morton 1987). Lindley (1822) observed that the species was very different from either *Crataegus* or *Mespilus* and erected the genus *Eriobotrya* for it (Lindley 1822).

*Eriobotrya* is considered close to *Rhaphiolepis* based on the shared characters of larger seeds and thinner endocarp (Robertson *et al.* 1991). *Eriobotrya* includes about 26 species (Vidal 1965, Liao *et al.* 1997), distributed in tropical and subtropical eastern and southern Asia. There are 14 species in China, including three species that are endemic to that country,

namely *E. malipoensis* (Yunnan), *E. prinoides* (Yunnan and Sichuan), and *E. obovata* (Yunnan) (Gu & Stephen 2003).

Our studies have been focused on the phylogeny of Maloideae (Rosaceae) for many years and we have consulted abundant relevant specimens. During consulting the specimens of *Eriobotrya*, we found that *Z. Huang* 32174 and 32257 (both WUK), and *Z. Huang* 29869 (IBSC) have the same morphological features and significant differences from the previously described species in *Eriobotrya*. We also found that W. Y. Chun used *fulvicoma* as the specific epithet for *Z. Huang* 32174 and 29869, whereas he used *flavocima* as the specific epithet for *Z. Huang* 32257. However, Chun did not publish either of these names. Kai Yun Guan identified *Z. Huang* 29869 (IBSC) as *E. deflexa*. After comparing these three specimens and specimens of *E. deflexa* carefully, we are convinced they are not the same species.

We found clear morphological differences between the species represented by the three



**Fig. 1.** *Eriobotrya fulvicoma* (from the holotype, drawn by Lu Shuangli). — **A:** Branch tip with leaves and inflorescence. — **B:** Floral anatomy. — **C:** Styles. — **D:** Stamen. — **E:** Cross section of ovary.

specimens of *Z. Huang* cited above and the other three species of *Eriobotrya* from southern China (*E. fragrans*, *E. deflexa*, *E. cavaleriei*), and we considered them to represent a distinct species, which we describe here.

***Eriobotrya fulvicoma* W.Y. Chun ex W.B. Liao, F.F. Li & D.F. Cui, sp. nova** (Fig. 1)

**TYPE:** China. Dawuling Natural Reserve, Xinyi city, Guangdong Province, growth in mixed forest of valley, alt. 45 m a.s.l., 28 April 1932 *Z. Huang* 32257 (holotype WUK). — **PARATYPES:** China. Dawuling Natural Reserve, Xinyi city, Guangdong Province, growth in mixed forest of valley, alt. 45 m a.s.l., 23 April 1932 *Z. Huang* 32174 (WUK), *Z. Huang* 29869 (IBSC).

Trees to 24 m high. Branchlets gray, stout, glabrescent. Leaves in clusters at apices of

branches; petiole 1–2 cm, glabrous; leaf blade oblong, oblong-lanceolate, 7–11 × 3–4 cm, papery, midvein prominent on both surfaces, lateral veins 7–10 pairs, abaxially brown-tomentose when young, glabrescent when old, adaxially lustrous, glabrous, base cuneate, margin remotely irregularly incurved-serrate, apex acute or shortly acuminate. Panicle 6–7 cm in diam., many flowers; peduncle densely brown-tomentose. Pedicel 2.5–4.5 mm, densely brown pubescent. Flowers 1.6–2.6 cm in diam. Hypanthium cupular, abaxially densely brown-pubescent. Sepals triangular-ovate, 2–3 mm, densely tomentose, apex obtuse. Petals white, obovate, 8–10.5 mm. Stamens 20, 5–7 mm. Ovary glabrous, 3-loculed; styles 3, connate at base, ca. 4.5–6 mm, villous basally. Fruits not seen.

**PHENOLOGY.** Flowering specimens of *Eriobotrya fulvicoma* were collected in April.

**Table 1.** Differences between *Eriobotrya fulvicoma* and two other *Eriobotrya* species from China.

	<i>E. fulvicoma</i>	<i>E. deflexa</i>	<i>E. cavaleriei</i>
Leaf texture	papery	leathery	thick papery-leathery
Leaf margin incurved-crenate	yes	yes	no
Type of serration	shallow incurved-serrate	remotely deep incurved-serrate	shallow serrate
Leaf length × width	7–11 × 3–4 mm	10–19 × 3–7 mm	7–18 × 2.5–7 mm
Petiole length	10–20 mm	20–60 mm	15–40 mm
Lateral vein (pairs)	7–10	9–12	7–14
Tomentum on peduncle and pedicel	dense	dense	sparse
Styles	3, 4.5–6 mm, villous basally	3–5, 2–3 mm, pubescent	2 or 3, 4–5 mm, villous basally
Petal length	8–10.5 mm	5 mm	8–10 mm

*Eriobotrya fulvicoma* is distinguished from the other species of the genus (see Table 1) by the combination of papery leaves, large flowers, ca. 1.6–2.6 cm across, with white petals, densely brown-tomentose calyces, peduncles and pedicels, and by the three styles 4.5–6 mm long and connate at base. Both *E. tengyuehensis* and *E. cavaleriei* have flowers of approximately 2 cm across, but the former has leathery leaves, that are abaxially initially rusty-pubescent, yellow petals entire at apex, and styles 2–3, connate basally or throughout; the latter has leathery leaves, peduncle and pedicel scarcely brown-pubescent, and 2–3 styles, connate at base. *Eriobotrya fragrans* is also distributed in Guangdong, and is densely tomentose when young, but has the petals 5 mm long and 4–5 styles. A further species, *E. deflexa*, has densely rusty-tomentose leaves with the margins remotely deeply irregularly incurved-crenate, smaller petals (5 mm) and shorter styles (2–3 mm).

*Eriobotrya fulvicoma* was collected in the Guangdong Province, south China. The species is currently known only from the type locality (Dawuling Natural Reserve, Xinyi city, Guangdong Province, China) where it grows in the forest in a valley at the altitude of 45 m. Based on a detailed comparison with five other species found in Guangdong or Guangxi Province, a new identification key to the six species of *Eriobotrya* in south China is provided.

### Key to six species of *Eriobotrya* in southern China

1. Leaves abaxially sparsely pubescent or rusty- or gray-tomentose ..... *E. japonica*

1. Leaves brown- or brownish yellow-tomentose when young, glabrescent ..... 2
2. Leaf blade obovate or oblanceolate; flowers sessile .....  
..... *E. serrata*
2. Leaf blade oblong, elliptic, oblong-lanceolate, oblong-oblanceolate, or lanceolate; flowers pedicellate ..... 3
3. Leaf margin remotely inconspicuously serrate apically, entire basally; ovary pubescent ..... *E. fragrans*
3. Leaf margin serrate along entire length; ovary glabrous ..... 4
4. Peduncle and pedicels sparsely pubescent or subglabrous ..... *E. cavaleriei*
4. Peduncle and pedicels densely rusty-tomentose .....  
..... 5
5. Leaf margin coarsely obtusely serrate and revolute, leathery or thick papery-leathery; petiole 2–6 cm .....  
..... *E. deflexa*
5. Leaf margin shallowly but sharply serrate, not revolute, papery; petiole 1–2 cm ..... *E. fulvicoma*

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