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
specimens of Z. Huang cited above and the other three species of Eriobotrya from southern China (E. fragrans, E. deflexa, E. cavalariei), 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-tomentose. Sepals triangular-ovate, 2–3 mm, densely tomentose, apex obtuse. Petals white, obovate, 8–10.5 mm. Stamens 3, connate at base, ca. 4.5–6 mm, villous basally. Fruits not seen.

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

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**Fig. 1. Eriobotrya fulvicoma** (from the holotype, drawn by Lu Shuangli). — **A:** Branch tip with leaves and inflorescence. — **B:** Floral anatomy. — **C:** Styles. — **D:** Stamens. — **E:** Cross section of ovary.
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
2. Leaf blade obovate or oblanceolate; flowers sessile ...........
3. Leaf margin remotely inconspicuously serrate apically, entire basally; ovary pubescent .................. E. fragrans
4. Peduncle and pedicels sparsely pubescent or subglabrous ......................... E. cavaleriei
5. Leaf margin coarsely obtusely serrate and revolute, leathery or thick papery-leathery; petiole 2–6 cm ..........
6. Leaf margin shallowly but sharply serrate, not revolute, papery; petiole 1–2 cm .................. E. fulvicoma

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

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

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