

## *Eurya phaeosticta* (Theaceae), a new species from Yunnan, China

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*Eurya phaeosticta* C.X. Ye & X.G. Shi *sp. nova* (Theaceae) from Yunnan Province, China, is described and illustrated. It is morphologically most similar to *E. megatrichocarpa*, from which it differs by having 4–5 locellate anthers, smaller fruits ca. 3 mm in diam., four distinct styles, and glabrous bracteoles and sepals.

Key words: *Eurya*, new species, taxonomy, Theaceae

The genus *Eurya*, comprising about 130 species, is the second largest genus in the Theaceae. It is mainly distributed in tropical and subtropical Asia and the southern and western Pacific Islands (Ling 1998, Ming & Bartholomew 2007). In China, 83 species of *Eurya* are known and they constitute an important element in various habitats in forests from low to high altitudes (Ling 1998, Wu *et al.* 2003, Wang *et al.* 2005). *Eurya* is a unique genus in the Theaceae due to the dioecious flowers. Identification of *Eurya* species is often difficult because morphology of many species is highly similar. According to the number of stamens, the septation of the anthers and the hairness of the ovary, the genus is divided into two sections: *Meristotheca* and *Eurya* (Ling 1966).

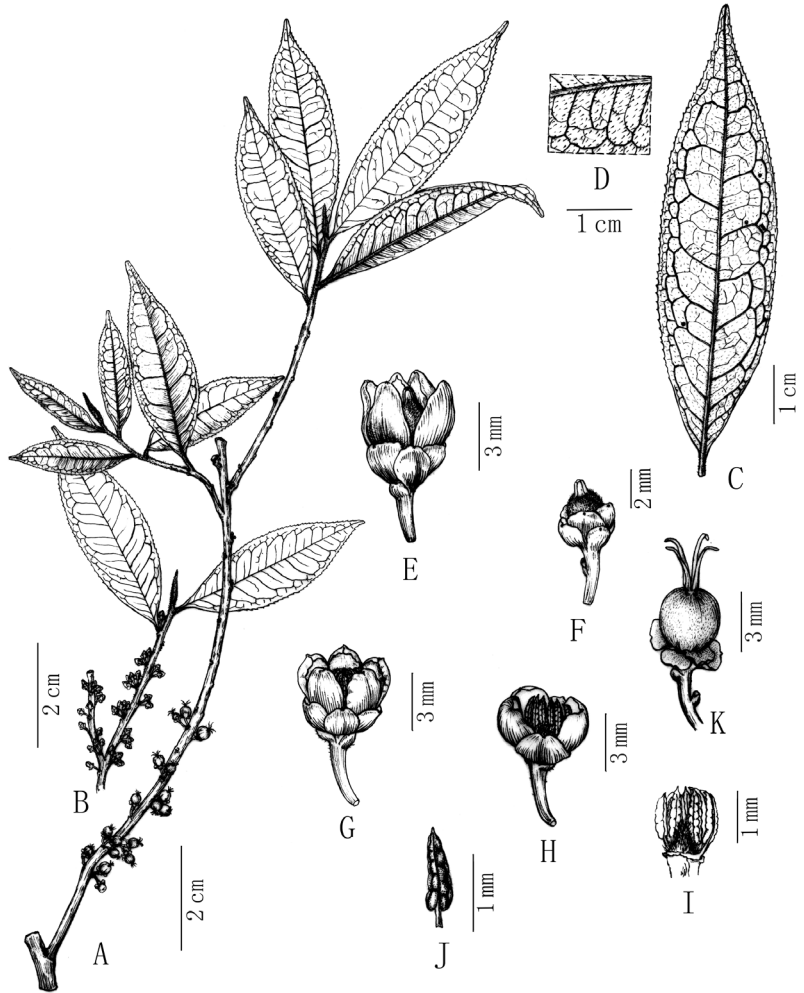
This study is a part of the first author's Ph.D. dissertation on the systematics of *Eurya* in China. Nearly all herbarium specimens from the main herbaria in China were examined. In addition, several botanical explorations were conducted, among which a field trip to Fenshuiling Nature

Reserve in Jinping County in Yunnan Province, China in 2006, provided some interesting specimens of *Eurya*. Later, more material including a range of specimens with flowers and mature fruits was collected at the revisited locality in 2007. After careful examination and comparison with other *Eurya* species, we concluded that these specimens exhibited clear differences from known species and should be treated as a new species, belonging in sect. *Meristotheca*.

***Eurya phaeosticta* C.X. Ye & X.G. Shi, *sp. nova* (Fig. 1)**

*Species affinis E. megatrichocarpae* Chang, *sed bracteolis, sepalisque glabris (in hoc pubescentibus), thecis transverse 4–5 septatis (in hoc non septatis); ovaries 4-locularis, stylis 4 distinctis (in hoc ovaries 5-locularis, stylis apice 5-vel rarius 4-partitis), baccis minoribus 3 mm in diametris (in hoc 5–6 mm in diametris) differt.*

**Fig. 1.** *Eurya phaeosticta* (from the holotype and paratypes, drawn by Yun-Xiao Liu). — **A:** Fruiting branch. — **B:** Flowering branch. — **C** and **D:** Leaf and part of it magnified. — **E:** Female flower. — **F:** Detailed ovary with corolla removed. — **G** and **H:** Male flower. — **I:** Detailed of pistillode and partial stamens. — **J:** Single stamen. — **K:** Fruit.



**TYPE:** China, Yunnan Province, Jinping County, Fenshui-ling Nature Reserve, in forests edges, alt. 2080 m, 8.VI.2007 X.G. Shi 3176 (holotype SYS; isotypes PE, IBSC).

Trees, 5–7 m tall. Young branches brown, glabrous; current year's branchlets terete, densely pubescent; terminal buds 5–7 mm long, yellowish brown pubescent. Leaf blade thinly leathery, oblong-lanceolate, 5.5–8.5 cm long, 1.5–2 cm wide, apex acuminate, base cuneate, margin closely serrulate, dark green above shiny glabrous, yellowish green below appressedly pubescent sparsely glandular punctuate; midribs impressed above and prominent below, secondary veins 8–9 pairs, obscure above and prominent below; petiole 2–3 mm long, pubescent. Flowers axillary, solitary or 1–5 in a cluster; pedicel

3–4 mm long, glabrous or sometimes subglabrous. Male flowers: bracteoles 2–3, ovate, glabrous; sepals 5, suborbicular, glabrous, 2–3 mm long, apex with a mucronate tip; petals 5, broad ovate, 3 mm long; stamens 19–20, anthers 4–5 locellate; pistillode densely pubescent. Female flowers: similar to the male flowers but slightly smaller; bracteoles nearly 1 mm long, glabrous; sepals suborbicular 2 mm long, glabrous, apex with a mucronate tip; petals ovate 2.5–3 mm long; ovary globose 4-loculed, densely pubescent; style 4 nearly 1 mm long. Fruits globose brown when mature, ca. 3 mm in diam., densely pubescent, persistent style 4, distinct, 2 mm long. Seeds brown shiny, orbicular-reniform with minute alveolate reticulate. Flowering Oct.–Nov., fruiting June–July.

**Table 1.** Morphological comparison of *Eurya phaeosticta* with the similar species.

| Characters      | <i>E. phaeosticta</i>                 | <i>E. megatrichocarpa</i>              | <i>E. kueichouensis</i>                      |
|-----------------|---------------------------------------|--|--|
| Terminal bud    | pubescent                             | pubescent                              | villous                                      |
| Branchlet       | pubescent                             | pubescent                              | spreading villous                            |
| Leaf shape      | oblong-lanceolate                     | oblong to oblong-elliptic              | oblong-lanceolate to oblong                  |
| Leaf texture    | thinly leathery                       | thinly leathery                        | leathery to rigidly leathery                 |
| Leaf size       | 5.5–8.5 × 1.5–2 cm                    | 7–11 × 2–3 cm                          | 6.5–9 × 1.5–2.5 cm                           |
| Leaf indumentum | appressedly pubescent                 | pubescent, later glabrescent           | pubescent but densely pubescent along midrib |
| Secondary veins | 8–9 pairs                             | 8–10 pairs                             | 10–13 pairs                                  |
| Pedicele        | 3–4 mm, glabrous to subglabrous       | 3–4 mm, sparsely pubescent             | 2–3 mm, sparsely pubescent                   |
| Sepal           | glabrous                              | sparsely pubescent                     | sparsely pubescent                           |
| Stamen          | 19–20, anthers 4–5-locellate          | 16, anthers not locellate              | 15–18, anthers 4–6-locellate                 |
| Ovary           | globose, 4-loculed, densely pubescent | globose, 5-loculed, sparsely pubescent | ovoid, 3-loculed, densely pubescent          |
| Style           | 4, distinct, 2 mm long                | 5-parted almost to base, 1.5 mm long   | apically 3-parted, 3.5–4.5 mm long           |
| Fruit           | globose, ca. 3 mm in diam.            | globose, 5–6 mm in diam.               | ovoid-ellipsoid ca. 5 × 4 mm                 |

**DISTRIBUTION AND HABITAT.** *Eurya phaeosticta* occurs in secondary forests or forests edges, sometimes along streams, from 1800 to 2200 m. So far the new species is only known from its type locality, in Fenshuiling Nature Reserve, Jinping County, southern Yunnan, China.

*Eurya phaeosticta* is closely similar to *E. megatrichocarpa* from Gunagxi and northern Vietnam in gross morphology. However, *E. phaeosticta* differs from *E. megatrichocarpa* by the following combination of characters: 4–5 locellate anthers, smaller fruits ca. 3 mm in diam., four distinct styles, and glabrous bracteoles and sepals (Chang 1954). In addition, *E. phaeosticta* also resembles *E. kueichouensis* morphologically, but the latter can be distinguished from *E. phaeosticta* by its pubescent pedicel, bracteole and sepal, rigidly leathery leaf, longer style, apically 3-parted, and ovoid-ellipsoid fruits (Ling 1966). A detailed comparison of the three species is summarized in Table 1.

**ADDITIONAL SPECIMENS EXAMINED** (paratypes): **China.** Yunnan Province, Jinping County, Fenshuiling Nature Reserve, alt. 2080 m, 25.X.2006 X.G. Shi 3025 (SYS, IBSC); alt. 2200 m, 25.X.2006 X.G. Shi 3027 (SYS, IBSC).

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