

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

Xiang-Gang Shi, Chuang-Xing Ye & Ye-Lin Huang\*

School of Life Sciences, Sun Yat-sen University, Guangzhou 510275, China (\*corresponding author's e-mail: lsshyl@mail.sysu.edu.cn)

Received 21 Nov. 2014, final version received 20 Jan. 2015, accepted 26 Jan. 2015

Shi X.G., Ye C.X. & Huang Y.L. 2015: *Eurya pilosa* (Theaceae), a new species from Yunnan, China. — *Ann. Bot. Fennici* 52: 167–170.

*Eurya pilosa* C.X. Ye & X.G. Shi *sp. nova* (Theaceae) from Yunnan Province, China, is described and illustrated. It is morphologically most similar to *E. loquaiana*, from which it differs by having inconspicuously 2-ribbed branches; densely pubescent branchlets, bracteoles and sepals; sparsely pubescent petals, ovaries and fruits; and leaves that do not turn purplish when dry.

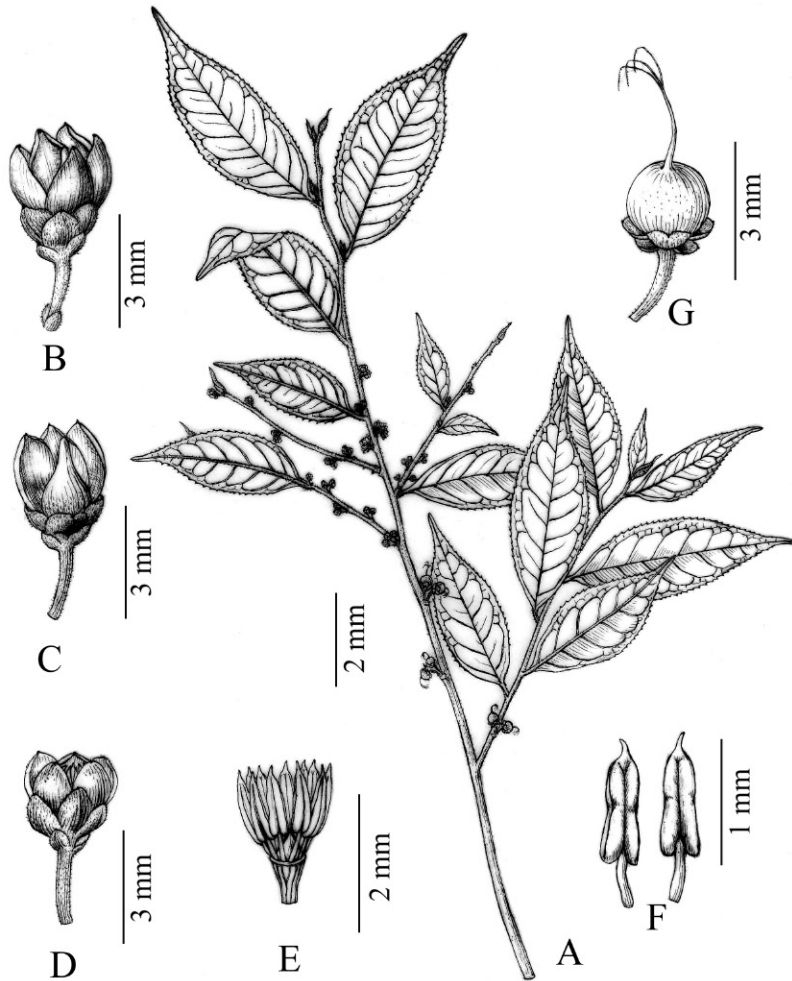
The genus *Eurya*, comprising about 130 species, is the second largest genus in the Theaceae. It is mainly distributed in tropical and subtropical Asia, including the southern and western Pacific Islands (Ling 1998, Ming & Bartholomew 2007). Eighty-four species of *Eurya* are known from China and they constitute an important component in forests from low to mid elevations (Chang 1954, Hsu 1964, Ling 1966, 1998, Wu *et al.* 2003, Wang *et al.* 2005, Shi *et al.* 2008).

*Eurya* is characterized by unisexual flowers, which is unique in the Theaceae. However, identification of *Eurya* species is often difficult because many species of *Eurya* are highly similar in gross morphology, and useful taxonomic characters are few. In one of the most representative taxonomic studies on *Eurya* in China, Ling (1966) emphasized the importance of anther septation and ovary hairiness in the taxonomy of *Eurya* and divided the genus into two sections: *Meristotheca* and *Eurya*. In sect. *Meristotheca*, anthers are usually locellate and ovary is usually pubescent. In sect. *Eurya*, anthers are not locellate and ovary is glabrous.

During and after the first author's work on his Ph.D. thesis, we examined nearly all specimens stored in the major herbaria of China. In addition, we conducted several botanic surveys in native habitats of *Eurya* in China. Our study confirmed that the two morphological characters emphasized by Ling (1966), anther septation and ovary hairiness, are quite reliable for distinguishing species. However, in the field trips to Yunnan Province in 2007 and 2009, we also noticed specimens that had a pubescent ovary but did not match the species in sect. *Meristotheca* in other features. After careful examination and comparison with other *Eurya* species, we concluded that the collected specimens were clearly different from any known species and should be treated as representing a new species in sect. *Eurya*.

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

TYPE: China. Yunnan Province, Maguan County, Kashang wood farm, in forests edges, 1800 m a.s.l., 22°51'N,



**Fig. 1.** *Eurya pilosa* (from the holotype and paratypes, drawn by Yun-Xiao Liu). — **A:** Flowering and fruiting branch. — **B:** Female flower. — **C:** Detailed ovary with partial corolla removed. — **D:** Male flower. — **E:** Detailed stamens and pistillode. — **F:** Partial stamens. — **G:** Fruit.

103°59'E, 18 Dec. 2009 X.G. Shi 4003 (holotype SYS; isotype IBSC). — PARATYPES: China. Yunnan Province, Maguan County, Kashang wood farm, 1850 m a.s.l., 2 August 2007 X.G. Shi 3188 (SYS, IBSC); 1800 m a.s.l., 18 December 2009 X.G. Shi 4001 (SYS, IBSC).

Shrubs, 1–2 m tall. Young branches grayish brown, inconspicuously 2-ribbed, glabrous or subglabrous; current year branchlets yellowish green, terete, slender, densely pubescent; terminal buds densely pubescent, 6–8 mm long. Leaf blade thinly leathery, oblong-elliptic, ovate-lanceolate, 4.5–6.5 cm long, 1.5–2 cm wide, apex long acuminate to caudate-acuminate, base cuneate to broadly cuneate, margin closely serrulate, adaxially dark green to yellowish green, glabrous, golden yellow glandular, abaxially pale green to yellowish green, sparsely pubes-

cent to pubescent only along mid-vein; mid-vein impressed above and elevated below, secondary veins 10–15 pairs, impressed or obscure above and visible prominent below; petiole 3–4 mm long, pubescent. Flowers axillary, solitary or 1 to 3 in a cluster, pedicel 2–3 mm long, densely pubescent. Male flowers: bracteoles 2, ovate, pubescent; sepals 5, ovate or suborbicular, pubescent, 1.5 mm long, apex with a mucronate tip; petals 5, broad obovate, 2 mm long, outside acropetally sparsely pubescent to subglabrous, inside glabrous; stamens 10–13; anthers not locellate or sometime 2 locellate in several anthers; pistillode puberulent to subglabrous. Female flowers: similar to the male flowers but slightly smaller; bracteoles nearly 1 mm long, pubescent, sepals suborbicular 1.5–2 mm long, pubescent, petals ovate to

**Table 1.** Morphological comparison of *Eurya pilosa* and *E. loquaiana*.

Characters	<i>Eurya pilosa</i>	<i>Eurya loquaiana</i>
Terminal buds	densely pubescent	puberulent and sparsely pubescent
Branchlets	densely pubescent	puberulent
Branches	inconspicuously 2-ribbed	terete
Leaf shape	oblong-elliptic, ovate-lanceolate	oblong-elliptic, oblong-lanceolate, ovate
Leaf texture	thinly leathery	thinly leathery to papery
Leaf size	4.5–6.5 × 1.5–2 cm	4–9 × 1.5–2.5 cm
Leaf indumentum	abaxially sparsely pubescent to pubescent only along midvein	abaxially sparsely puberulent or puberulent only along midvein
Leaf colour	adaxially golden glandular punctate, abaxially pale green to yellowish green when dry	adaxially not golden glandular punctate, abaxially purplish red when dry
Pediceal	densely pubescent	puberulent
Sepal	densely pubescent	puberulent to subglabrous
Petal	broad obovate, outside acropetally sparsely pubescent to subglabrous	obovate, outside glabrous
Stamens	10–13, anthers not locellate or sometimes bilocellate in several anthers	10–15, anthers not locellate
Ovary	globose, sparsely pubescent in lower part and subglabrous in upper part	ovoid, glabrous
Fruit	globose, sparsely pubescent, 2.5–3 mm in diam.	globose, glabrous, 3–4 mm in diam.
Flowering	December–January	October–December

obovate, 2 mm long, subglabrous; ovary globose 3-loculed, sparsely pubescent in lower part and subglabrous in upper part; style 3, nearly 1 mm long. Fruit globose, blue-black when mature, ca. 2.5–3 mm in diam., sparsely pubescent, persistent style 3–4 mm long, apically 3-lobed. Seeds yellowish-brown, shiny, orbicular-reniform, with minute alveolate reticulate. Flowering December–January, fruiting June–August.

**DISTRIBUTION AND HABITAT:** *Eurya pilosa* occurs in secondary forests or forests edges, from 1800 to 2000 m a.s.l. So far it is known only from its type locality. Two populations of *E. pilosa* (ca. 10 individuals in each population) are found at its type locality along with other species of Theaceae such as *Eurya magniflora*, *E. loquaiana*, *E. henryi*, *Camellia crassicolumna* and *C. tsingpienensis*.

*Eurya pilosa* is very similar to *E. loquaiana* in gross morphology. The two species can be separated from the remaining species by a combination of characters: leaf blade usually oblong-lanceolate, thinly leathery, apex acuminate to caudate, base cuneate, sepals ovate, stamens 10–15, anther not locellate, and style 3–4 mm long, apically 3-lobed. On the other hand, the

differences between the two species are clear (Table 1). Our unpublished ITS sequence data distinguish the two species and show that they are closely related and different from other species of *Eurya*.

## Acknowledgements

We are grateful to Ms. Yunxiao Liu for drawing the illustrations. The work was supported by the National Natural Science Foundation of China (31300344), the Fundamental Research Funds for the Central Universities (14lgpy20) and the foundation for distinguished Young Talents in Higher Education of Guangdong, China (LYM10006).

## References

- Chang H.T. 1954: *Eurya* of the Chinese Flora. — *Acta Phytotaxonomica Sinica* 3: 1–60.  
 Hsu P.S. 1964: Notes on genus *Eurya* of China. — *Acta Phytotaxonomica Sinica* 9: 85–98.  
 Ling L.K. 1966: A revision of genus *Eurya* in China. — *Acta Phytotaxonomica Sinica* 11: 263–342.  
 Ling L.K. 1998: Theaceae (Ternstroemiaceae). — In: Wu Z.Y. (ed.), *Flora Reipublicae Popularis Sinicae*, vol. 50: 124–125. Science Press, Beijing.

- Ming T.L. & Bartholomew B. 2007: Theaceae. — In: Wu, Z.Y. & Raven P.H. (eds.), *Flora of China*, vol. 12: 464–465. Science Press, Beijing & Missouri Botanical Garden Press, St. Louis.
- Shi X.G., Huang Y.L. & Ye C.X. 2008: *Eurya phaeosticta* (Theaceae), a new species from Yunnan, China. — *Annales Botanici Fennici* 45: 372–374.
- Wang J.H., Wang H. & Li D.Z. 2005: *Eurya luchunensis*, a new species of Theaceae from Yunnan, China. — *Novon* 15: 490–492.
- Wu C.C., Hsu Z.F. & Tsou C.H. 2003: Studies of *Eurya* (Ternstroemiaceae) in Taiwan (1), a new endemic species, *Eurya septata*. — *Botanical Bulletin of Academia Sinica* 44: 67–72.