

A New Species of *Ehretia*, *Ehretia retroserrata* in Nujiang County, Yunnan Province, China

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Abstract

On the investigation of the biodiversities of plant resources of Nujiang River Valley in Nujiang Autonomous Prefecture, Yunnan Province, China, a new species of *Ehretia* has been described and illustrated as *Ehretia retroserrata* in the arid valley of Nujiang according to the new living state of erect shrub and the characteristics of serrate leaf margin, retrose, apiculate, endocarp divided at maturity into 4 1-seeded pyrene and serrate leaves margins by comparison with other species of the genus *Ehretia*.

Keywords

Ehretia, *Ehretia retroserrata*, Serrate, Retrose, Apiculate, Characteristics, Nujiang County, Yunnan Province, China

1. Introduction

There are 14 species in genus *Ehretia* in China. Most of them are arbors more than 10 meters high. There are 7 species in Yunnan Province and all of them are arbors. Among all the species of genus *Ehretia* in China, only *E. changjiang* and *E. asperula* are climbing shrubs in Hainan Province. On the identification research of *Eheria*, firstly, 2 groups have been classified according to the differences between “serrate leaves; endocarp divided at maturity into 2 2-seeded pyrenes” and “entire leaves margins, endocarp divided at maturity into 4 1-seeded pyrenes”, so that *E. acuminata*, *E. corylifolia* and *E. dicksonii* have been classified as the 1st group and the 2nd group includes *E. confinis*, *E. tsangi*, *E. dunniana* and *E. longiflora* etc. Secondly, in the 1st group, according to

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the differences of “glabrous leaves, antrorse, apiculate teeth; corolla lobes longer than tube; drupes 3 - 4 mm in diam” and “abaxially pubescent leaves, spreading teeth, not apiculate; corolla lobes shorter than tube; drupes 6 - 15 mm in diam”, *E. acuminata* and *E. corylifolia* have been classified as 2 species. *E. changjiang* and *E. asperula* are only climbing shrubs found in Hainan Province, but their leaves are leathery and have entire margins and pubescent cymes [1]-[4]. Another species of Japan, *E. microphylla* has the unique characteristic of long obovate leaves with white seta and white basal plate.

2. Materials & Methods

Specimens have been collected by Fan Du on June 2, 2014 on the 30° slope in the dry red soil with 40% limestone naked in Mangkuan, Dai and Yi National Xiang, Longyang District, Baoshan City, in the arid valley of Nujiang Prefecture, Yunnan Province, China, with the south altitude of 807 m, E25°38'25.1" and N98°52'25.1".

By taxonomy and comparative anatomy methods, the following result shows.

3. Result & Discussion

Erect shrubs, 3 m tall, bark gray, branchlets brown, with longitudinal angles, Leaves papery, green, echinulatus young and glabrous mature, ovate or obvotae, basal broad cuneate and truncate, length 3 - 6.5 cm, width 2 - 4 cm, apex acuminate or caudate, petiole 5 - 10 mm, width 1 mm. 1st veins 5 - 7 pairs, araised on the lower epidermal, 2nd and 3rd veinlets reticulate net, leaves margins irregular serrulate, retrorse, apiculate.

Terminal cyme, length 3 - 8 cm, width 2 - 7 cm, flower small, white, calyx 5 lobed, puberulent, triangular, length 1.5 - 2 mm, width 1 - 2 mm. Superior ovary, ovoid, diameter 1 mm. Style termianl, 2-cleft on the upper 1/5, stigma 2, capitate. Corrola funnel-form, 5 lobed, lobe elliptic or obovate, width 2 mm, length 3 mm, reflex, pubescent, tube length 5 mm, filament 6 - 7 mm, usually exserted, anthers linear, length 2 mm. Drupes sphere, subglobose, diameter 3 - 4 mm, glabrous, orange, endocarp divided at maturity into 4 1-seeded pyrenes [5]-[8].

1. According to the index of genus *Ehretia*, erect shrub is a new characteristic among all the species while *E. changjiangensis* and *E. asperula* are Climbing shrubs in Hainan Province and the other species are arbors, mostly higher than 10 m [2].

2. The differences between “Leaves margins entire, endocarp divided at maturity into 4 1-seeded pyrenes” and “Leaves margins serrate, endocarp divided at maturity into 2 2-seeded pyrenes” are for identifying *Ehretia acuminata* and other species [2] [3]. However, *E. retroserrata* has the new characteristics of “Leaves margins serrate, endocarp divided at maturity into 4 1-seeded pyrenes”.

3. The most conspicuous characteristic of *E. retroserrata* is: “front serrate retrorse, apiculate”, which is a compensation to the other species of “Leaves glabrous, teeth antrorse, apiculate; corolla lobes longer than tube; drupes 3 - 4 mm in diam” and “Leaves pubescent abaxially, teeth spreading, not apiculate; corolla lobes shorter than tube; drupes 6 - 15 mm in diam” [2]. So it has been named. Here we would no doubt the miracles of nature and the sequences of God creating the world.

4. Conclusions

Ehretia S. S Yang & F. Du, sp. Nov (**Figure 1**)

Ehretia retroserrata S. S Yang & F. Du, sp. nov is a new species of genus *Ehretia* found in the arid valley of Nujiang Valley, in a very narrow area near tillage land, and only several plants have been found in a limestone shrubs in an extremely dry ecological state. It has the characteristics of small leaves, small flowers and small drupes and indumentum developed like *E. changjiang* and *E. asperula* in Hainan Province. The arid ecology is similar to that of the two later species in Hainan Province, and they have the similar characteristics of shrubs instead of arbors. *E. retroserrata* has the new characteristic of erect shrub, serrate leaves margins, endocarp divided at maturity into 4 1-seeded pyrenes and glabrous leaves, teeth retrorse (**Figure 2** & **Figure 3**), apiculate corolla lobes shorter than tube, drupes 3 - 4 mm in diam, puberulent calyx, pilose style, pubescent corrola lobes, leaves oil glands.

Finally, the biological protection should be emphasized and adopted in case of endangerment by the tillage.

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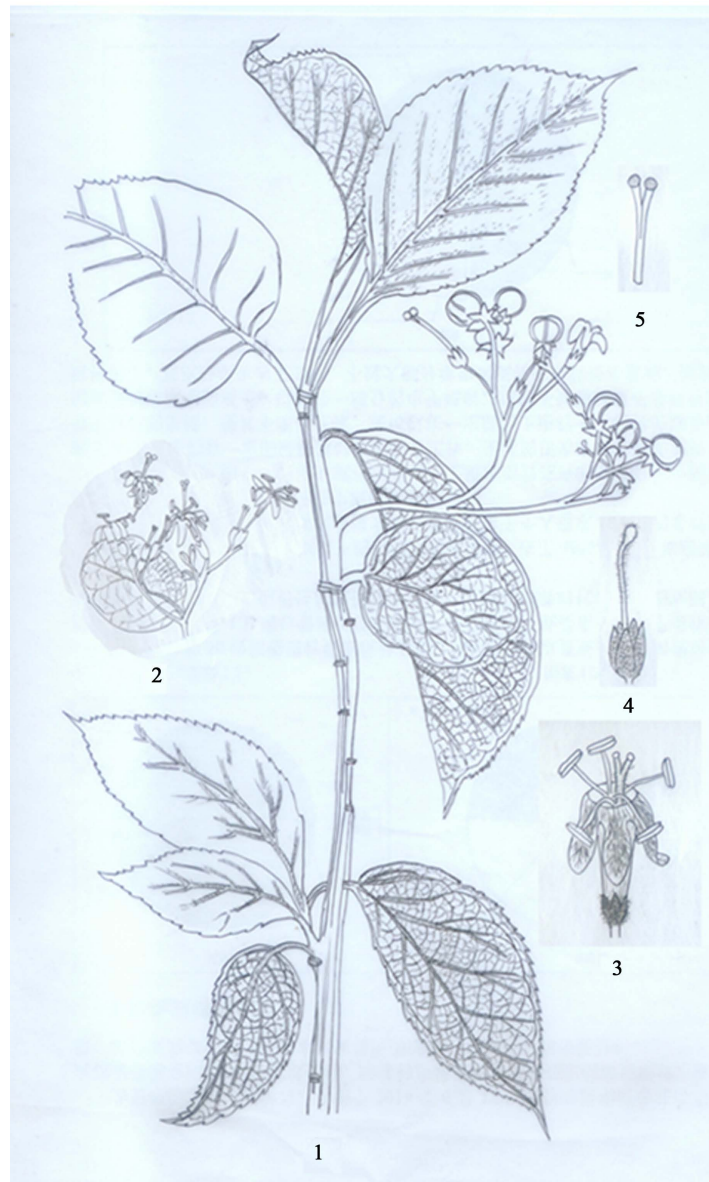


Figure 1. *Eheria retroserrata* S. S Yang & F. Du, sp. Nov, drawn by Shaoyong Yang. 1. Branch and infructescence; 2. inflorescence; 3. Flower; 4. Calyx and style; 5. Stigma.



Figure 2. The organs of flowers & leaves etc.



Figure 3. Erect shrub.

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