



•生物编目•

近年来中国国产豆科的属级分类学变动

蒋凯文¹ 潘 勃^{2*} 田 斌^{1*}¹ (西南林业大学国家林业局西南地区植物多样性保育重点实验室, 昆明 650224)² (中国科学院西双版纳热带植物园综合保护中心, 云南勐腊 666303)

摘要: 豆科是被子植物中仅次于菊科和兰科的第三大科, 包含约791属, 19,325–19,560种, 其中许多分类群具有重要的经济价值。自《中国植物志》出版以来, 随着分子系统学的不断发展, 不少豆科属的范畴发生了变动。本文结合国内外的多项研究成果, 以1998年完整出版的《中国植物志》豆科相关卷册中的属为基准, 对近年来国产豆科植物的属的分类学变动进行了整理和总结, 包括32个分类学处理以及4个新记录属, 以期对未来国产豆科植物的分类学研究提供工作提供参考。

关键词: 豆科; 分类; 中国; 属; 新记录属; 总结

Recent taxonomic changes for Fabaceae (Leguminosae) genera in China

Kaiwen Jiang¹, Bo Pan^{2*}, Bin Tian^{1*}¹ Key Laboratory of Biodiversity Conservation in Southwest China, State Forestry Administration, Southwest Forestry University, Kunming 650224² Center for Integrative Conservation, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Mengla, Yunnan 666303

Abstract: Fabaceae (= Leguminosae) is the third largest plant family after Asteraceae and Orchidaceae. It contains ca. 791 genera and 19,325–19,560 species. Many taxa possess great economic and ecological significance. Since the publication of *Flora Republicae Popularis Sinicae* in 1998, molecular systematics has continued to develop, and thus the classification categories of many genera have changed tremendously. In this paper, we summarize recent research results from both home and abroad (including 32 treatments and 4 newly recorded genera), compare these new changes with the treatment of legume genera in *Flora Republicae Popularis Sinicae* and provide a reference for future taxonomic research into native Chinese legumes.

Key words: Fabaceae; taxonomy; China; genera; newly recorded genera; summary

豆科(Leguminosae = Fabaceae)通常被认为是被子植物中仅次于菊科和兰科的第三大科。约有791属, 19,325–19,560种(多识团队, 2016至今)。豆科植物对人类的生产生活具有举足轻重的意义(Lewis et al, 2005; LPWG, 2017)。首先, 它是仅次于禾本科的人类第二大食品来源植物, 为人类提供了大量必不可少的淀粉、脂肪、蛋白质和植物纤维等营养物质(Lewis et al, 2005)。其次, 由于大部分豆科植物能与根瘤菌共生固氮, 因此可以改良土壤结构, 提高土壤肥力, 并且可作为先锋植物, 成为生态系统中提

供有效氮源的中心(Sprent, 2007)。此外, 豆科植物还为人类提供了大量木材、燃料、树脂以及药材等生活必需品(林彦翔等, 2014)。

《中国植物志》(FRPS)是中国豆科分类的集大成者, 共收录了中国原产或引种栽培的分别隶属于3亚科172属的1,485种豆科植物(中国科学院中国植物志编辑委员会, 1959–2004)。1998年, 在《中国植物志》豆科相关卷册(第39、40、41卷, 第42卷第一、二分册)正式出版后, 许多分类学观点得到了广泛的应用。然而, 随着分子系统学的兴起, 一些属的

收稿日期: 2019-02-11; 接受日期: 2019-04-13

基金项目: 国家自然科学基金(41861008)

* 共同通讯作者 Co-authors for correspondence. E-mail: pb@xtbg.org.cn, tianbin@swfu.edu.cn

界定发生了变动,许多传统的属被合并或拆分,这些变动对中国豆科的系统分类产生了重大影响。2010年,Wu等主编的*Flora of China* Vol. 10正式出版,其中就收录了不少基于分子系统学的新处理。2017年,豆科植物系统发育工作组(Legumes Phylogeny Working Group, LPWG)发表了新的豆科6亚科分类系统(LPWG, 2017),其中中国原产有5亚科,这一工作对中国豆科的系统学研究有着重要的意义。本文以FRPS中的豆科分类系统为基础,以多识植物百科(<http://duocet.ibiodiversity.net>)中豆科的属列表为序(其中亚科参考LPWG (2017)的处理),分亚科对近20年来中国国产豆科植物的属级分类变动(包括一些种的分类学变动及被组合至其他属的情况)进行了总结,以期为我国豆科植物类群的系统学研究提供参考。中文名称参考多识植物百科,对于被拆分的类群的中文名称变动,以中文名称所指代类群为依据,使用广义和狭义加以区分。

1 属的分类学地位变动

1.1 紫荆亚科

Subfam. Cercidoideae Legumes Phylogeny Working Group

广义羊蹄甲属(*Bauhinia* L. s. l.)被拆分(Lewis et al, 2005; Sinou et al, 2009; Mackinder & Clark, 2014; Clark et al, 2017),拆分后的国产类群包括龙须藤属(*Lasiobema* (Korth.) Miq.)、火索藤属(*Phanera* Lour.)、首冠藤属(*Cheniella* R. Clark & Mackinder, 该属名是为了纪念中国著名豆科专家陈德昭先生,她发表了现归属于首冠藤属下的5个种)和狭义羊蹄甲属(*Bauhinia* L. s. s.)。其中狭义羊蹄甲属包含FRPS中羊蹄甲亚属(*Bauhinia* subg. *Bauhinia*)的所有种;龙须藤属包含FRPS中厚盘亚属(*Bauhinia* subg. *Lasiobema* Korth.)的所有种;FRPS中显托亚属(*Bauhinia* subg. *Phanera* (Lour.) Wunderlin)的黔南羊蹄甲(*B. quinanensis* T. Chen)、卵叶羊蹄甲(*B. ovatifolia* T. Chen)、李叶羊蹄甲(*B. didyma* L. Chen)、囊托羊蹄甲(*B. touranensis* Gagnep.)、大苗山羊蹄甲(*B. damiaoshanensis* T. Chen)、粉叶羊蹄甲(*B. glauca* (Wall. ex Benth.) Benth.)、薄叶羊蹄甲(*B. glauca* subsp. *tenuiflora* (Watt ex C. B. Clarke) K. Larsen & S. S. Larsen)、首冠藤(*B. corymbosa* Roxb. ex DC.)以及之后被作为新记录种发表的中越羊蹄甲(*B. clem-*

ensiorum Merr.)和拉康羊蹄甲(*B. lakhonensis* Gagnep.) (张莫湘和陈德昭, 1996)分别被转入首冠藤属,其中薄叶羊蹄甲被提升为种级,即薄叶首冠藤(*Cheniella tenuiflora* (Watt ex C. B. Clarke) R. Clark & Mackinder),剩余种归入火索藤属。Wunderlin (2010)基于Sinou等(2009)的系统发育结果和个人知识主张将龙须藤属并入火索藤属,LPWG (2017)在发表豆科新亚科系统的同时认可了这一处理,将龙须藤属并入火索藤属。

1.2 云实亚科

Subfam. Caesalpinioideae DC. (包括含羞草亚科 Subfam. Mimosoideae DC.)

(1)广义决明属(*Cassia* L. s. l.)被拆分为3属:腊肠树属(*Cassia* L. s. s.)、狭义决明属(*Senna* Mill.)和山扁豆属(*Chamaecrista* Moench) (Irwin & Barneby, 1982; Chen et al, 2010)。其中:乔木、荚果木质化、成熟时不开裂的类群归入腊肠树属;无小苞片、花瓣近乎等大的类群被归入狭义决明属;通常为草本、具小苞片、花瓣不等大、荚果弹性开裂的类群被归入山扁豆属。*Flora of China*中将豆茶决明(*Cassia nomame* (Makino) Kitagawa)归入番泻决明属,即*Senna nomame* (Makino) T. C. Chen (Chen et al, 2010),本文作者认为不妥,因为该种的形态特征(叶形态、荚果形态、种子形态等)均更接近山扁豆属,故应归入山扁豆属,即豆茶山扁豆(*Chamaecrista nomame* (Makino) H. Ohashi)。

需要说明的是:关于本类群的中文名,决明(*Cassia tora* L., 现为*Senna tora* (L.) Roxb.)原为*Cassia* L. s. l.的中文基名,该属拆分后,决明被组合至*Senna* Mill.,因而本文建议将*Senna* Mill.的中文名拟为“决明属”(为与*Cassia* L. s. l.相区分,本文在正式中文属名前用“广义”、“狭义”加以区别);而*Cassia* L. s. s.模式种为腊肠树(*Cassia fistula* L.),且该属荚果通常木质化,成熟时黑褐色,垂挂于枝上,酷似“腊肠”,故本文建议将*Cassia* L. s. s.的中文名拟为“腊肠树属”;*Chamaecrista* Moench则依*Flora of China*的处理,定为“山扁豆属”。

(2)广义云实属(*Caesalpinia* L. s. l.)的拆分(Lewis et al, 2005; Gagnon et al, 2016)。其中:云实(*C. decapetala* (Roth) Alston)、小叶云实(*C. millettii* Hook. & Arn.)和苏木(*C. sappan* L.)被转入狭义云实属(*Biancaea* Tod.);刺果苏木(*C. bonduc* (L.) Roxb.)

和喙荚云实(*C. minax* Hance)被转入鹰叶刺属(*Guilandina* L.), 其中后者的新组合尚未正式发表; 含羞云实(*C. mimosoides* Lam.)被转入含羞云实属(*Hultholia* Gagnon & G. P. Lewis); 见血飞(*C. cucullata* Roxb.)、九羽见血飞(*C. enneaphylla* Roxb.)和膜荚见血飞(*C. hymenocarpa* (Prain) Hattink)被转入见血飞属(*Mezoneuron* Desf.); 肉荚云实(*C. digyna* Rottler)和扭果苏木(*C. tortuosa* Roxb.)被转入肉荚云实属(*Moullava* Adans.); 粉叶苏木(*C. caesia* Hand.-Mazz.)、华南云实(*C. crista* L.)、大叶云实(*C. magnifoliolata* Metc.)、鸡嘴箭(*C. sinensis* (Hemsl.) J. E. Vidal)和春云实(*C. vernalis* Champ.), 还有后来发表的新种椭圆叶云实(*C. elliptifolia* S. J. Li, Z. Y. Chen & D. X. Zhang)和云南云实(*C. yunnanensis* S. J. Li, D. X. Zhang & Z. Y. Chen)以及新记录菱叶云实(*C. rhombifolia* J. E. Vidal) (李世晋等, 2001, 2006; Li et al, 2002, 2006)的分类地位有待进一步研究, 未来可能会被转入南天藤属(*Ticanto* Adans.)或其他属。此外, 中国引栽的洋金凤(*Caesalpinia pulcherrima* (L.) Sw.)保留于*Caesalpinia* L. s. s., 该属中文名改为小凤花属(多识团队, 2016至今)。

需要说明的是: 关于本类群的中文名, 云实(*Caesalpinia decapetala* (Roth) Alston, 现为*Biancaea decapetala* (Roth) O. Deg.)原为*Caesalpinia* L. s. l.的中文基名, 该属拆分后, 云实被转入*Biancaea* Tod., 因而本文建议将*Biancaea* Tod.的中文名拟为“云实属”(为与*Caesalpinia* L. s. l.相区分, 本文在正式中文属名前用“广义”、“狭义”加以区别); 而*Caesalpinia* L. s. s.依其模式种小凤花(*Caesalpinia brasiliensis* L., 刘夙拟, 据其花较洋金凤*Caesalpinia pulcherrima* (L.) Sw.小而定)而改为“小凤花属”。

(3) 广义金合欢属(*Acacia* Mill. s. l.)的拆分(Maslin, 2008; Kyalangalilwa et al, 2013)。其中: 中国原产的类群归入儿茶属(*Senegalia* Raf.) (欧阳铖人等, 2013), 台湾栽培的阿拉伯胶树(*A. senegal* (L.) Willd.)亦归入该属; 主产澳大利亚、(多数)具叶状柄的类群归入相思树属(*Acacia* Mill. s. s.) (Maslin, 2015); 福建、广东等地引栽的灰金合欢(*A. glauca* (L.) Moench)归入灰合欢属(*Acaciella* Britton & Rose) (Rico-Arce & Bachman, 2006); 中国南部引栽的金合欢(*A. farnesiana* (L.) Willd.)和阿拉伯金合欢(*A. nilotica* (L.) Willd.)归入金合欢属(*Vachellia* Wight &

Arn.) (Maslin, 2015)。

(4) 猴耳环属(*Archidendron* F. Muell.)从牛蹄豆属(*Pithecellobium* Mart.)分出, 并将棋子豆属(*Cylindrokelypha* Kosterm.)并入其中, 原牛蹄豆属中国仅有引栽1种, 即牛蹄豆(*P. dulce* (Roxb.) Benth.) (Wu & Nielsen, 2010; 刘冰等, 2015)。

1.3 蝶形花亚科

Subfam. Papilionoideae DC.

(1) 槐(*Sophora japonica* L.)和短蕊槐(*S. brachygyna* C. Y. Ma)从广义槐属(*Sophora* L. s. l.)中分出, 归入狭义槐属(*Styphnolobium* Schott), 其中后者尚未被组合, 并极有可能应处理为前者的异名(Bao & Vincent, 2010); *Sophora* s. s.中文名改为苦参属(Sousa & Rudd, 1993; Lewis et al, 2005; 刘冰等, 2015)。

需要说明的是: 关于本类群的中文名, 槐(*Sophora japonica* L., 现为*Styphnolobium japonicum* (L.) Schott)为*Sophora* L. s. l.的中文基名, 该属拆分后, 槐被转入*Styphnolobium* Schott, 因而本文建议将*Styphnolobium* Schott的中文名拟为“槐属”(为与*Sophora* L. s. s.相区分, 本文在正式中文属名前用“广义”、“狭义”加以区别), 而*Sophora* L. s. s.依其最广为人知的一种——苦参(*Sophora flavescens* Aiton)而改为“苦参属”。

(2) 黄雀儿属(*Priotropis* Wight & Arn.)并入猪屎豆属(*Crotalaria* L.) (Li et al, 2010; Subramaniam et al, 2013)。

(3) 国际上主流观点一般将水黄皮(*Pongamia pinnata* (L.) Pierre)归入崖豆藤属(*Millettia* Wight & Arn.) (Lewis et al, 2005), 但这一处理一直未得到国内分类专家的认可(Zhang & Pedley, 2010)。究竟何种处理更合理, 仍有待进一步研究。

(4) Geesink (1984)将拟鱼藤属(*Paraderris* (Miq.) R. Geesink)从广义鱼藤属(*Derris* Lour. s. l.)中分出, Chen和Pedley (2010a)在*Flora of China*中接受了这一处理。Sirichamorn等(2014)结合分子证据将拟鱼藤属重新并入鱼藤属, 并复原了短翅鱼藤属(*Solori* Adans.)的地位, 其中包括2个国产种: 毛果鱼藤(*S. eriocarpa* (F. C. How) Sirich. & Adema)和大鱼藤树(*S. robusta* (Roxb. ex DC.) Sirich. & Adema)。

(5) Adema (2000)从广义鱼藤属中分出双束鱼藤属(*Aganope* Miq.), Chen和Pedley (2010b)在*Flora*

of China中亦接受了这一处理, 该属包括3个国产种: 大叶鱼藤(*A. latifolia* (Prain) T. C. Chen & Pedley)、密锥花鱼藤(*A. thyrsiflora* (Benth.) Polhill)和鼎湖鱼藤(*A. dinghuensis* (P. Y. Chen) T. C. Chen & Pedley)。

(6) 杨永康等(2004)发表新属中华豆属(*Sinolegumena* Y. K. Yang, L. H. Liu & J. K. Wu)及其唯一一种中华豆(*S. chendzhaoana* Y. K. Yang, L. H. Liu & J. K. Wu)。Zhang等(2018a)结合形态及分子证据证实该种实为土圞儿属(*Apios* Fabr.)下的1种, 即南岭土圞儿(*Apios chendzhaoana* (Y. K. Yang, L. H. Liu & J. K. Wu) B. Pan bis, X. L. Yu & F. Zhang)。

(7) Ohashi (1999)将小槐花(*Desmodium caudatum* DC.)和1988年新发表的淡黄小槐花(*D. luteolum* H. Ohashi & T. Nemoto)从山蚂蝗属(*Desmodium* Desv.)分入他的新属小槐花属(*Ohwia* H. Ohashi)。

需要说明的是: Ohashi和Nemoto (1998)依据存放于中国科学院昆明植物研究所标本馆的2份标本描述的新种淡黄小槐花(*Desmodium luteolum* H. Ohashi & T. Nemoto, 1998)是*D. luteolum* Staudley的一个晚出同名, 故该名称不合法。然而Ohashi (1999)并未意识到这点, 直接将*Desmodium luteolum* H. Ohashi & T. Nemoto, 1998组合到小槐花属, 即*Ohwia luteola* (H. Ohashi & T. Nemoto) H. Ohashi, 1999。Ohashi和Nemoto (2006)意识到了这一点, 故分别为*Desmodium luteolum* H. Ohashi & T. Nemoto和*Ohwia luteola* (H. Ohashi & T. Nemoto) H. Ohashi两个名称指定了新名称(nom. nov.), 即*Desmodium sino-luteolum* H. Ohashi & T. Nemoto和*Ohwia luteola* H. Ohashi。

(8) Yang和Huang (1979)发表的长柄山蚂蝗属(*Podocarpium* (Benth.) Yang & Huang) (FRPS接受)为*Podocarpium* A. Braun ex Stizenberger, 1851和*Podocarpium* Unger, 1864的晚出同名(Ohashi & Mill, 2000; 王祺, 2006)。Ohashi和Mill (2000)提议以新名称*Hylodesmum* H. Ohashi & R. R. Mill替代该属名, 为*Flora of China*所接受(Huang & Ohashi, 2010b)。

(9) Ohashi (2004)将小叶三点金(*Desmodium microphyllum* (Thunb.) DC.)组合至舞草属(*Codariocalyx* Hassk.), 即小叶舞草(*Codariocalyx microphyllus* (Thunb.) H. Ohashi), *Flora of China*未接受这一处理, 但在其注释中说明了这一情况(Huang & Ohashi, 2010a); Ohashi等(2018a)依据新的分子证据

将该种组合至纤蚂蝗属(*Leptodesmia* (Benth.) Benth. & Hook.f.)。

(10) Ohashi和Ohashi (2012a)将山蚂蝗属饿蚂蝗亚属(*Desmodium* Desv. subg. *Dollinera* (Benth.) Schindl.)从山蚂蝗属(*Desmodium* Desv.)中独立为饿蚂蝗属(*Ototropis* Nees)。

(11) Ohashi和Ohashi (2012b)依据一非国产种杯柱山蚂蝗(*Desmodium hentyi* Verdc.)发表新属杯柱蚂蝗属(*Verdesmum* H. Ohashi & K. Ohashi), 并于次年将国产的勐腊长柄山蚂蝗(*Hylodesmum menglaense* (C. Chen & X. J. Cui) H. Ohashi & R. R. Mill)转入该属(Ohashi & Ohashi, 2013)。Song等(2019)通过分子和形态学证据证实该种实际上仍应当归入长柄山蚂蝗属, 这一处理也得到了Li等(2019)的分子结果的支持。

(12) Ohashi和Ohashi (2018a)结合分子证据恢复了假地豆属(*Grona* Lour.)的分类地位, 该属包含了FRPS中山蚂蝗属三点金亚属(*Desmodium* subg. *Sagotia* Baker)髯毛山蚂蝗组(*Desmodium* sect. *Nicolsonia* (DC.) Benth.)的所有种和三点金组(*Desmodium* sect. *Sagotia*)的三点金(*D. triflorum* (L.) DC.)和异叶山蚂蝗(*D. heterophyllum* (Willd.) DC.)。

(13) Ohashi和Ohashi (2018b)结合分子证据将FRPS中的山蚂蝗属狭托叶组(*Desmodium* sect. *Angustistipulosas* H. Ohashi)独立为新属拿身草属(*Sohmaea* H. Ohashi & K. Ohashi)。

(14) Ohashi等(2018)结合分子和形态证据从山蚂蝗属中拆出数属, 包括: 凹叶山蚂蝗(*D. concinnum* DC.)独立为凹叶山蚂蝗属(*Tateishia* H. Ohashi & K. Ohashi); 二歧山蚂蝗(*D. dichotomum* DC.)独立为二歧山蚂蝗属(*Bouffordia* H. Ohashi & K. Ohashi); 肾叶山蚂蝗(*D. renifolium* (L.) Schindl.)转入新属肾叶山蚂蝗属(*Huangtcia* H. Ohashi & K. Ohashi); 大叶山蚂蝗属(*Pleurolobus* J. St.-Hil.)地位恢复, 包括原属山蚂蝗属的1个国产种, 即大叶山蚂蝗(*P. gangeticus* J. St.-Hil.)。此外, 长圆叶山蚂蝗(*D. oblongum* Wall. ex Benth.)被转入狸尾豆属(*Uraria* Desv.)。

需要说明的是: 1989年作为新种发表、2010年在*Flora of China*中被处理为糙毛山蚂蝗(*D. strigillosum* Schindl.)变种的垂果山蚂蝗(*D. strigillosum* var. *pendenticarpum* (C. Z. Gao & Q. R. Lai) P. H. Huang) (高成芝和赖其瑞, 1989; Huang & Ohashi,

2010a), Ohashi (1995)主张将其处理为糙毛山蚂蝗的异名, *Flora of China*中对垂果山蚂蝗的注释亦指出, Ohashi认为垂果山蚂蝗与糙毛山蚂蝗应为同种(Huang & Ohashi, 2010a), 糙毛山蚂蝗被Ohashi等(2018b)组合至假地豆属, 但垂果山蚂蝗的分类地位仍有待进一步研究。

(15) Ohashi等(2019)结合分子和形态证据将绒毛山蚂蝗(*Desmodium velutinum* (Willd.) DC.)从山蚂蝗属分出并为之建立新属绒毛山蚂蝗属(*Polhillides* H. Ohashi & K. Ohashi)。

(16) Ohashi等(2017)将硬毛宿苞豆(*Shuteria hirsuta* Baker)从宿苞豆属(*Shuteria* Wight & Arn.)转至新属硬毛宿苞豆属(*Harashuteria* K. Ohashi & H. Ohashi)。

(17) Egan和Pan (2015)经过大量研究, 将须弥葛(*Pueraria wallichii* DC.)从葛属(*Pueraria* DC.)独立, 归入新属须弥葛属(*Haymondia* A. N. Egan & B. Pan bis); 将苦葛(*P. peduncularis* (Benth.) Graham ex Benth.)和云南苦葛(*P. yunnanensis* Franch.)转入新属苦葛属(*Toxicopueraria* A. N. Egan & B. Pan bis); 恢复草葛属(*Neustanthus* Benth.)地位, 该属仅1种, 即草葛(三裂叶野葛, *N. phaseoloides* Benth.); 将小花野葛(*P. stricta* Kurz)转入琼豆属(*Teyleria* Backer)。

(18) Geesink (1984)从广义崖豆藤属(*Millettia* Wight & Arn. s. l.)中分出鸡血藤属(*Callerya* Endl.), 包括FRPS中的棒果组(*Millettia* sect. *Corynecarpae* Z. Wei)、曲柱组(*Millettia* sect. *Curvistylae* Z. Wei)和短柱组(*Millettia* sect. *Eurybotryae* Dunn) (Schot, 1994; Wei & Pedley, 2010b; 刘冰等, 2015)。Geesink (1984)将*Whitfordiodendron* Elmer (原猪腰豆属)处理为鸡血藤属的异名, 并将猪腰豆(*Whitfordiodendron filipes*)转入绢丝花属(*Afgekia* Craib)(Wei & Pedley, 2010a; 刘冰等, 2015); 后分子证据证实鸡血藤属仍不自然, 且处理后的绢丝花属亦不自然且嵌于鸡血藤属中(Li et al, 2014; Campton et al, 2019), 因此Campton等(2019)对鸡血藤属进行了进一步的拆分, 其中国产类群受影响的包括: 广东鸡血藤(*Callerya fordii* (Dunn) Schot)和美丽鸡血藤(*Callerya speciosa* (Champ. ex Benth.) Schot)被转入新属南海藤属(*Nanhaia* J. Compton & Schrire); 江西鸡血藤(*Callerya kiangsiensis* (Z. Wei) Z. Wei & Pedley)、网络鸡血藤(*Callerya reticulata* (Benth.) Schot)、绿花鸡血藤

(*Callerya championii* (Benth.) X. Y. Zhu)和宽序鸡血藤(*Callerya eurybotrya* (Drake) Schot)被转入新属拟紫藤属(*Wisteriopsis* J. Compton & Schrire); 猪腰豆被转入重新恢复的*Padbruggea* Miq., 现建议将该属中文名确定为“猪腰豆属”。

(19)从岩黄芪属(*Hedysarum* L.)中分出羊柴属(*Corethrodendron* Fisch. & Basiner), 包括FRPS中原属木本组(*Hedysarum* sect. *Fruticosa* B. Fedtsch.)的所有类群(Xu & Choi, 2010a), 这一处理得到了分子证据的支持(Amirahmadi et al, 2013; Duan et al, 2015; Liu et al, 2017); 藏豆属(*Stracheya* Benth.)并入岩黄芪属(Xu & Choi, 2010b; 刘冰等, 2015)。

需要说明的是: 关于本类群的中文名, *Flora of China*将*Corethrodendron* Fisch. & Basiner拟名为“山竹子属”, “山竹子”这一名称为藤黄科(*Clusiaceae* Lindl.)藤黄属(*Garcinia* L.)之半通名, 且该属植物莽吉柿(*Garcinia mangostana* L.)作为一种广为人知的水果, 亦有一俗称“山竹子”, 为避免混淆, 本文建议用本属下较广为人知的一种牧草植物蒙古岩黄芪(*Corethrodendron fruticosum* (Pall.) B. H. Choi & H. Ohashi var. *mongolicum* (Turcz.) Turcz. ex Kitag.)的俗称“羊柴”作为本属属名, 即“羊柴属”。

(20) Duan等(2016)依据分子和形态学证据将丽豆属(*Calophaca* Fisch.)和铃铛刺属(*Halimodendron* Fisch. ex DC.)并入锦鸡儿属(*Caragana* Fabr.)。

(21) Yakovlev和Sviazeva (1987)从雀儿豆属(*Chesneya* Lindl. ex Endl.)中拆出云雀豆属(*Spongiocarpella* Yakovlev & N. Ulziykh.), 其中组合了FRPS中收录的云雾雀儿豆(*C. nubigena* (D. Don) Ali)、川滇雀儿豆(*C. polystichoides* (Hand.-Mazz.) Ali)、紫花雀儿豆(*C. purpurea* P. C. Li)和刺柄雀儿豆(*C. spinosa* P. C. Li), 并发表了云南云雀豆(*S. yunnanensis* Yakovlev)、疏叶云雀豆(*S. paucifoliolata* Yakovlev)和察隅云雀豆(*S. intermedia* Yakovlev) 3个新种。钱子刚(1998)研究了两属, 认为云雀豆属不能成立, 故将其处理为雀儿豆属的异名, 并将其新发表的3种组合到雀儿豆属。

(22) Zhang和Podlech (2006)恢复了蔓黄芪属(*Phyllolobium* Fisch.)的地位, 该属包括FRPS中隶属于黄芪属(*Astragalus* L.)簇毛亚属(*Astragalus* L. subg. *Pogonophace* Bunge)的背扁组(*Astragalus* sect. *Phyllolobium* (Fisch.) Bunge)全部种和膨果组(*Astra-*

galus sect. *Bibracteola* Simps.)的长小苞黄芪(*A. balfourianus* Simps., 包括小苞黄芪*A. prattii* N. D. Simpson)、弯齿黄芪(*A. camptodontus* Franch., 包括类芒齿黄芪*A. camptodontoides* Simps.)、芒齿黄芪(*A. dolichochaete* Diels, 包括黄白黄芪*A. albido-flavus* K. T. Fu)、亚东黄芪(*A. yatungensis* Ni & P. C. Li, 为*A. donianus* DC.的异名, 包括密根黄芪*A. pycnorhizus* Wall. ex Benth.)、黄绿黄芪(*A. flavovirens* K. T. Fu, 包括狭叶黄芪*A. angustifoliolatus* K. T. Fu)、拉萨黄芪(*A. lasaensis* Ni & P. C. Li)、米林黄芪(*A. milingensis* Ni & P. C. Li)、牧场黄芪(*A. pastorius* Tsai & Yu, 包括德钦黄芪*A. tehchingensis* Cheng f. ex K. T. Fu)、奇异黄芪(*A. prodigosus* K. T. Fu)、乡城黄芪(*A. sanbilingensis* Tsai & Yu)、定日黄芪(*A. tingriensis* Ni & P. C. Li)、蒺藜叶黄芪(*A. tribulifolius* Benth. ex Bunge, 包括甘青黄芪*A. tanguticus* Batalin)、膨果黄芪(*A. turgidocarpus* K. T. Fu)以及后来发表的蔓生黄芪(*A. chapmanianus* Wenninger)、九叶黄芪(*A. enneaphyllus* P. C. Li)、线耳黄芪(*A. lineariaurifer* P. C. Li)、耐旱黄芪(*A. siccanus* P. C. Li) (Wenninger, 1991; 李沛琼, 1989)。朱相云(2015)认为将甘青黄芪(*A. tanguticus* Batalin)完全处理为膨果蔓黄芪(*Phyllobium turgidocarpum* (K. T. Fu) M. L. Zhang & Podlech)的异名不妥当, 将其组合至蔓黄芪属。

需要说明的是: 关于本属的中文名, *Flora of China*将其拟定为“膨果豆属”(Xu et al, 2010), 考虑到豆科中多有荚果膨胀的类群, 在本属近缘的黄芪属中亦不乏这样的类群, 如长果颈黄耆(*Astragalus englerianus* Ulbr.)等, 故本文主张依据张明理等(2009)提供的中文拟名, 将本属中文名拟定为“蔓黄芪属”(原文用“耆”而不用“芪”, 按“黄耆”为“黄芪”之后世讹写, 古代字韵书皆未见此写法, 故本文建议改为“蔓黄芪属”)。

2 种的分类学地位变动

(1)中国南部引栽的南洋楹(*Albizia falcataria* (L.) Fosberg)从合欢属(*Albizia* Durazz.)分出, 归入南洋楹属(*Falcataria* (I. C. Nielsen) Barneby & J. W. Grimes) (Wu & Nielsen, 2010; 刘冰等, 2015)。

(2)中国引栽的变黑金雀儿(*Cytisus nigricans* L.)从金雀儿属(*Cytisus* Desf.)分出, 归入黑金雀属(*Lembotropis* Griseb.) (Wei & Turland, 2010; 刘冰等,

2015)。

(3) Song等(2017)在研究模式标本后, 将小叶干花豆(*Fordia microphylla* Dunn ex Wei)处理为印度崖豆(*Millettia pulchra* (Benth.) Kurz)的异名。

(4)补骨脂(*Psoralea corylifolia* L.)被转入补骨脂属(*Cullen* Medik.), *Psoralea* L.易中文名为松豆属(Wei & Gilbert, 2010; 刘冰等, 2015)。

(5) FRPS收录的中国引栽的绣球小冠花(*Coronilla varia* L.)被转至芥荚豆属(*Securigera* DC.), *Coronilla* L.中文名易为冠花豆属(Lassen, 1989; 多识团队, 2016至今)。

3 新记录属

(1)陈涛和李泽贤(1997)报道了1个国产新记录属落地豆属(*Rothia* Pers.), 其中中国产1种, 即落地豆(*R. indica* (L.) Thuan), 分布于海南省。

(2) Zhang等(2018b)发表中国国产豆科1新种: 百年假节蚂蝗(*Pseudarthria panii* R. Zhang, T. S. Yi & B. Pan bis), 假节蚂蝗属(*Pseudarthria* Wight & Arn.)为国产新记录属, 该属(种)分布于云南省。

(3)孙航和周浙昆(1996)报道了1个国产新记录属: 闭荚藤属(*Mastersia* Benth.), 其中中国产1种, 即闭荚藤(*M. assamica* Benth.), 分布于西藏。

(4) Sun和Bartholomew (2010)在*Flora of China*上收录的刺枝豆属(*Eversmannia* Bunge)为新记录属, 其中中国产1种, 即刺枝豆(*E. subspinosa* B. Fedtsch.), 分布于新疆北部。

4 结语

分子系统学研究对植物系统分类起着非常重要的作用, 一方面, 分子系统学研究可以佐证一些分类处理; 另一方面, 分子系统学研究对植物的系统分类亦可以起到补充作用。豆科作为被子植物第三大科, 对人类的生产生活影响巨大, 厘清其系统分类关系具有重大意义。本文总结了近20年来国产豆科植物的属级分类变动, 但这并不是一个最终结果, 相信在不久的将来, 随着科学技术的发展, 更多曾经令分类学家困惑的分类学问题将得以澄清。

致谢: 由衷感谢华东师范大学廖帅博士、中国科学院广西植物研究所符龙飞助理研究员为本文写作

提供重要参考文献与建议。本文中采用了由中国科学院上海辰山植物园刘夙博士、中国科学院植物研究所刘冰博士主持的多识植物百科中的中文拟名, 特向二位老师表示感谢!

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(责任编辑: 陈又生 责任编辑: 黄祥忠)