

Colored Ribbon Swaying on Earth  
Vitality and Vigor Overflowing in Garden

# 地球彩带飘曳 | 花园生机盎然

贵州百里杜鹃国家级森林公园

Baili Azalea National Forest Park of Guizhou Province

贵州科学院 贵州省植物园 / 编著

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# 前言

# Preface





众所周知，北方的草原，东方的海，西部有高原，水乡在江南，这是中国的美丽地貌。殊不知，在云贵高原贵州西北部的毕节“开发扶贫、生态建设”国家级试验区腹地，不仅有着方圆百里、古朴原始，被誉为“地球彩带、世界花园”的百里杜鹃林带，还有着神奇美丽的百里杜鹃大草原……

百里杜鹃具有独特性、唯一性和不可复制性，既是我国特殊的、珍贵的自然资源，又是我国生态文化中的精髓。百里杜鹃是世界上为数极少的精品之一，是全人类的瑰宝，是自然遗产的瑰宝。

百里杜鹃是一座规模宏伟的天然花园，由20多个景点组成，分为金坡景区、普底景区、野营区、游乐区、休闲疗养区、后备发展区，有五彩路、数花峰、醉九牛、漫步云台、黄家坝阻击战纪念碑、百花坪、马缨岭、锦鸡箐、对嘴岩、御赐银杏、千年古桑、杜鹃花王、彝山湖、花底岩等游览观光景点，还有百里杜鹃湖、米底河瀑布和上万亩的百里杜鹃大草原。

1987年3月，贵州省人民政府将百里杜鹃列为省级风景名胜区。1993年5月，原国家林业部（现更名为国家林业局）批准建立百里杜鹃国家级森林公园。2001年，百里杜鹃又被列为贵州省地级自然保护区。2007年7月，经贵州省委、省政府批准，毕节地委、行署成立贵州省百里杜鹃风景名胜区党务工作委员会和管理委员会，为毕节地区正县级派出机构，统一管理和开发百里杜鹃国家级森林公园和风景名胜区。2008年3月，百里杜鹃被评为国家3A级旅游景区，同年7月，百里杜鹃被评为“2008贵州十大魅力旅游景区”。在“2008年中国花卉协会杜鹃花分会年会暨杜鹃花卉展览会”上，中国花卉协会杜鹃花分会授予百里杜鹃风景名胜区所辖普底、金坡、仁和、大水4个乡“中国百里杜鹃花之乡”的称号。

实际上，早在20世纪80年代，国内外的有关专家、学者就开始注意到百里杜鹃的科学研究价值。1984年5月至1985年5月，贵州省科学技术协会组织了有关专家、学者，由刘振业教授率队，应用系统工程的原则和方法对贵州百里杜鹃进行多学科综合性的考察，基本上摸清了其形成的原因及杜鹃花种类的分布规律，以及鸟类、菌类、药用动植物种类资源，广大科技工作者付出了辛勤的劳动，获得了许多宝贵的本底资料。2007年4月，贵州科学院陈训研究员牵头组织有关专家和学者再次对百里杜鹃进行了科学考察，科学考察的技术手段和方法更加先进，考察的内容广泛、广度宽阔，研究探索更加深入。

百里杜鹃国家级森林公园因其大面积的千姿百态、绚丽动人的杜鹃花景观和浓郁的民族风情而声播四方。它具有分布广、面积大、品种多、景观迷人的特点，在国内外都属罕见，具有颇高的观赏价值。景区内马缨杜鹃(*Rhododendron delavayi* Franch.)、树形杜鹃(*R. arboreum* Smith)、狭叶马缨杜鹃(*R. delavayi* var. *peramoenum*)、美容杜鹃(*R. calophyllum* Franch.)、大白杜鹃(*R. decorum* Franch.)、露珠杜鹃(*R. irroratum* Franch.)、繁花杜鹃(*R. floribundum* Franch.)等41个品种，在全世界所有杜鹃花9个亚属中，这



# 前言

# Preface

里就占有5个亚属，占贵州省杜鹃资源的45.6%。百里杜鹃国家级森林公园分别有常绿杜鹃亚属22种，杜鹃亚属8种，映山红亚属6种，马银花亚属4种，羊躑躅亚属1种，其中常绿类杜鹃花有34种，落叶类杜鹃花有7种，分别占百里杜鹃植物区系杜鹃花亚属种类的82.92%和品种的17.08%。

百里杜鹃国家级森林公园自然植被丰富，多种植物以其独特的生存规律共生在这片林带之中，构成中亚热带常绿阔叶林带，因而既具有中亚热带常绿阔叶林的性质，又表现出明显的过渡性与次生性特征。由于受环境变化的影响和人为活动的干扰，乔木被破坏或被砍伐，杜鹃灌丛迅速、大量地发展，植被灌丛逐步演变成为以杜鹃植物类群占优势的植被景观，从而形成了百里杜鹃。百里杜鹃主要伴生植物灌木有小果南烛[ *Lyonia ovalifolia* (Wall.) Drude var. *elliptica* (S. et Z.) H.-M.]、滇白珠[ *Gaultheria yunnanensis* (Franch.) Rehd.]、火棘[ *Pyracantha fortuneana* (Maxim.) Li]等；乔木树种主要为落叶植物，如光皮桦( *Betula luminifera* H. Winkl.)、响叶杨( *Populus adenopoda* Maxim.)等；草本地被多为一些亚热带半阳性植物，如芒( *Miscanthus sinensis* Anderss.)、蕨菜( *Pteridium aquilinum* Kuhnvar)、野古草( *Arundinella anomala* Stend.)等；藤本植物极少，有少量的攀援灌木，如忍冬( *Lonicera japonica* Thunb.)、鸡血藤( *Millettia reticulata* Benth.)、光叶菝葜( *Smilax glabra* Roxb.)等。

本书是一部中英文对照、图文并茂，集科研、科普为一体的科技著作，较全面地介绍了百里杜鹃国家级森林公园的发现、成长历程，百里杜鹃自然保护区内独特的自然地理条件和丰富的动植物、矿产资源等，丰富多彩的民族文化和变化万端的奇妙景点，以及科学考察和科学研究取得的丰硕成果。

本书是在贵州省重大科技专项（黔科合重大专项〔2007〕6005号）、国家农业科技成果转化项目（2007GB2F200289号）和贵州省科技创新能力建设项目（黔科合院所创能〔2009〕4008号）的支持下取得的科研成果，全书由刘海燕完成统稿。其中，第一章由李媛媛、刘海燕编写和翻译，第二、三章由周艳编写和翻译，第四、五章由龙成昌编写和翻译。本书的英文翻译由贵州师范大学余学军教授校正。本书在实地考察过程中得到了百里杜鹃风景名胜区党务工作委员会和管理委员会的大力支持，同时百里杜鹃管理委员会新闻中心和百里杜鹃科学研究所还提供了部分珍贵的照片。贵州省林业科学研究院王汝昌高级工程师、杨成华研究员和贵州师范大学生命科学学院乙引教授等提供了部分照片，在此一并致谢。

本书可供植物学、林学、生态学以及生物多样性研究者、科普教育工作者以及各有关人员参考使用。由于时间仓促和作者水平有限，不当之处在所难免，希望各位同仁和专家提出宝贵意见。

编著者

2010年5月7日





It is well known, prairies in the north of China, sea in eastern, plateaus in the western and the watery towns in the south of China, all of these constitute are the beautiful landform of China. But most people do not know that there is not only the primitive Baili Azalea forest covering about one hundred of Lis, which is honored as 'Earth's colored ribbon, the world's garden', but also a wonderful and beautiful Baili Azalea prairie in Bijie Experimental area in Yungui plateau located in northwest of Guizhou Province is in charge of the 'state-level development and aid-the-poor program'.

The Baili Azalea with the characteristic of unique, uniqueness and non-reproduced, is the special, precious, non-renewable natural resource. It is one of few boutiques left in the world, which is the treasure of mankind and natural heritage.

The Baili Azalea is a spectacular natural rhododendron garden, composed of over 20 scenic spots. It is divided into Jinpo, Pudi, camping area, recreational area, leisure therapy area and reserve developing area. There are many scenic spots, such as Multicolored Road, Count-flower Peak, Nine Drunk Bull, Strolling Cloud Terrace, the Huangjiaba Blocking Action Monument, Flowery Terrace, *Rhododendron Delavay* Mountain, Golden Pheasant Valley, Mouth to Mouth Rock, the Ginkgo Granted by Emperor, the Millennium Ancient Mulberry, the Azalea King, Yishan Lake, Huadi Cliff. Also an over 666.7 hm<sup>2</sup> Baili Azalea prairie, Baili Azalea Lake, waterfall of Midi River scenic spots, and so on.

In March, 1987, Baili Azalea was listed as the province-level scenic spot by People Government of Guizhou Province. In May, 1993, the former National Ministry of Forestry(now it is changed to State Forestry Administration) authorized to establish the Baili Azalea National Forest Park. In 2001, it was listed as the district-level nature reserve. In July, 2007, authorized by the Provincial Committee and the Provincial Government of Guizhou, the Bijie Prefectural Committee and the administrative office established the Party Trade Union and the Management Committee for the Scenic Spots and Historic Sites of Baili Azalea, which is the county-level agency in Bijie district, to convenient for unified management and development. In March, 2008, it was evaluated as the national 3A level tourist scenic spot. In July in the same year, it was assessed as 'One of the Ten Most Charming Tourist Scenic Spots in Guizhou, 2008'. At the meeting, 'the Annual conference of Azalea Branch of Chinese Flowers and Plants Association and the Azalea Exhibition in 2008', the Azalea Branch of Chinese Flowers and Plants Association awarded the title, 'The home of the Chinese Baili Azalea', for Pudi, Jinpo, Renhe and Dashui in the Baili Azalea scenic spot.

# 前言

# Preface

Actually, in the early 1980s, some domestic and foreign experts and scholars had begun to notice the scientific value of Baili Azalea. From May, 1984 to May, 1985, the Science and Technology Association of Guizhou Province organized the experts and scholars to explore the comprehensive vale of this forest. Prof. Liu Zhenye led the expedition. Based on the principle and method of system engineering, they had basically found out the reason of formation and the distribution rule of rhododendron species, as well as the birds resources, fungus resources, medicinal plant and animal species. The scholars had worked hard, obtained many precious first-hand materials. In April, 2007, the expert, Chen Xun from Guizhou Academy of Sciences, organized many experts and scholars to conduct further study. The comprehensive group used advanced experimental techniques and methods, carried out in-depth survey work, whose depth and breadth had been further strengthened.

The Baili Azalea National Forest Park is characterized by its wide distribution and large area of various species of azalea, which are rarely seen elsewhere. The variety of species and attractive scenery make the area unique and outshine the others home and abroad. Totally 41 species find home here, namely, *Rhododendron delavayi* Franch., *R. arboreum* Smith, *R. delavayi* var. *peramo-enum*, *R. calophytum* Franch., *R. decorum* Franch., *R. irroratum* Franch., *R. floribundum* Franch.. There are 9 subgenera of azalea in the world, 5 of which can be found here, accounting for about 45.6% of the rhododendron species in Guizhou Province. There are 22 species of *Hymenanthes* subgenus, 8 species of *Rhododendron* subgenus, 6 species of *Tsutusi* subgenus, 4 species of *Azaleastrum* subgenus, 1 species of *Pseudanthodendron* subgenus. There are 34 species evergreen azaleas, 7 species deciduous azaleas, respectively 82.92% and 17.08% in the rhododendron of the Baili Azalea flora.

The natural vegetation is rich in Baili Azalea National Forest Park, many kinds of plants living with their unique survival rule, live together in this forest belt, form subtropics evergreen broad-leaved forest. The zonality vegetation is evergreen broad-leaved forest, with the subtropics evergreen broad-leaved forest character, simultaneously displays the obvious transition and the secondary characteristic. As a result of environmental variation and the artificial activity, the arbors were destroyed or felled, thus the azaleas brush had developed massively into a brush landscape, which rapidly formed the 'Baili Azalea'. There are many other companion plants in the forest, the main companion plant bush, such as *Lyonia ovalfolia* (Wall.) Drude var. *elliptica* (S. et Z.) H.-M., *Gaultheria yunnanensis* (Franch.) Rehd., *Pyracantha fortuneana* (Maxim.) Li, and so on; the main arbor species are the deciduous plants, such as *Betula luminifera*





H. Winkl., *Populus adenopoda* Maxim., and so on; the herb are some subtropics half-sun plants, such as *Miscanthus sinensis* Anderss., *Pteridium aquilinum* Kuhnvar, *Arundinella anomala* Stend., and so on; the lianas are extremely few, but few climber bushes are living, such as *Lonicera japonica* Thunb., *Millettia reticulata* Benth., *Smilax glabra* Roxb., and so on.

This book is a scientific research and popular science writings in both Chinese and English, with illustrations and pictures. It introduced comprehensively the discovery and the growth of Baili Azalea National Forest Park, the unique physical geography condition and rich zoology botany and mineral resource in Baili Azalea Nature Reserve, the rich and colorful culture of the Minority Nationalities and marvelous scenic spots, as well as the great achievements by the scientific expedition and scientific research.

This book gets financial help from the special grand science-technology project of Guizhou Province (No.(2007) 6005), the National Transformation of Agricultural Sci-tech Achievements project (No. 2007GB2F200289) and the Project for scientific and technological innovation capabilities of Guizhou Province (No. (2009) 4008) . Guizhou Province Botanic Garden compiled the book in cooperation with Guizhou Academy of Sciences. And the chapter 1 was written by Li Haiyan and Li Yuanyuan compiles, Zhou Yan wrote chapter 2 and chapter 3, chapter 4 and chapter 5 were written by Long Chengchang. They translated the corresponding chapters. The English of this book obtained adjustment from Prof. Yu Xuejun from the Guizhou Normal University. The Party Trade Union and the Management Committee of the Scenic Spots and Historic Sites of Baili Azalea provided full support in the field investigation. The Media Center and the Scientific Research Institute of Baili Azalea have also provided many precious pictures. Professors, Wang Zichang and Yang Chenghua, who are from Guizhou Science Academy of Forestry, Prof. Yi Yin, who is from Life Science College of Guizhou Normal University have provided some pictures. We are grateful for the help from all of them.

This book may supply reference for the botany, the forestry, the ecology, as well as the biodiversity researchers, the popular science educator and each concerned personnel. Because the time is so short and the author level is limited, unsuitability is unavoidable. We sincerely hope that you will give us your suggestions.

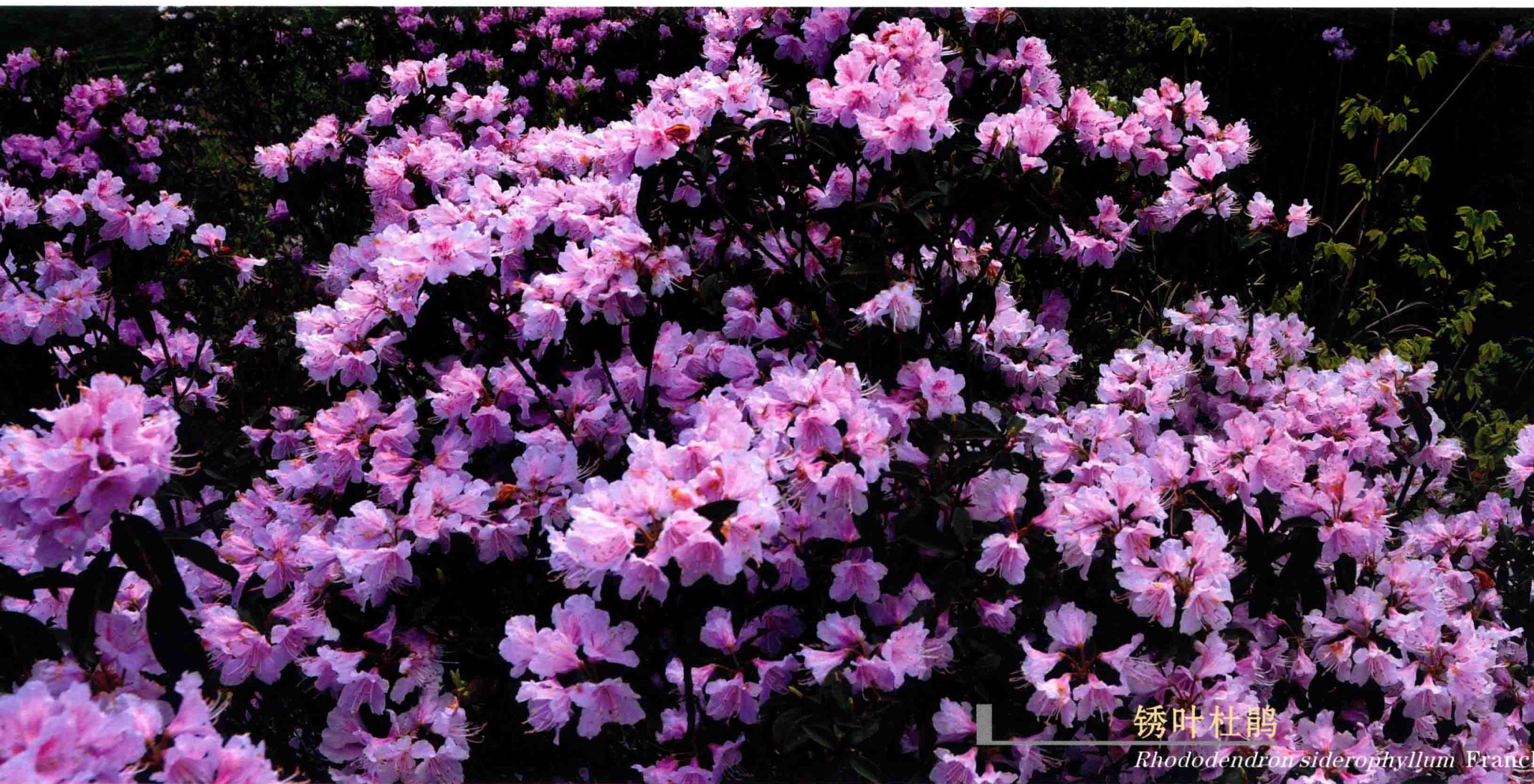
Authors

May 7, 2010



# 第一章

# Chapter 1



锈叶杜鹃

*Rhododendron siderophyllum* Franch.



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Vitality and Vigor Overflowing in Garden

Baili Azalea National Forest Park  
of Guizhou Province

*Azalea*







## 第一章 地球彩带——百里杜鹃的发现

### 一、美丽的索玛，浪漫的杜鹃

彝语称杜鹃花为“索玛”，即迎客之花，是彝族人民的圣花。

在百里杜鹃，居住的主要民族是彝族。同整个黔西北的彝族一样，这里有着代代相传的乡土民族文化。游人如果细心，或可感觉到百里杜鹃除了有世界上最大面积、最多品种、最多色彩的杜鹃花外，还有浩若烟海的彝文典籍中那些关于索玛的美丽传说：有一年，天突然通了5个洞，洪水从5个洞里泄下，淹没了大地，英雄支嘎阿鲁用3年时间才把洞堵好。索玛本是彝族传说中的天神策举祖的女儿，她被支嘎阿鲁的事迹感动，动了凡心，下嫁于他并与之生儿育女。此后，彝语中就把美丽的姑娘和杜鹃花都称之为索玛。

索玛花开时节，当地的彝族人民都要“祭花神”，这可是彝族最具神秘色彩的文化活动。彝族祭司们带着傩戏面具，跳着乌蒙彝族特有的“撮泰吉”变人戏，为他们崇敬的索玛花神主持祭典，祈愿花神给人间带来美丽，给乡民带来幸福。

“蓝天上最美丽的是金色的太阳，夜空上最美丽的是圆圆的月亮，春天里最美丽的是盛开的索玛花……”千百年来，彝族同胞们一直这样歌唱着他们的索玛。在美丽的传说中，索玛是勇敢的女神，是执著的爱神，是拯救万民的圣母。百里杜鹃一带传唱的《乌撒牧歌》中还有这样的歌词：“今夜的月光，银灿灿带着香，坐在故乡的山坡上，看着思念翻过山。想起那温暖的人儿啊，如今在何方？满山遍野的杜鹃呀，一年一悲伤……”这又关乎另一个美丽的彝族传说了：在古时候，有一位美丽的彝家少女叫索玛，她的聪明令世人折服，她的勤劳让乡亲们钦佩，她的美丽让山鹰忘记了翱翔，她的歌喉让百鸟陶醉。有一位牧羊的彝家小伙阿哲勤劳善良，他像天空飞翔的雄鹰，他矫健的身影能让日月惊叹，他勇猛的斗志能叫野兽退让。索玛爱上了阿哲，他们私订终身。在一个月明星稀的晚上，他们逃离了家园，饿了就采野果、食山芋，渴了就饮山泉，还用清甜的泉水酿出了芬芳的“咂酒”。但好景不长，头人阿支罗泥看上了索玛，为了得到索玛，派人在阿哲采野果的路上害死了他，逼迫索玛与他成婚。索玛誓死不从，跳下山崖殉情，她的热血变成了火红的马缨杜鹃，她的灵魂变成了美丽的杜鹃鸟呼唤自己的爱人。这便是彝族“杜鹃啼血”的典故，他们不弃的爱恋，乃是人世间不朽的传奇。