

惠州

蜻蜓

Huizhou

Dragonflies

吴宏道 编著

Edited by Wu Hongdao



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本书由作者和广东南昆山省级自然保护区合作完成



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HUIZHOU DRAGONFLIES 惠州蜻蜓

注：这里所说的“稀有”是指在惠州地区只有1—2处分布点，“少见”是指有3—10处分布点，“常见”是指有11—100处分布点，“广泛分布”是指有100处以上分布点，“飞行期”和“体长”亦以惠州地区的调查为依据。（稀有程度参照韦斯顿 Wilson 斗生判定标准。）

The status of species is ranked as 'Rare', 'Uncommon', 'Common' and 'Widespread'.

'Rare': the species is only recorded from 1-2 sites;

'Uncommon': the species is recorded from 3-10 sites;

'Common': the species is recorded from 11-100 sites;

'Widespread': the species is recorded from over 100 sites.

PS: The standard of "rare" is following Mr. Wilson's standard.

序 Preface



虽然直至今日，蜻蜓仍然仅被少数昆虫学家所研究，但在这个新的世纪，全世界的自然爱好者正给予它们更多的关注。许多爱好者，像鸟类爱好者观察和拍摄鸟类那样，可以通过观察和拍摄蜻蜓获得许多乐趣。在许多国家大量，的蜻蜓书籍正纷纷发行，这使我们可以鉴别和了解该地区的蜻蜓多样性。

吴宏道的这本书则是中国大陆首本此类图鉴。以中英双语编辑的文字部分相对较少，但是超级精美的彩色图片为中国华南地区的蜻蜓提供了完美的介绍。虽然惠州市面积仅占广东省面积的 6%，全中国的 0.11%，但是这一地区却记录了至少 174 种蜻蜓，大约为全广东省蜻蜓总数的 70%，全中国的 1/4。主要原因是惠州地区拥有许多自然保护区。其中最著名的有南昆山自然保护区，该保护区蜻蜓物种极为丰富，

而且该地区的蜻蜓调查也较深入。除了保护区，惠州地区还有许多合适的低地和山区湿地栖境。

中国第一本附有蜻蜓图片的书籍是 1798 年 Edward Donovan 在英国伦敦发表的著名的 *An Epitome of the Natural History of the Insects of China*。在全书的 50 个手绘彩色铜版纸图版中有 2 个图版绘制了 6 种蜻蜓。这些种类，包括美丽的华艳色蟌，第一个记录于中国和亚洲地区的蜻蜓，全部可以在吴宏道的图鉴中找到。尽管从 Donovan 时期至今，世界已经发生了许多改变，但昆虫的美丽和多样仍然持续地吸引着我们，展示它们美丽的书籍也不断地发表。我感到十分荣幸能为这本图鉴写序言，我个人也十分高兴，因为我曾短暂地访问了南昆山和罗浮山，并亲眼目睹了作者在野外为本书拍摄非常精美的照片。

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Until relatively recent times, dragonflies were studied by only a few entomologists, but in this new century they are receiving ever increasing attention from nature lovers all over the world. Many now derive great pleasure from the hobby of observing and photographing dragonflies, in the way they have long watched and photographed birds. Numerous new books introducing dragonflies, enabling their identification and reporting their regional or local diversity are being published in many countries.

The present book by Wu Hongdao is among the first of its kind from the mainland of China. The bilingual text is limited, but the superb colour photos provide an excellent introduction to the diverse and colourful world of south Chinese dragonflies. Although, the area of Huizhou City covers only 6 % of the land area of Guangdong province and a tiny 0.11 % of the whole of China, this area is home to at least 174 species of dragonflies - about 70 % of species known from Guangdong and one quarter of the total Chinese dragonfly fauna. This is mainly because the area of Huizhou City includes several well preserved protected areas. The most famous is Nankunshan

provincial reserve, which is especially rich in dragonfly species and has been particularly well studied. Within Huizhou City there are also suitable wetland habitats outside protected areas, in both lowlands and mountains.

The first book illustrating Chinese dragonflies was Edward Donovan' s famous classic *An Epitome of the Natural History of the Insects of China*, published in London in 1798. Two of its 50 fine hand-coloured copper-engraved plates illustrate six dragonfly species. All of these, including the beautiful *Neurobasis chinensis*, the first dragonfly from China and the whole of Asia to be scientifically named, are also to be found in Wu' s book. Since the time of Donovan the world has changed in many ways. However, the beauty and diversity of insects continues to fascinate us, and books showcasing their splendour are still being published. I feel privileged to have been invited to write these few lines introducing this fine book. The pleasure is especially personal, as, during joint brief visits in Nankunshan and Luofushan parks, I have witnessed with my own eyes the author taking some of the photographs which are here reproduced so splendidly.

前言 Foreword

惠州市（东经 $113^{\circ} 51' \sim 115^{\circ} 28'$ ，北纬 $22^{\circ} 24' \sim 23^{\circ} 57'$ ）位于广东省东南部，总面积 11370km^2 ，属南亚热带季风气候区，年平均气温 22°C ，年降水量 $1700 \sim 2300\text{mm}$ 。惠州市山地丘陵面积大，森林植被良好，森林覆盖率达 59.8% 。建有国家级、省级、市级和县（区）级森林与野生动植物类型自然保护区 26 个，建有森林公园 36 个。自然保护区和森林公园总面积达 114800hm^2 ，占惠州市国土总面积的 10.1% 。这些保护区和森林公园为野生动物包括蜻蜓提供了极为重要的繁衍场所。

蜻蜓是指蜻蜓目（Odonata）所有种类，蜻蜓目在分类学上隶属于节肢动物门昆虫纲，有 3 个亚目：均翅亚目（Zygoptera）、

间翅亚目（Anisozygoptera）和差翅亚目（Anisoptera）。目前全世界已有超过 5800 种蜻蜓，中国有 600 余种。在惠州市有许多非常适宜蜻蜓繁衍的栖息地，例如南昆山、汝湖镇大良村、罗浮山和象头山等。作者经过 12 年的野外考察，共记录了惠州地区蜻蜓目 2 个亚目 17 科 97 属共 174 种（含亚种）蜻蜓，它们的美丽身影都可以在本书中找到，包括闻名世界的蝴蝶裂唇蜓（*Chlorogomphus papilio*）、赤基色螳（*Archineura incarnata*），以及许多鲜为人知的稀有品种。希望通过本书使热爱蜻蜓的朋友，无论是专业人员还是普通爱好者，更加了解惠州地区的蜻蜓，并促使更多感兴趣的人去认识这些大自然水边的精灵。





Situated in the southeast of Guangdong Province, Huizhou ($113^{\circ} 51' \sim 115^{\circ} 28'$ east longitude and $22^{\circ} 24' \sim 23^{\circ} 57'$ north latitude) belongs to the southern subtropics monsoon climate zone, covering an area of 11,370 square kilometers. It's annual average temperature is 22°C and the rainfall here averages 1700~2300mm a year. With a large area of hills, mountains and good forest vegetation (forest coverage rate reaching 59.8%), Huizhou has 26 nature reserves for forests, wild plants and animals, which are at the national, provincial, municipal, district and county levels. It also has 36 forest parks. The reserves and the forest parks cover a total area of 114,800 hectares or 10.1% of the total land area of Huizhou, providing very important breeding sites for wild animals which include dragonflies.

Including 3 suborders —Zygoptera, Anisozygoptera and Anisoptera, dragonflies refer

to all the insects of order Odonata which subjects to Insecta, Arthropoda. So far there are over 5,800 species known all over the world, and a total of over 600 species have been found in China. There are a lot of habitats appropriate for dragonflies to breed in Huizhou, like Mt. Nankunshan, Daliangcun Village in Ruhu Town, Mt. Luofushan and Mt. Xiangtoushan. After 12 years of the field surveys, the author has recorded 174 species (including subspecies) in 97 genus, 17 families and 2 suborders in Huizhou, all their beautiful pictures can be found in this book, including the world-famous species *Chlorogomphus papilio* and *Archineura incarnata*, as well as many other little known species. Through this book, we hope dragonflies lovers, fans as well as experts, can have a better understanding of dragonflies in Huizhou. And we also hope that this book can get more people who are interested in dragonflies know more about these water sprites.

目录 Contents

序

前言

蜻蜓重要栖息地——广东南昆山省级自然保护区	013
蜻蜓的眼睛	015
蝴蝶裂唇蜓羽化	016
Zygoptera 均翅亚目	017
Philogangidae 大溪螳科	017
<i>Philoganga robusta</i> Navás, 1936 壮大溪螳	017
<i>Philoganga vetusta</i> Ris, 1912 大溪螳	018
Calopterygidae 色螳科	019
<i>Archineura incarnata</i> (Karsch, 1892) 赤基色螳	019
<i>Atrocalopteryx atrata</i> (Selys, 1853) 黑暗色螳	020
<i>Atrocalopteryx melli</i> (Ris, 1912) 黑顶暗色螳	021
<i>Matrona basilaris</i> Selys, 1853 透顶单脉色螳	022
<i>Mnais mneme</i> Ris, 1916 烟翅绿色螳	023
<i>Mnais tenuis</i> Oguma, 1913 透翅绿色螳	024
<i>Neurobasis chinensis</i> (Linnaeus, 1758) 华艳色螳	025
<i>Vestalaria velata</i> (Ris, 1912) 褐翅细色螳	026
Chlorocyphidae 扁螳科	027
<i>Aristocypha chaoi</i> (Wilson, 2004) 赵氏圣鼻螳	027
<i>Heliocypha perforata</i> (Percheron, 1835) 三斑阳鼻螳	028
<i>Libellago lineata</i> (Burmeister, 1839) 点斑隼螳	029
Euphaeidae 溪螳科	030
<i>Bayadera bidentata</i> Needham, 1930 二齿尾溪螳	030
<i>Bayadera melanopteryx</i> Ris, 1912 巨齿尾溪螳	031
<i>Euphaea decorata</i> Hagen in Selys, 1853 方带溪螳	032
<i>Euphaea opaca</i> Selys, 1853 褐翅溪螳	033
Synlestidae 综螳科	034
<i>Sinolestes edita</i> Needham, 1930 黄肩华综螳	034
Lestidae 丝螳科	035
<i>Lestes nodalis</i> Selys, 1891 蕾尾丝螳	035



Megapodagrionidae 山螳科	036
<i>Agriomorpha fusca</i> May, 1933 白尾野螳	036
<i>Philosina alba</i> Wilson, 1999 覆雪黑山螳	037
<i>Philosina buchi</i> Ris, 1917 红尾黑山螳	038
<i>Rhipidolestes janetae</i> Wilson, 1997 黄纹扇山螳	039
<i>Rhipidolestes truncatidens</i> Schmidt, 1931 褐顶扇山螳	040
Coenagrionidae 螳科	041
<i>Aciagrion tillyardi</i> Laidlaw, 1919 蒂氏狭翅螳	041
<i>Agriocnemis femina oryzae</i> Lieftinck, 1962 杯斑小螳	042
<i>Agriocnemis lacteola</i> Selys, 1877 白腹小螳	043
<i>Agriocnemis pygmaea</i> (Rambur, 1842) 黄尾小螳	044
<i>Ceriagrion auranticum ryukyuanum</i> Asahina, 1967 翠胸黄螳	045
<i>Ceriagrion fallax</i> Ris, 1914 长尾黄螳	046
<i>Ceriagrion</i> sp. 黄螳属一种	047
<i>Ischnura rufostigma</i> Selys, 1876 赤斑异痣螳	048
<i>Ischnura senegalensis</i> (Rambur, 1842) 褐斑异痣螳	049
<i>Paracercion calamorum dyeri</i> (Fraser, 1919) 蓝纹尾螳	051
<i>Paracercion melanotum</i> (Selys, 1876) 黑背尾螳	052
<i>Pseudagrion microcephalum</i> (Rambur, 1842) 绿斑螳	053
<i>Pseudagrion pruinatum</i> (Burmeister, 1839) 赤斑螳	054
<i>Pseudagrion rubriceps</i> Selys, 1876 丹顶斑螳	055
<i>Pseudagrion spencei</i> Fraser, 1922 褐斑螳	056
Platycnemididae 扁螳科	058
<i>Calicnemia sinensis</i> Lieftinck, 1984 华丽扁螳	058
<i>Coelliccia cyanomelas</i> Ris, 1912 黄纹长腹扁螳	059
<i>Copera ciliata</i> (Selys, 1863) 毛狭扁螳	060
<i>Copera marginipes</i> (Rambur, 1842) 黄狭扁螳	061
Platystictidae 扁螳科	062
<i>Drapanosticta brownelli</i> (Tinkham, 1938) 包氏廉扁螳	062
<i>Protosticta taipokauensis</i> Asahina & Dudgeon, 1987 白瑞原扁螳	063
Protoneuridae 原螳科	064
<i>Prodasineura autumnalis</i> (Fraser, 1922) 乌微桥原螳	064
<i>Prodasineura croconota</i> (Ris, 1916) 朱背微桥原螳	064

Aeshnidae 蜓科

065

<i>Anaciaeschna jaspidae</i> (Burmeister, 1839) 碧翠蜓	065
<i>Anaciaeschna martini</i> (Selys, 1897) 褐翠蜓	067
<i>Anax guttatus</i> (Burmeister, 1839) 斑伟蜓	068
<i>Anax nigrofasciatus</i> Oguma, 1915 黑纹伟蜓	069
<i>Anax parthenope julius</i> Brauer, 1865 碧伟蜓	070
<i>Boyeria karubei</i> Yokoi, 2002 卡氏细腰蜓	071
<i>Cephalaeschna dinghuensis</i> Wilson, 1999 鼎湖头蜓	072
<i>Cephalaeschna klotsi</i> Asahina, 1982 克氏头蜓	072
<i>Gynacantha japonica</i> Barteneff, 1909 日本长尾蜓	073
<i>Gynacantha subinterrupta</i> Rambler, 1842 细腰长尾蜓	074
<i>Periaeschna flinti</i> Asahina, 1978 福临佩蜓	075
<i>Periaeschna magdalena</i> Martin, 1909 狭痣佩蜓	076
<i>Periaeschna nocturnalis</i> Fraser, 1927 细纹佩蜓	077
<i>Periaeschna zhangzhouensis</i> Xu, 2007 漳州佩蜓	078
<i>Petaliaeschna corneliae</i> Asahina, 1982 科氏叶蜓	079
<i>Planaeschna gressitti</i> Karube, 2002 联纹黑额蜓	080
<i>Planaeschna nankunshanensis</i> Zhang, Yeh & Tong, 2010 南昆山黑额蜓	081
<i>Planaeschna skiaperipola</i> Wilson & Xu, 2008 幽灵黑额蜓	082
<i>Planaeschna suichangensis</i> Zhou & Wei, 1980 遂昌黑额蜓	083
<i>Polycanthagyna erythromelas</i> (McLachlan, 1896) 红褐多棘蜓	084
<i>Polycanthagyna ornithocephala</i> (McLachlan, 1896) 蓝黑多棘蜓	085
<i>Tetracanthagyna waterhousei</i> McLachlan, 1898 沃氏短痣蜓	086

Cordulegastridae 大蜓科

087

<i>Anotogaster sieboldii</i> (Selys, 1854) 巨圆臀大蜓	087
--	-----

Chlorogomphidae 裂唇蜓科

088

<i>Chlorogomphus kitawakii</i> Karube, 1995 克氏裂唇蜓	088
<i>Chlorogomphus nasutus</i> Needham, 1930 长鼻裂唇蜓	089
<i>Chlorogomphus papilio</i> Ris, 1927 蝴蝶裂唇蜓	090
<i>Chlorogomphus shanicus</i> Wilson, 2002 山裂唇蜓	091
<i>Chlorogomphus</i> sp. 裂唇蜓属一种	092

Gomphidae 春蜓科

093

<i>Asiagomphus hainanensis</i> (Chao, 1953) 海南亚春蜓	093
<i>Asiagomphus perlaetus</i> (Chao, 1953) 三角亚春蜓	094
<i>Asiagomphus septimus</i> (Needham, 1930) 凹缘亚春蜓	095
<i>Asiagomphus pacificus</i> (Chao, 1953) 和平亚春蜓	096
<i>Anisogomphus anderi</i> Lieftinck, 1948 安氏异春蜓	096
<i>Anisogomphus koxingai</i> Chao, 1954 国姓异春蜓	097
<i>Amphigomphus hansonii</i> Chao, 1954 汉森安春蜓	098
<i>Burmagomphus vermicularis</i> (Martin, 1904) 联纹缅甸春蜓	099
<i>Davidius fruhstorferi</i> Martin, 1904 弗鲁戴春蜓	100
<i>Fukienogomphus prometheus</i> (Lieftinck, 1939) 深山闽春蜓	101
<i>Fukienogomphus promineus</i> Chao, 1954 显著闽春蜓	102
<i>Gomphidia kelloggi</i> Needham, 1930 克氏小叶春蜓	103
<i>Gomphidia kruegeri kruegeri</i> (Martin, 1904) 并纹小叶春蜓指名亚种	104

<i>Heliogomphus retroflexus</i> (Ris, 1912) 扭尾曦春蜓	105
<i>Heliogomphus scorpoi</i> (Ris, 1912) 独角曦春蜓	105
<i>Ictinogomphus pertinax</i> (Hagen in Selys, 1854) 霸王叶春蜓	106
<i>Labrogomphus torvus</i> Needham, 1931 凶猛春蜓	107
<i>Lamelligomphus camelus</i> (Martin, 1904) 驼峰环尾春蜓	108
<i>Lamelligomphus formosanus</i> (Matsumura in Oguma, 1926) 台湾环尾春蜓	109
<i>Lamelligomphus hainanensis</i> (Chao, 1954) 海南环尾春蜓	110
<i>Leptogomphus intermedius</i> Chao, 1982 居间纤春蜓	111
<i>Leptogomphus perforatus</i> Ris, 1912 圆腔纤春蜓	112
<i>Megalogomphus sommeri</i> (Selys, 1854) 萨默硕春蜓	113
<i>Merogomphus pavici</i> Martin, 1904 帕维长足春蜓	114
<i>Melligomphus ardens</i> (Needham, 1930) 双峰弯尾春蜓	115
<i>Nihonogomphus lieftincki</i> Chao, 1954 黎氏日春蜓	115
<i>Nihonogomphus luteolatus</i> Chao & Liu, 1989 黄侧日春蜓	116
<i>Nihonogomphus semanticus</i> Chao, 1954 长钩日春蜓	117
<i>Ophiogomphus sinicus</i> (Chao, 1954) 中华长钩春蜓	118
<i>Paragomphus capricornis</i> (Förster, 1914) 钩尾副春蜓	119
<i>Phaenandrogomphus tonkinicus</i> (Fraser, 1926) 细尾显春蜓	120
<i>Sieboldius alexanderi</i> Chao, 1955 亚力施春蜓	121
<i>Sieboldius deflexus</i> (Chao, 1955) 折尾施春蜓	121
<i>Sinictinogomphus clavatus</i> (Fabricius, 1775) 大团扇春蜓	122
<i>Stylogomphus tantulus</i> Chao, 1954 小尖尾春蜓	123
<i>Stylurus flavicornis</i> (Needham, 1931) 黄角扩腹春蜓	123
<i>Trigomphus beatus</i> Chao, 1954 黄唇棘尾春蜓	124
Corduliidae 伪蜻科	125
<i>Epophthalmia elegans</i> (Brauer, 1865) 闪蓝丽大伪蜻	125
<i>Hemicordulia</i> sp. 半伪蜻属一种类	126
<i>Idionyx carinata</i> Fraser, 1926 长角异伪蜻	127
<i>Idionyx claudia</i> Ris, 1912 郁异伪蜻	128
<i>Idionyx victor</i> Hämäläinen, 1991 威异伪蜻	129
<i>Macromia berlandi</i> Lieftinck, 1941 伯兰弓蜻	130
<i>Macromia calliope</i> Ris, 1916 笛尾弓蜻	132
<i>Macromia clio</i> Ris, 1916 海神弓蜻	133
<i>Macromia fulgidifrons</i> Wilson, 1998 亮面弓蜻	134
<i>Macromia katae</i> Wilson, 1993 天使弓蜻	135
<i>Macromia malleifera</i> Lieftinck, 1955 福建弓蜻	136
<i>Macromia manchurica</i> Asahina, 1964 黑龙江弓蜻	137
<i>Macromia daimoji</i> Okumura, 1949 大斑弓蜻	138
<i>Macromia septima</i> Martin, 1904 沙天马弓蜻	138
<i>Macromia unca</i> Wilson, 2004 弯钩弓蜻	139
<i>Macromia urania</i> Ris, 1916 天王弓蜻	140
<i>Macromidia ellenae</i> Wilson, 1996 伊中伪蜻	141
<i>Macromidia kelloggi</i> Asahina, 1978 克氏中伪蜻	143
<i>Macromidia rapida</i> Martin, 1907 颡中伪蜻	144
Libellulidae 蜻科	145
<i>Acisoma panorpoides</i> Rambur, 1842 锥腹蜻	145
<i>Brachydiplax chalybea flavovittata</i> Ris, 1911 蓝额疏脉蜻	146

<i>Brachythemis contaminata</i> (Fabricius, 1793) 黄翅蜻	147
<i>Crocothemis servilia</i> (Drury, 1770) 红蜻	148
<i>Diplacodes nebulosa</i> (Fabricius, 1793) 斑蓝小蜻	149
<i>Diplacodes trivialis</i> (Rambur, 1842) 纹蓝小蜻	150
<i>Hydrobasileus croceus</i> (Brauer, 1867) 臀斑楔翅蜻	151
<i>Lyriothemis tricolor</i> Ris, 1919 三色宽腹蜻	152
<i>Lyriothemis elegantissima</i> Selys, 1883 华丽宽腹蜻	153
<i>Macrodiplax cora</i> (Brauer, 1867) 高翔潞蜻	154
<i>Nannophya pygmaea</i> Rambur, 1842 侏红小蜻	155
<i>Nannophyopsis clara</i> (Needham, 1930) 膨腹斑小蜻	156
<i>Neurothemis fulvia</i> (Drury, 1773) 网脉蜻	157
<i>Neurothemis tullia</i> (Drury, 1773) 截斑脉蜻	158
<i>Onychothemis tonkinensis</i> Martin, 1904 北部湾爪蜻	159
<i>Orthetrum chrysis</i> (Selys, 1891) 华丽灰蜻	160
<i>Orthetrum glaucum</i> (Brauer, 1865) 黑尾灰蜻	161
<i>Orthetrum japonicum internum</i> McLachlan, 1894 褐肩灰蜻	162
<i>Orthetrum luzonicum</i> (Brauer, 1868) 吕宋灰蜻	163
<i>Orthetrum pruinatum neglectum</i> (Rambur, 1842) 赤褐灰蜻	164
<i>Orthetrum sabina</i> (Drury, 1770) 狭腹灰蜻	165
<i>Orthetrum triangulare</i> (Selys, 1878) 鼎异色灰蜻	166
<i>Palpopleura sexmaculata</i> (Fabricius, 1787) 六斑曲缘蜻	167
<i>Pantala flavescens</i> (Fabricius, 1798) 黄蜻	168
<i>Potamarcha congener</i> (Rambur, 1842) 湿地狭翅蜻	169
<i>Pseudothemis zonata</i> (Burmeister, 1839) 玉带蜻	170
<i>Rhodothemis rufa</i> (Rambur, 1842) 红胭蜻	171
<i>Rhyothemis triangularis</i> Kirby, 1889 三角丽翅蜻	172
<i>Rhyothemis variegata arria</i> (Drury, 1773) 斑丽翅蜻	173
<i>Sympetrum eroticum ardens</i> (McLachlan, 1854) 竖眉赤蜻	174
<i>Sympetrum parvulum</i> (Bartenev, 1912) 姬赤蜻	175
<i>Sympetrum darwinianum</i> (Selys, 1883) 夏赤蜻	176
<i>Sympetrum risi</i> Bartenev, 1914 李氏赤蜻	176
<i>Tetrathemis platyptera</i> Selys, 1878 宽翅方蜻	177
<i>Tholymis tillarga</i> (Fabricius, 1798) 云斑蜻	178
<i>Tramea virginia</i> (Rambur, 1842) 华斜痣蜻	179
<i>Trithemis aurora</i> (Burmeister, 1839) 晓褐蜻	180
<i>Trithemis festiva</i> (Rambur, 1842) 庆褐蜻	181
<i>Urothemis signata</i> (Rambur, 1839) 赤斑曲钩脉蜻	182
<i>Zygonyx asahinai</i> Matsuki & Saito, 1995 朝比奈虹蜻	183
<i>Zygonyx iris insignis</i> (Kirby, 1900) 彩虹蜻	184
<i>Zygonyx takasago</i> Asahina, 1966 高砂虹蜻	185
<i>Zyxomma petiolatum</i> Rambur, 1842 细腹开臀蜻	186

蜻蜓重要栖息地

——广东南昆山省级自然保护区

The important habitat of dragonflies

-The Nankunshan Provincial Nature Reserve

广东南昆山省级自然保护区于1984年经广东省人民政府批准建立，管护面积1887公顷，属“森林生态系统类型”自然保护区，位于广东省中南部的龙门县境内。

保护区森林覆盖率达98.8%，平均海拔600m以上，主峰天堂顶海拔1210m，主要保护对象为南亚热带常绿阔叶林森林生态系统及有特殊保护价值的野生动植物及其栖息地。区内森林莽莽，溪水潺潺，生态环境十分优美，为野生动植物提供了理想的栖息地。据调查，区内有高等植物2500余种，其中中国特有种7种；有野生动物4纲29目76科269种，其中国家一、二级重点保护野生动物32种。特别值得提出的是，南昆山的蜻蜓

种类极为丰富，共有153种，占全国已知蜻蜓种类的近1/4，是广东省乃至全国的蜻蜓重要栖息地，每年都有许多国内外蜻蜓专家和爱好者到此考察。南昆山黑额蜻蜓模式标本就采自南昆山。

保护区内环境幽静，空气清新，气候宜人，据测定：森林中空气负离子平均含量为4134个/cm³以上，是全国森林中负离子含量最高的地区之一；空气中的细菌含量为115～178个/m³，是广州火车站28600个/m³（2003年监测数据）的0.5%；水质均达到I类饮用水的标准；在炎热的夏天，平均气温比广州、东莞、惠州等地低5～7℃，是人们理想的天然避暑胜地和森林旅游目的地。





The Nankunshan Provincial Nature Reserve was established in 1984 by the Guangdong Provincial People's Government. The protected area of 1887 hectares, is a reserve of the 'forest ecological system' type. The reserve is located in the Longmen County, south central Guangdong Province.

The percentage of forest cover in Nankunshan Reserve is over 98.8%, and the average altitude is over 600 meters. The peak of the mountain, which called 'Tiantangding', is 1210 meters in height. The aim of the reserve is to protect the forest ecosystem of south Asian tropical evergreen broad-leaf forest as well as the rare animals, plants and specialized habitats found within the forest. With luxuriant vegetation, murmurous streams and beautiful biological environment, the reserve provides an ideal habitat for wild animals and plants, including insects. There is a record of over 2500 species of higher plants, 7 of them endemic to China; It is also known to be home to a total of 269 vertebrates in 4 classes, 29 orders and 76 families, including 32 species listed in the first and second nationally protected animal list of China. The reserve is especially rich in dragonflies. A total of 153

species have been recored which occupies nearly a quarter of the known species in China. Therefore the Reserve has become the important habitat of dragonflies in Guangdong and even in China. Every year, plenty of domestic and oversea, experts and lovers of dragonflies come here to make their observations. The holotype of the rare *Planaeschna nankunshanensis* Zhang, Yeh & Tong, 2010 was also collected in the protected area.

In the reserve, the environment is extremely pleasant, the air is very clean and the climate is very congenial. The average level of negative air ionization reaches 4134 per cm^3 in the forest, which is among the highest in China. The bacterial concentration of the air is only 115-178 per cm^3 , only 0.5% of the 28600 per cm^3 found in the Guangzhou Railway Station. The freshwater in the streams has reached level I standard of drinking water. In the hot summer, the average temperature in the reserve is usually 5-7 $^{\circ}\text{C}$ lower than in urban Guangzhou, Dongguan and Huizhou cities. It is therefore a most delightful and salubrious place to visit during the hot summer.

蜻蜓的眼睛

Compound eyes of dragonflies



蜻蜓的眼睛晶莹剔透，犹如一颗颗璀璨、圆润的宝石，湛蓝、翠绿、墨绿、鲜红、金黄……色彩多样，熠熠生辉，是蜻蜓最具魅力之所在。

The compound eyes of dragonflies are glittering and translucent, like gorgeous jewels. They may be brilliant blue, emerald green, greenish black, bright red or golden yellow – the colour varies from species to species. The eyes are perhaps the most attractive feature of dragonflies.

蝴蝶裂唇蜓羽化

Emergence



蜻蜓为半变态昆虫，一生经历卵、稚虫和成虫三个阶段。稚虫生活在水里，成熟后就会离开水体羽化为成虫。这是蝴蝶裂唇蜓羽化过程。

Dragonflies are hemimetabolous insects and pass through the three life stages of egg, larva and adult. The larvae, breeding in freshwater habitat, leave the water when they become mature and emerge. This is the process of the emergence of the magnificent *Chlorogomphus papilio*.

