

LIN Peng: MANGROVE RESEARCH PAPERS (III)

(1993-1996)

红树林研究论文集

(第三集)

(1993-1996)

林 鹏



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内 容 简 介

本书是一部有关红树林研究的学术论文专集(第三集),汇集了林鹏教授及其领导下的厦门大学红树林研究组四年(1993-1996)来发表的论文 56 篇。全书包括红树林的物流能流、生理生态学、污染生态学、红树林的其它亚系统、红树植物的分类与形态学以及红树林的利用与管理等六个部分。

本书可供大专院校生物系、海洋系、环科系、林学系以及水产学院师生参考,也可供有关科技人员阅读。

红 树 林 研 究 论 文 集

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林鹏教授，1931年12月18日生，福建省龙岩市人，1955年毕业于厦门大学生物学系植物学专业，先后任助教、讲师、副教授，现为厦门大学教授，博士生导师；还兼任中国生态学会理事、常务理事，全国红树林生态学研究学组执委会主席，福建省生态学会名誉理事长、福建省科学技术协会第二、三、四届委员和国家教委首届环境科学教学指导委员会委员、第二届副主任，国际红树林生态系统学会(ISME)理事。

林鹏教授主要从事植物生态学和群落学，环境生物学和红树林生态学研究，曾分别在国内外发表论文220多篇，专著有《植物群落学》、《福建植被》、《武夷山研究—森林生态系统(I)》、《南药栽培》、《红树林》、《红树林研究论文集，第一集(1980~1989)》、《红树林研究论文集，第二集(1990~1992)》、《中国红树林环境生态和经济利用》、《中国红树林生态系》。

Brief Introduction of the Author

Professor Lin Peng, a known researcher of mangroves in China, was born on December 18, 1931 in Longyan, Fujian, China. He graduated from Xiamen university in 1955 and now is a professor and Ph. D. supervisor in Xiamen university. He is also Director and Standing Committee Director of the Chinese Society of Ecology, Chairman of Mangrove Ecological Research Organization in China, Honor president of Fujian Society of Ecology, Member of the 2nd, 3rd and 4th Committee of Science & Technology Association of Fujian Province, Member of the 1st Committee and Deputy Chairman of the 2nd Committee of the Environmental Science Teaching Instruction Committee of China National Education Commission (1990~1995), Member of The Council of "International Society for Mangrove Ecosystems" (ISME).

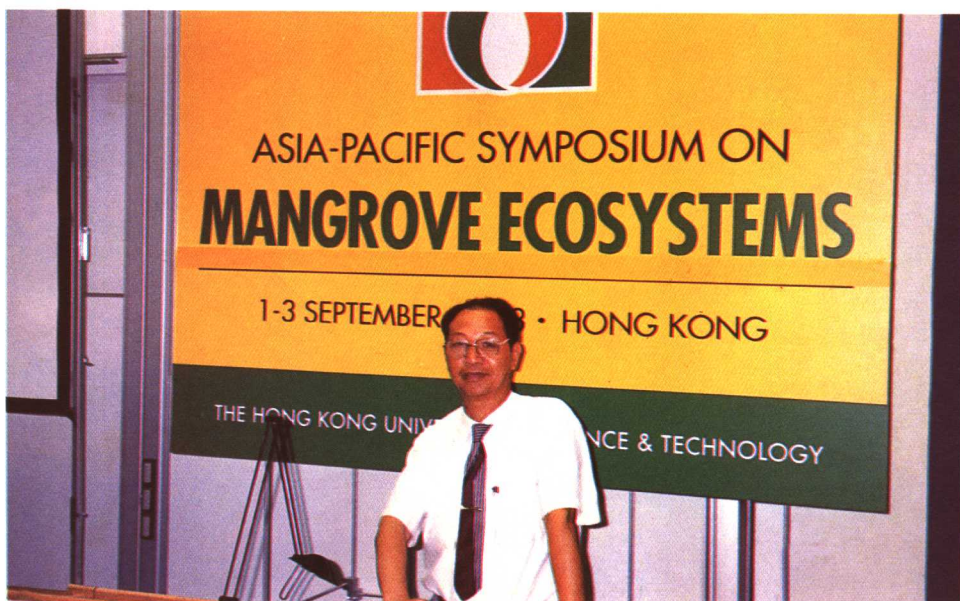
Professor Lin is mainly engaged in researches on Plant ecology, Phytocoenology, Environmental biology and Mangrove ecology. He has published "Phytocoenology", "Fujian Vegetation", "Plantation of Southern Herb Medicine", "Wuyishan Research Series—Forest Ecosystem (I)", "Mangrove Vegetation", "Mangrove Research Papers (I)(1980~1989)", "Mangrove Research Papers (II)(1990~1992)", "Environmental Ecology and Economic Utilization of Mangrove in China", "Mangrove Ecosystem in China" and published over 220 papers in China and abroad.



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△林鹏教授在国际红树林生态系统学会(ISME)会员大会上当选首届理事会理事(日本,冲绳 1993.06)。



△在香港召开的“亚太红树林生态系统学术讨论会”大会上发言(1993.09)。



△在台北召开的“红树林生态系统学术专题和保育经营研讨会”上发言(1998.11)。



△深圳为加强福田国家级红树林保护区管理工作的红线范围调整论证会(1995.05)。



△在厦门大学举行的全国高等学校“湿地生态系统演变”重大科学问题研讨会(1998.02)。



△应联合国教科文组织科学部邀请参加“海洋海岸会议”时与澳大利亚海洋研究所克劳(B.Clough)教授会见(巴黎, UNESCO 总部, 1991.05)。



△厦门大学与日本冲绳红树林协会建立友好关系协定签字后, 林鹏教授到冲绳回访时与山里清会长会见(日本, 那霸, 1997.11)。



△林鹏教授向澳大利亚红树林考察团介绍海南岛的红树林概况(1985.01)。



△林鹏教授在澳大利亚海洋研究所图书馆查阅资料(1985.05)。



△林鹏教授与科研助手们商讨采种育苗问题。



△林鹏教授检查不同生境苗圃的红树林幼苗的生长状况。



△为开展引种栽培的红树林生态工程,进行一系列的扩种试验。



△林鹏教授向博士生讲解引种栽培红树植物时的抗盐、抗寒问题。

序 言

红树林是热带海岸潮间带的木本植物群落,由于温暖洋流的影响,有的可分布到亚热带;有的受潮汐影响,也可分布于河口海岸和水陆交迭的地方。因此,红树植物具有每日浸润的潮间带生长的真红树和只有高洪潮方可浸润的高潮带以上的两栖性的半红树植物。如今大多数生态学家认为红树林有 6 个主要作用:1. 通过网罗碎屑的方式促进土壤的形成,抵抗潮汐和洪水的冲击,保护堤岸;2. 过滤陆地迳流和内陆带出的有机物质和污染物;3. 为许多海洋动物(包括渔业、水产生物)提供栖息和觅食的理想生境;4. 是为近海生产力提供有机碎屑的主要生产者;5. 植物本身的生产物,包括木材、薪炭、食物、药材和其它化工原料等;6. 红树林是可以进行社会教育和旅游的自然和人文景观。开展红树林研究不仅有重要的理论意义,还有现实的经济意义。

本书是继《红树林研究论文集》(1980~1989)和第二集(1990~1992)之后的续集。全书共分为六个部分:第一部分收集论文 19 篇,论述主要红树群落的生物量、物质流和能量流等;第二部分收集论文 11 篇,论述红树植物的某些生理生态学特性,如红树植物抗寒、抗盐特性和蒸腾作用等;第三部分收集论文 9 篇,论述红树林的污染生态学;第四部分收集论文 5 篇,论述红树林中的微生物和藻类的分布特性;第五部分收集论文 4 篇,论述红树植物的种类和形态学;第六部分收集论文 8 篇,论述红树林的利用与管理。

全书收集的 56 篇四年(1993~1996)来正式发表和国内外学术会议论文,是作者及其领导下的厦门大学红树林科研组的集体成果之一。本书可供国内外有关学者参阅,并作为进一步开展此项工作的前导。本书编汇过程中得到李振基、林益明和叶勇等同志的帮助,谨此致谢。此书献给我的导师何景教授,是他 1953 年带我步入红树林的林地,并感谢他的谆谆教诲。

书中不足之处,敬请读者指正。

林 鹏

1998 年 9 月 30 日于厦门大学

Foreword

Mangroves are woody plant communities in the intertidal zone of tropical coast. Influenced by warm ocean currents, some species can grow in subtropical coast, river estuary, coast and land where sea water can reach. Therefore, mangrove species can be divided into true mangrove plants which only grow in intertidal zone where the tide can reach daily and semi-mangrove plants which are amphibious plants or grow in uppertidal zone that may be immersed only by spring tide. Today, most ecologists have recognized 6 major roles of mangrove swamps: (1) mangroves help the formation of soil sediment by trapping debris, protect embankment against tide and flood; (2) mangroves can filter land runoff and remove terrestrial organic matters and pollutants; (3) mangroves serve as feeding ground and living habitats for many marine animals including fishes and other aquaculture organisms; (4) mangroves are major producers of detritus contributing to offshore productivity; (5) mangrove plants can be used as timber, firewood, food, medicine and other raw chemical materials; (6) mangroves provide humane and natural landscapes for social education and tourism. Researches in mangroves have important significance in theory and economics.

This book is a continuation of the first collection (1980~1989) and the second collection (1990~1992). It is divided into six parts as follows: in Part 1 there are 19 papers which study the biomass, matter cycling and energy flow of the main mangrove communities; in Part 2 there are 11 papers which discuss some physiological ecological characteristics of mangroves, such as cold-resistance, salt-resistance, transpiration, and so on; in Part 3 there are 9 papers which focus on pollution ecology of mangroves; in Part 4 there are 5 papers on the distribution characteristics of the microbes and macroalgae in mangrove areas; in Part 5 there are 4 papers which discuss taxonomy and morphology of mangroves; in Part 6 there are 8 papers dealing with the utilization and management of mangroves.

The 56 papers in this volume consist of author's papers published and papers in symposium at home and abroad from 1993 to 1996. It is one of collective achievements by the mangrove research group of Xiamen University guided by the author. The book primarily intends to serve as a sources of information for scholars at home and abroad and preceding work for further researches in this field.

The author is thankful to Prof. Dr. Li Zhengji, Dr. Lin Yiming and Mr. Ye Yong for their helps in the compilation of this book. The book is dedicated to my supervisor Prof. He Jing for his earnest teachings. It was he who helped me enter the field of mangroves in 1953.

Criticism and suggestion for this book will be highly appreciated.

LIN Peng

Department of Biology, Xiamen University, China

September 30, 1998

目 录

一、红树林的物流、能流.....	[1]
1. 我国三种红树林类型的元素循环和能量动态.....	[2]
2. 广西红海榄红树群落的 K、Ca、Mg 累积和循环.....	[16]
3. 红海榄红树林的氮、磷积累和生物循环.....	[23]
4. 红海榄群落的生物量和营养元素循环.....	[30]
5. 红海榄红树林下落叶分解的动态.....	[37]
6. 广西红海榄红树林 C、H、N 的动态研究.....	[43]
7. 秋茄落叶分解中营养元素释放的季节动态.....	[50]
8. 九龙江口秋茄枝条分解速率的比较研究.....	[56]
9. 淋溶在红树植物秋茄落叶分解失重中的潜在作用.....	[63]
10. 福建秋茄红树林碳氢氮素的动态研究.....	[69]
11. 海南海莲红树林 C、H 和 N 素的动态研究.....	[75]
12. 三种红树群落碳素的对比研究.....	[82]
13. 秋茄红树植物落叶分解的碎屑能量研究.....	[88]
14. 红树植物秋茄落叶分解碎屑的有效能研究.....	[95]
15. 秋茄群落中简单能量流动网络的分析.....	[103]
16. 九龙江口桐花树群落的生物量和能量的初步研究.....	[111]
17. 厦门东屿白骨壤群落生物量和能量.....	[118]
18. 广西红海榄红树群落的能量研究.....	[123]
19. 广西英罗湾红海榄林凋落物动态及能流量.....	[127]
二、红树林的生理生态学.....	[134]
20. 六种红树植物的抗寒特性研究.....	[135]
21. 引种的红树植物生理生态适应性研究.....	[139]
22. 几种红树植物叶片和胚轴碳氢氮含量.....	[145]
23. 秋茄幼苗抗盐的生理特性.....	[150]
24. 秋茄幼枝水势动态及其与生态因子的关系.....	[155]
25. 秋茄红树林蒸腾作用季节性变化的研究.....	[162]
26. 低温和暴露时间对秋茄叶片冷敏感性的影响.....	[169]
27. 红树植物秋茄种群交配系统和缺绿自发突变率.....	[174]
28. 用 SEM-EDAX 进行桐花树叶片几种组织中元素含量的研究.....	[182]
29. 盐度对桐花树幼苗根茎叶膜保护系统的影响.....	[187]
30. 红树林的光合作用.....	[192]
三、红树林污染生态学.....	[199]
31. 有机氯农药在九龙江口红树林区的分布及其动态.....	[200]

32. 有机氯农药 DDT 对秋茄萌生的影响.....	[211]
33. 红树植物秋茄幼苗对镉耐性的研究.....	[215]
34. 福建九龙江口秋茄红树林铜铅锌锰元素的累积及动态.....	[222]
35. 九龙江口桐花树红树林对重金属的吸收与累积.....	[229]
36. 广西英罗湾红海榄红树群落锰镍元素的累积和循环.....	[236]
37. 广西英罗湾红海榄林重金属元素的累积及动态.....	[242]
38. 深圳福田白骨壤群落 Cr、Ni、Mn 的累积及分布.....	[250]
39. 深圳福田白骨壤红树林 Cu、Pb、Zn、Cd 的累积及分布.....	[258]
四、红树林的其它亚系统.....	[266]
40. 福建红树林区大型藻类的生态学特性.....	[267]
41. 红树林凋落叶自然分解过程中土壤微生物的数量动态.....	[276]
42. 红树林凋落叶自然分解过程中土壤微生物生理类群的变化.....	[282]
43. 红树林下土壤微生物对柴油的降解.....	[285]
44. 秋茄红树林凋落叶自然分解过程中的环境效应.....	[290]
五、红树林植物分类学与形态学.....	[296]
45. 中国红树植物种类分布和林相类型.....	[297]
46. 台湾海峡两岸红树林的某些生态学特性.....	[303]
47. 海滩盐度对两种红树叶肉细胞超微结构影响的研究.....	[309]
48. 两种盐度下桐花树叶肉细胞结构变化.....	[315]
六、红树林的利用与管理.....	[320]
49. 中国红树林的利用.....	[321]
50. 红树植物的植物化学研究与应用.....	[327]
51. 中国红树林中的有毒植物及其利用.....	[331]
52. 从海南岛向福建九龙江口引种红树植物技术研究.....	[335]
53. 红树林造林技术及其在保护海岸中的作用.....	[343]
54. 中国古代某些红树林管理法规的借鉴.....	[351]
55. 全球气候变化对红树林生态系统的影响与研究对策.....	[357]
56. 红树林抵御温室效应负影响的生态功能.....	[364]

CONTENT

PART I. MANGROVE MATTER AND ENERGY FLOW.....	[1]
1. Element cycle and energy dynamics in three kinds of mangroves of China.....	[2]
2. Study on the accumulation and biological cycles of K, Ca and Mg in <i>Rhizophora stylosa</i> mangrove community in Guangxi.....	[16]
3. The accumulation and biological cycle of nitrogen and phosphorus in <i>Rhizophora stylosa</i> mangrove community, Guangxi.....	[23]
4. Biomass and nutrient cycle of <i>Rhizophora stylosa</i> forest, China.....	[30]
5. Studies on dynamics of litter leaf decomposition in a <i>Rhizophora stylosa</i> mangrove forest in Guangxi, China.....	[37]
6. Dynamics of carbon, hydrogen and nitrogen elements in <i>Rhizophora stylosa</i> mangrove community at Yinluo Bay of Guangxi, China.....	[43]
7. Seasonal dynamics of nutrient release from decomposing <i>Kandelia candel</i> fallen leaves.....	[50]
8. Comparative studies on the decomposition rates of mangrove <i>Kandelia candel</i> twigs in Jiulong River Estuary, Fujian.....	[56]
9. Potential role of leaching in weight loss during the decomposition of <i>Kandelia candel</i> leaf litter.....	[63]
10. Studies on dynamics of carbon, hydrogen and nitrogen elements for <i>Kandelia candel</i> mangrove community in Fujian, China.....	[69]
11. Studies on dynamics of C, H and N elements for <i>Bruguiera sexangula</i> mangrove forest in Hainan Island, China.....	[75]
12. A comparative study on carbon elements in three mangrove communities.....	[82]
13. Studies on detritus energy during the decomposition of <i>Kandelia candel</i> leaf litter.....	[88]
14. Studies on available caloric content of detritus during the decomposition of mangrove <i>Kandelia candel</i> leaf litter.....	[95]
15. A simple network analysis of energy flow in a <i>Kandelia candel</i> community.....	[103]
16. A study on the biomass and energy of <i>Aegiceras corniculatum</i> communities in Jiulong River Estuary, Fujian.....	[111]
17. The biomass and energy of <i>Avicennia marina</i> community in Dongyu of Xiamen, Fujian.....	[118]
18. Study on the energy of <i>Rhizophora stylosa</i> mangrove forest in Guangxi, China.....	[123]

19. Litter fall production and energy flow through the litter of <i>Rhizophora stylosa</i> Griff. mangrove community in Yingluo Bay of Guangxi, China.....	[127]
PART II. MANGROVE ECO-PHYSIOLOGY.....	[134]
20. The characteristics of chilling-resistance on six mangrove plants.....	[135]
21. Studies on physiological and ecological adaptability of introduced mangrove plants.....	[139]
22. Studies on the contents of C, H and N in leaves and hypocotyles of some mangrove species.....	[145]
23. The physiological characteristics of salt tolerance for <i>Kandelia candel</i> seedlings..	[150]
24. Relationship between the dynamics of water potential in twig of <i>Kandelia candel</i> and ecological factors.....	[155]
25. The seasonal changes of transpiration of <i>Kandelia candel</i> mangrove forest and ecological factors.....	[162]
26. A mathematical model of low temperature and exposure time interactions on <i>Kandelia candel</i> leaf cold-sensitivity.....	[169]
27. Mating systems and spontaneous mutation rates for chlorophyll-deficiency in populations of the mangrove <i>Kandelia candel</i>	[174]
28. Studies on element contents of some tissues in leaf-blades of <i>Aegiceras corniculatum</i> by SEM-EDAX.....	[182]
29. The effect of salinity on membrane protection system for various organs of <i>Aegiceras corniculatum</i> seedling.....	[187]
30. Photosynthetic of mangroves.....	[192]
PART III. MANGROVE POLLUTION ECOLOGY.....	[199]
31. The distribution and dynamics of organochlorinated pesticides of mangrove area in Jiulongjiang Estuary, Fujian, China.....	[200]
32. The effect of organochlorinated pesticides DDT on the hypocotyl sprouting of <i>Kandelia candel</i> (L.) Druce.....	[211]
33. Study on the tolerance of <i>Kandelia candel</i> mangrove seedlings to cadmium.....	[215]
34. Accumulation and dynamics of Cu, Pb, Zn and Mn elements in <i>Kandelia candel</i> (L.) Druce mangrove community of Jiulong River Estuary of Fujian.....	[222]
35. Absorption and accumulation of heavy metals in <i>Aegiceras corniculatum</i> mangrove forest in the estuary of Jiulong River in Fujian.....	[229]
36. Accumulation and biological cycles of Mn and Ni elements in a <i>Rhizophora stylosa</i> community in Yingluo Bay of Guangxi.....	[236]
37. Accumulation and dynamic of heavy metal elements in <i>Rhizophora stylosa</i> community at Yingluo Bay in Guangxi.....	[242]

38. Accumulation and distribution of Cr, Ni and Mn in <i>avicennia marina</i> mangrove community at Futian of Shenzhen.....	[250]
39. Accumulation and distribution of Cu, Pb, Zn and Cd in <i>avicennia marina</i> mangrove community of Futian in Shenzhen.....	[258]
PART IV. OTHER SUBSYSTEM IN MANGROVE ECOSYSTEMS.....	[266]
40. Ecological characteristics of macroalgae in mangrove forests in Fujian, China	[267]
41. Soil microbial amount variations of mangroves (<i>Kandelia candel</i>) in process of natural decomposition of litter leaves.....	[276]
42. Changes of soil microbial physiologic group for mangrove forest in process of natural decomposition of litter leaves.....	[282]
43. The degradation of diesel oil micro-organisms in the mangrove-soil.....	[285]
44. Environmental effects from the process of natural decomposition of litter leaves in <i>Kandelia candel</i> mangrove forest.....	[290]
PART V. MANGROVE PLANT TAXOLOGY AND MORPHOLOGY.....	[296]
45. Distribution of species and the physiognomic classification of mangrove forest in China.....	[297]
46. Some ecological characteristics of mangrove around both coasts of Taiwan strait.....	[303]
47. A study on the ultrastructure of mesophyll cells from leaves of two mangrove species to effects salinity.....	[309]
48. Transformation of structure of mesophyll cell in the leaves of <i>Aegiceras corniculatum</i> Blanco. to two salinities.....	[315]
PART VI. UTILIZATION AND MANAGEMENT OF MANGROVES.....	[320]
49. The utilization of mangrove in China.....	[321]
50. The phytochemical research and utilization of some mangrove species.....	[327]
51. Toxic plants and its utilization in mangroves of China.....	[331]
52. Studies on transplanting techniques of mangroves from Hainan to Fujian Jiulongjiang estuary.....	[335]
53. The techniques of afforestation of the mangrove and its role in coastline protection.....	[343]
54. Lessons on mangrove administration from ancient Chinese rules.....	[351]
55. Review on impact of global climate change on mangrove ecosystems and research countermeasure.....	[357]
56. The ecological function of mangrove in resistance to negative impacts of the greenhouse effect.....	[364]