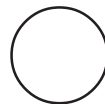


OEPP BIODIVERSITY SERIES volume one

Checklist of

**FOREST INSECTS
IN THAILAND**

by
Chaweewan Hutacharearn
Nopachon Tubtim



Office of Environmental
Policy and Planning

1995

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About the authors :

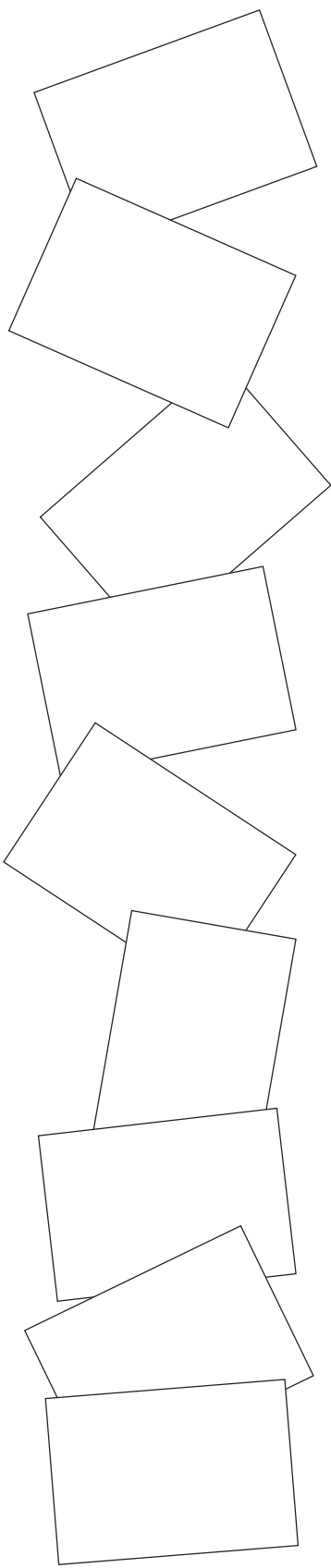
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FOREWORD

The contents of this book, Checklist of Forest Insects in Thailand, have been compiled through intensive survey and research in Thailand during the past 25 years. Even so, the 3,800 or more insects included in this book represent only a fraction of all insect species - known and unknown. Since the forests of Thailand are so extensive, enormous efforts are still needed to investigate and identify the insects in the future.

This book of Checklist of Forest Insects in Thailand has been prepared in 1995. It is the only comprehensive list of known forest insects in southeast asian countries to be published to date. Office of Environmental Policy and Planning (OEPP) hope that the facts and contents contained herein will be useful information to researchers, conservationists, environmentalists and those interested in biodiversity of Thailand. Lastly OEPP expects that this book will eventually leads to a better and wiser consumption of the nation's natural resources and a better environment.

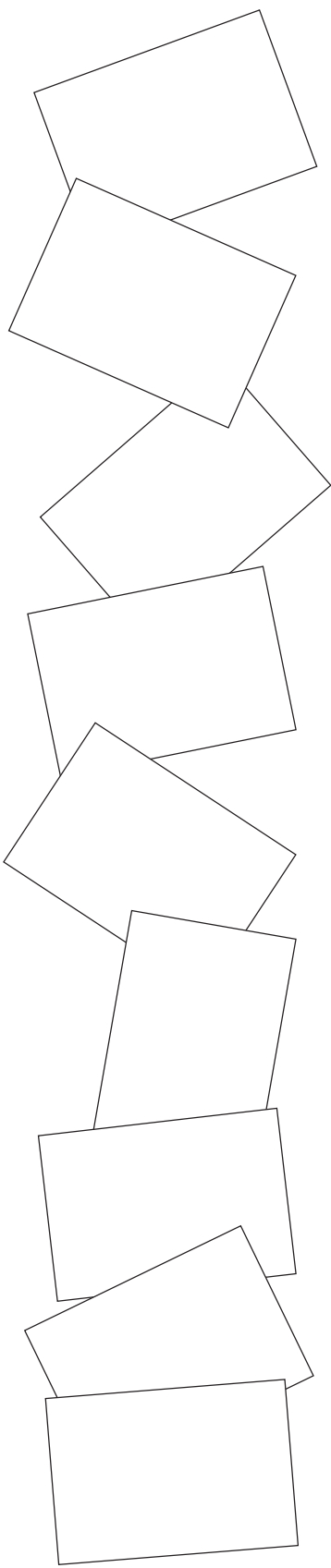
(Santhad Somchevita)
Secretary General
OEPP
1995



FOREWORD

Protection of biological diversity is a joint international responsibility and in the heart of the priority areas of DANCED (Danish Cooperation on Environment and Development). In the past literature about and efforts to protect biological resources often focused on one or a few species because of their unique features. This publication which DANCED has supported the preparation of is a welcome example of the change in focus that the recognition of the need to protect the diversity of biological resources has brought about. DANCED wishes to congratulate OEPP on making this useful information available to the scientific community for the benefit of the environment and biological diversity.

**Danish Cooperation
on Environment
and Development**



ACKNOWLEDGMENTS



The authors personally would like to thank Dr. C. Lyal of the Natural History Museum, London and Dr. A. Cox of the International Institute of Entomology, London, who kindly checked and corrected some of the insect names. Thanks are also due to the scientists of the Division of Entomology, Department of Agriculture who identified many of the unknown specimens, and to those who contributed reports and specimens of insects which have added greatly to the book's coverage and usefulness.

The authors wish to thank all the entomologists, field workers and researchers-known and unknown-whose work in Thailand over the past quarter of a century and more has contributed so much to this field. Without the benefit of their dedication and hard work, the value of this book would be greatly diminished. Moreover, without the help of the entomological staff of the Royal Forest Department, the authors would not have been able to personally acquire the information to the extent that it is provided.

Most importantly, the authors would like to express sincere thanks to the Office of Environmental Policy and Planning (OEPP) for the financial support in publishing this book.

Lastly, the authors are grateful for support of the Danish Cooperation on Environment and Development (DANCED) who provided the funds for preparing of the manuscript.

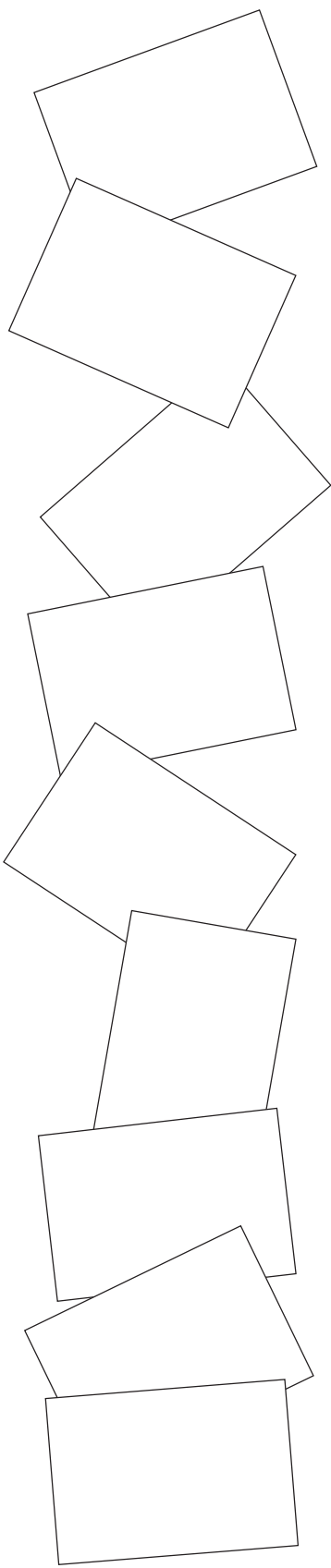
**Chawewan Hutacharern
Nopachon Tubtim**



SUMMARY

Forest insects are numerous and await further exploration and identification. The richness of forest insect species is only little known. However, the total number of species of insects and trees identified in this book amount to 3,867 and 290 species respectively.

These species are divided into 5 groups: 642 species (with three mites) are pests of forest trees, 103 species are pests of forest products, 25 species are suckers of mammalian fluid, 407 species are beneficial insects and 2,690 species are found in general.



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LIST OF PROTECTED INSECT SPECIES

List of protected insect species in the
Ministerial Regulation No. 4, 1995 issued under the
Wild Animal Preservation and Protection Act 1992.
Article 6.

Order Coleoptera

1. *Cheirotonus parryi*
2. *Cladagnathus giraffa*
3. *Mouhotia batesi*
4. *Mormolyce phyllodes*

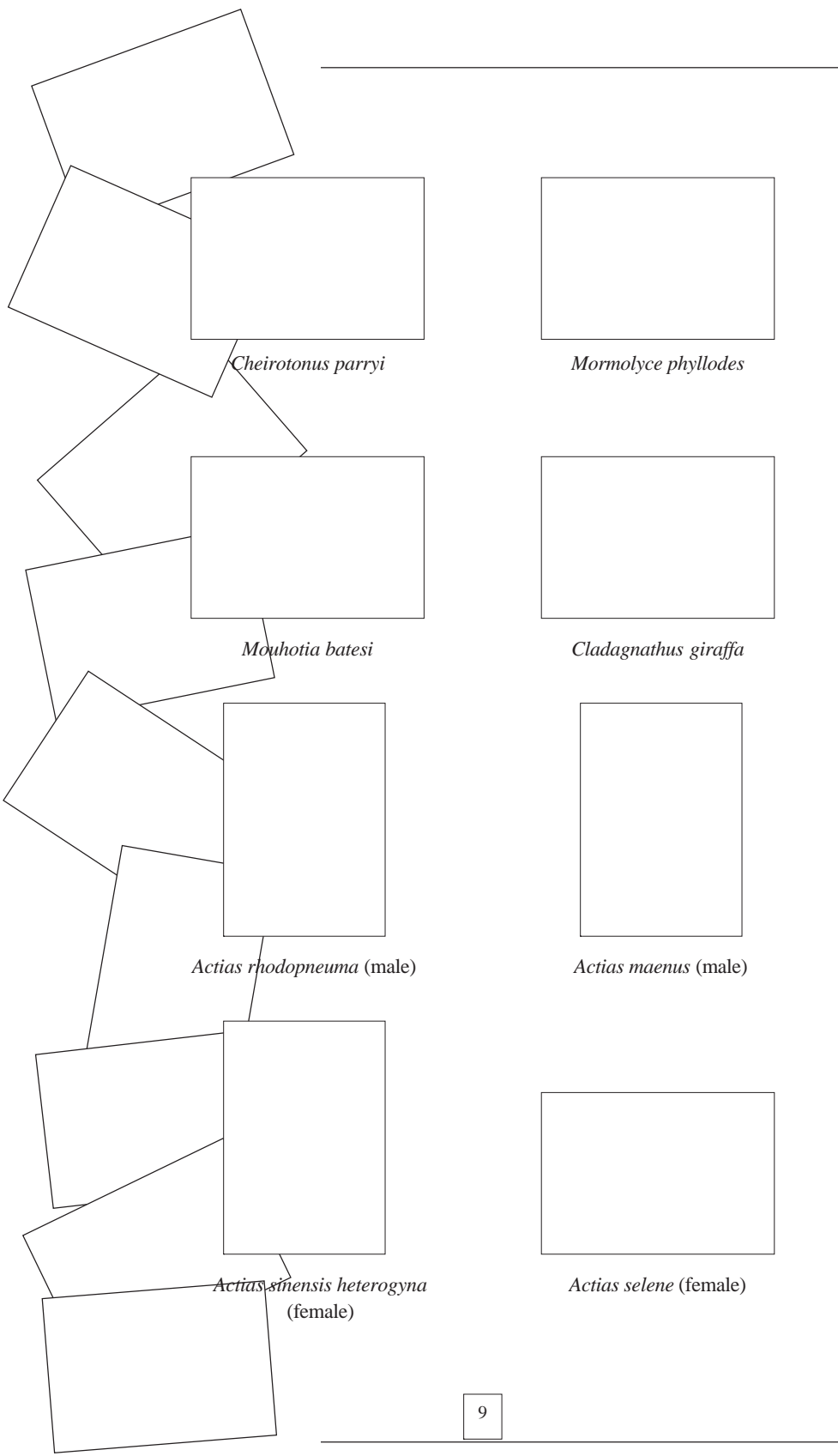
Family

- Scarabaeidae
Lucanidae
Carabidae
Carabidae

Order Lepidoptera

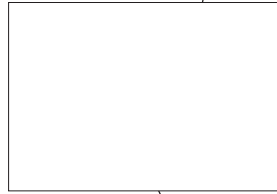
5. (*Genus*) *Actias*
6. (*Genus*) *Bhutanitis*
7. *Lyssa zampa*
8. *Maendrusa gyas*
9. *Papilio palinurus*
10. *Papilio protenor*
11. (*Genus*) *Stichophthalma*
12. (*Genus*) *Teinopalpus*
13. (*Genus*) *Troides*

- Saturniidae
Papilionidae
Uraniidae
Papilionidae
Papilionidae
Papilionidae
Amathusiidae
Papilionidae
Papilionidae





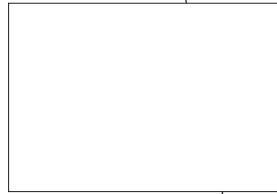
Bhutanitis lidderdalii
ochracea



Troides helena cerberus



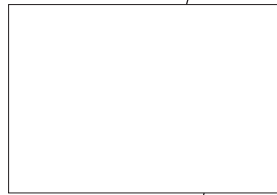
Troides aeacus thomsoni
(female)



Troides amphrysus ruficollis
(male)



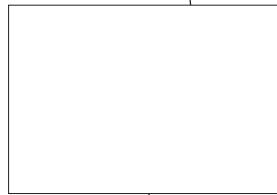
Sticopthalma louisa
siamensis



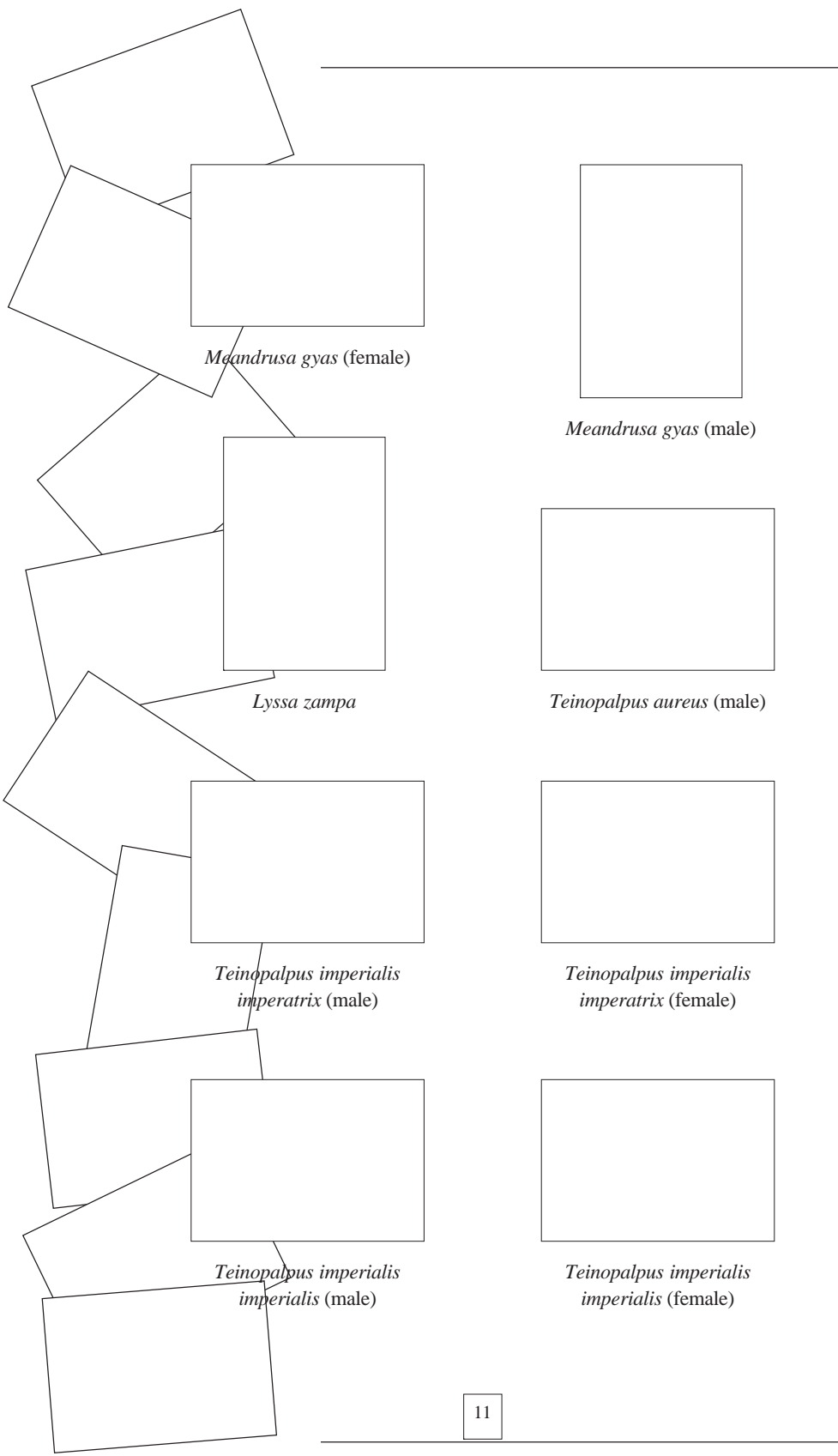
Sticopthalma gottfreyi

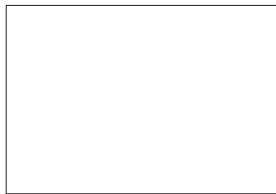


Papilio protenor euprotenor

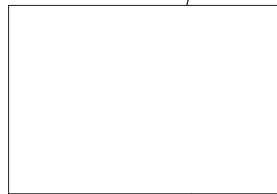


Papilio palinurus





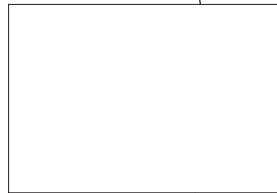
Cirrochroa tyche rotundata
(male)



Cirrochroa tyche rotundata
(female)



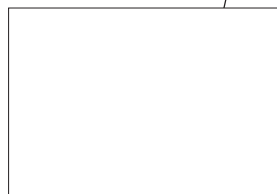
Cirrochroa orissa orissa



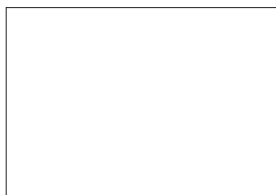
Cirrochroa tyche mithila



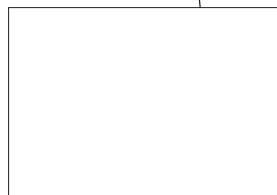
Apatura ambica miranda



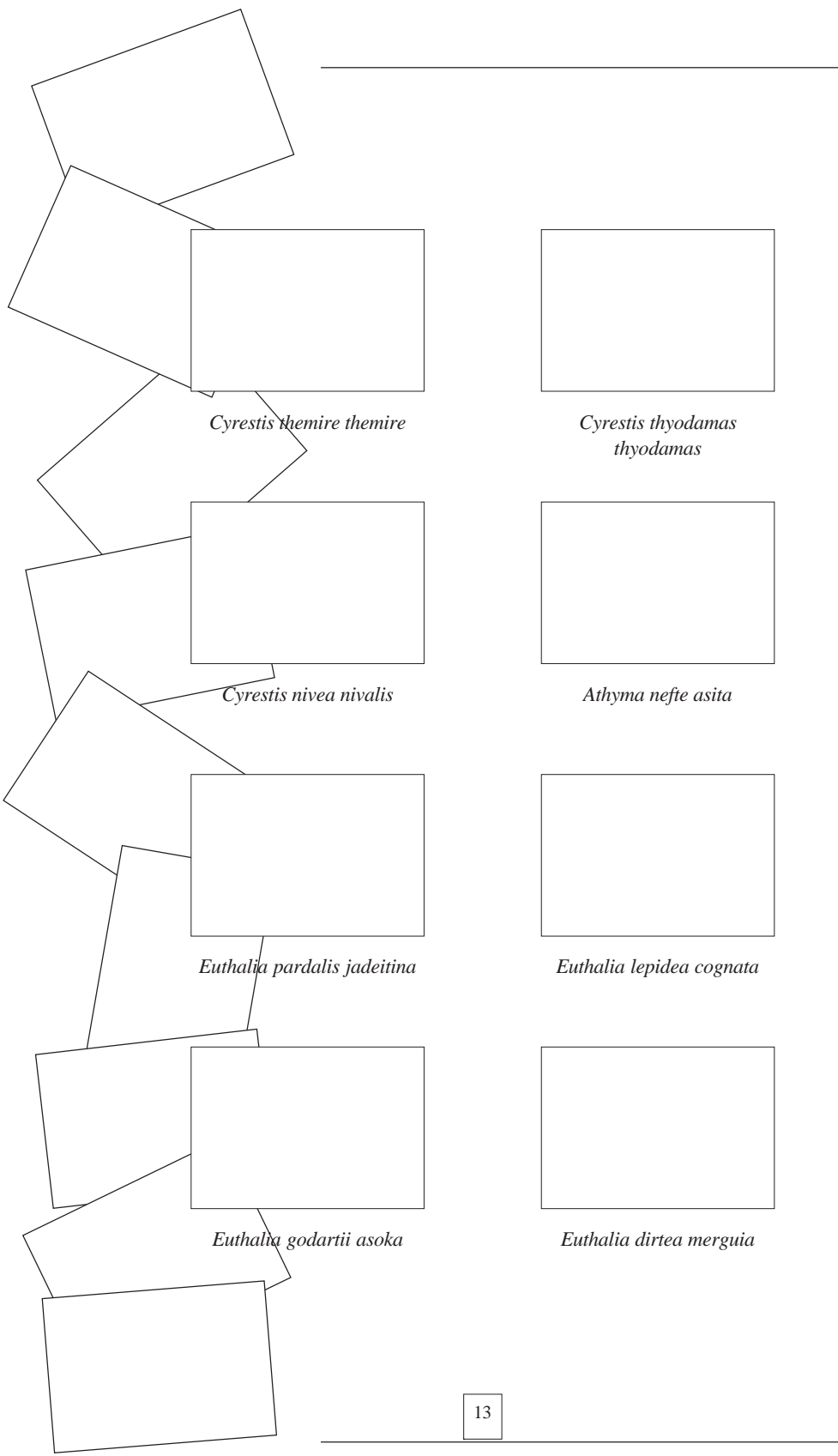
Polyura delphis delphis



Polyura arja arja



Moduza procris procris



Cyrestis themire themire

Cyrestis thyodamas thyodamas

Cyrestis nivea nivalis

Athyma nefte asita

Euthalia pardalis jadeitina

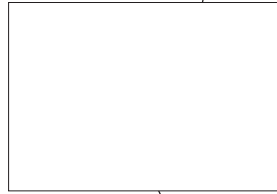
Euthalia lepidea cognata

Euthalia godartii asoka

Euthalia dirtea merguia



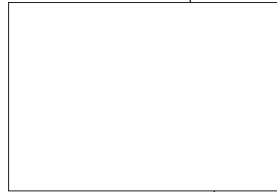
Delia hyparete



Delias descombesi
descombesi



Eurema hecabe



Delias pasithoe thyra



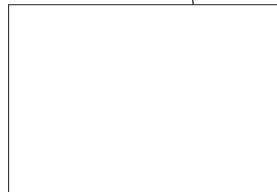
Delias pasithoe thyra



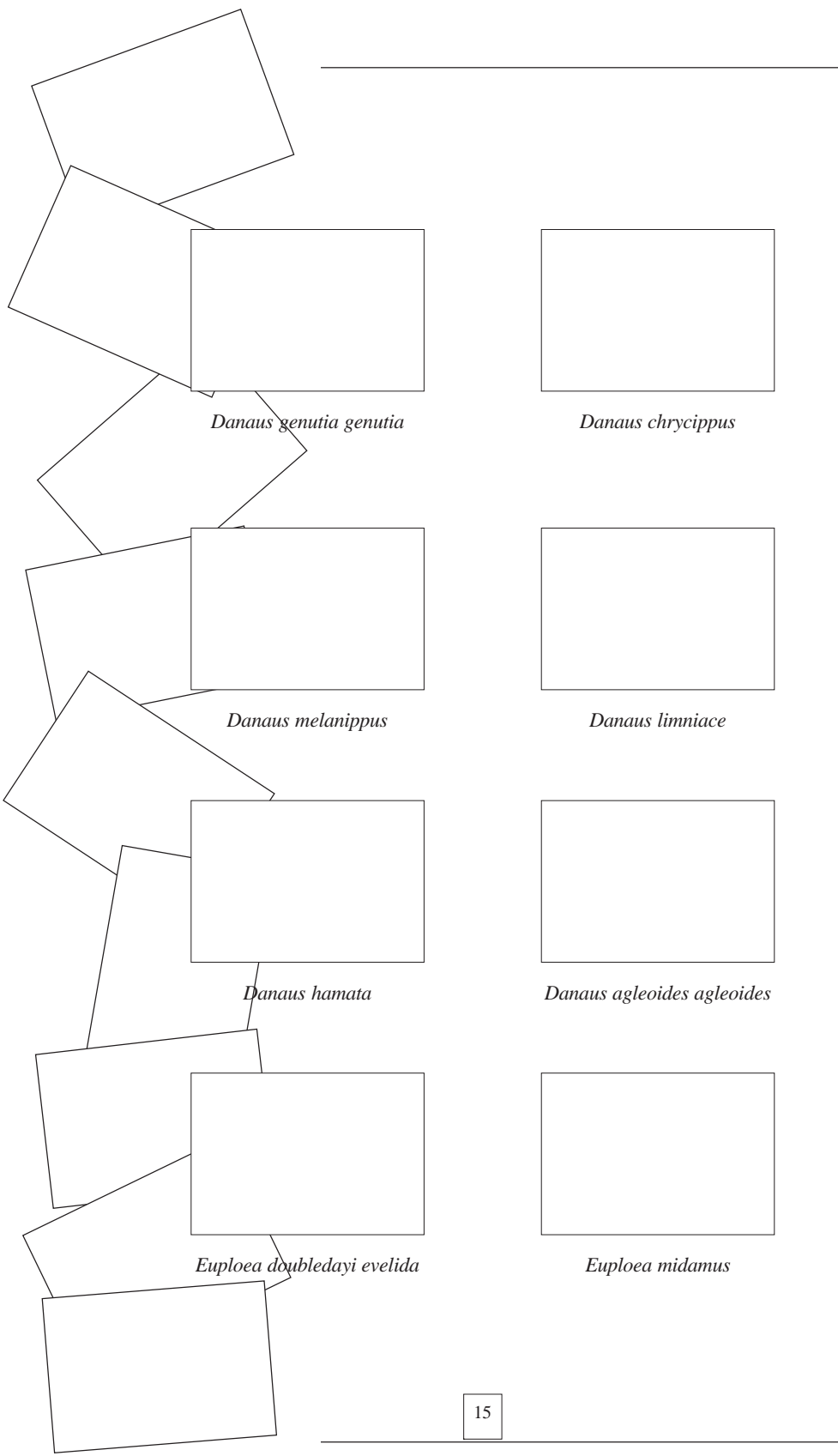
Euploea core geodartii

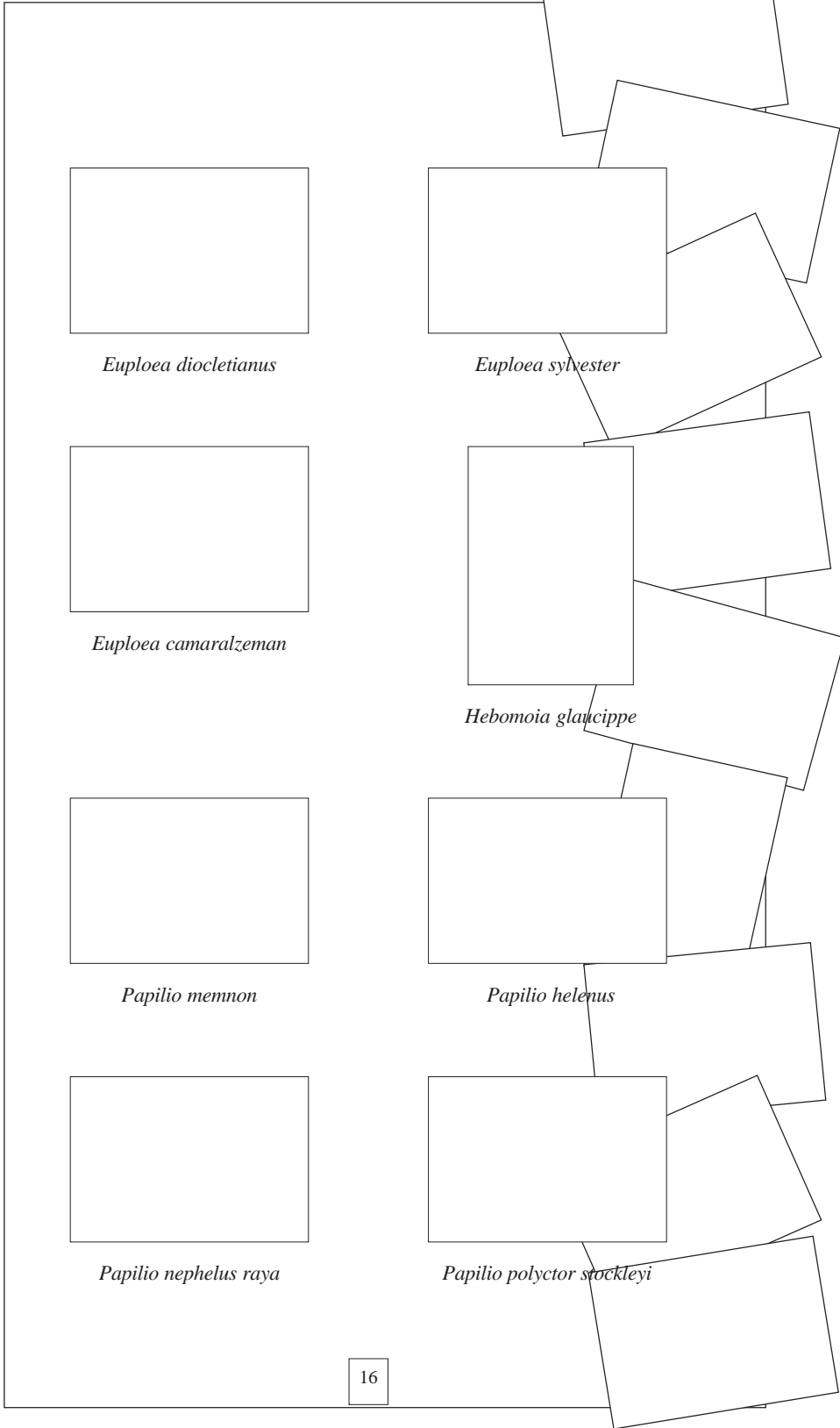


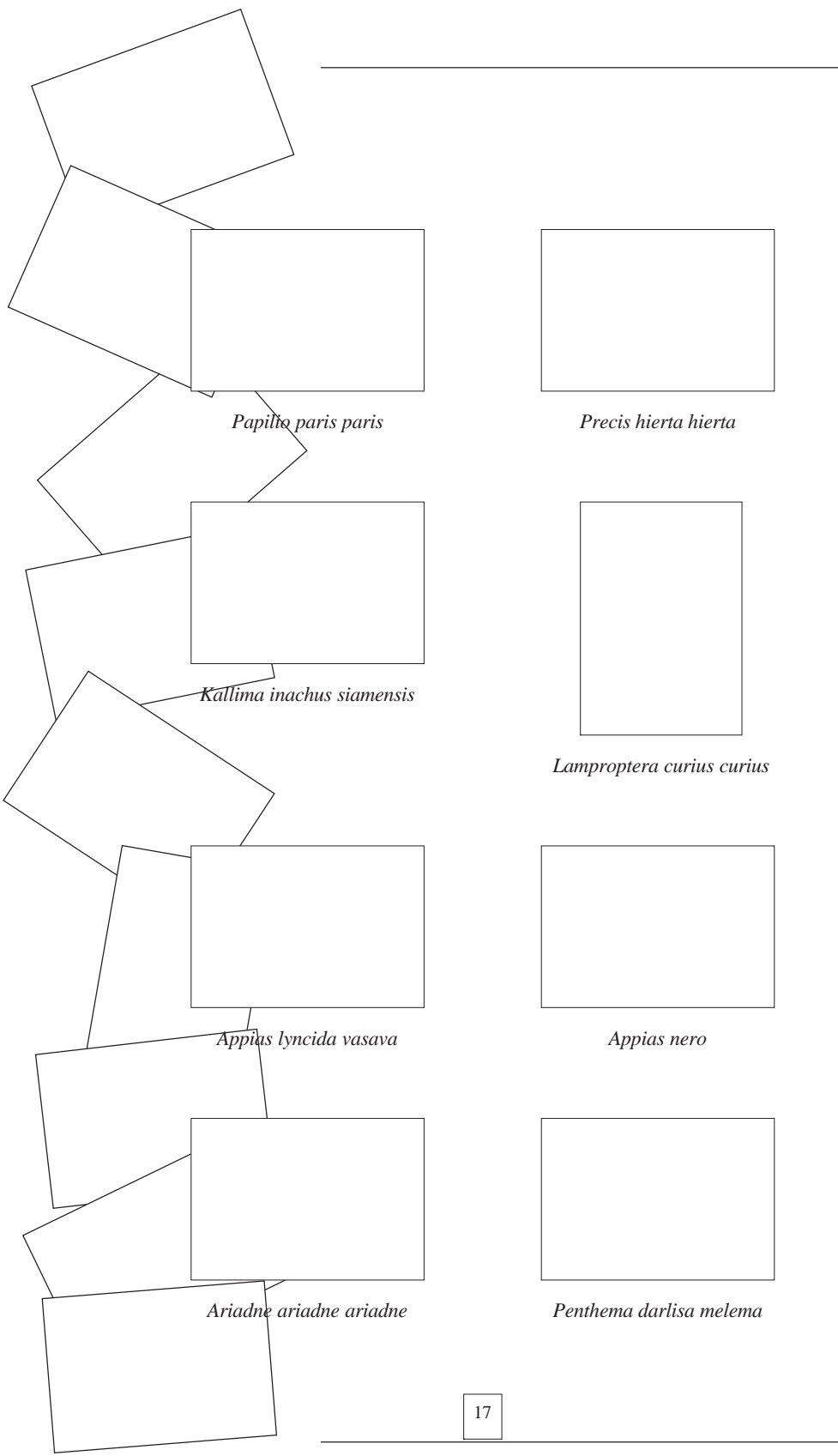
Euploea mulciber mulciber
(female)



Euploea mulciber mulciber
(male)







Papilio paris paris

Precis hierta hierta

Kallima inachus siamensis

Lamproptera curius curius

Appias lyncida vasava

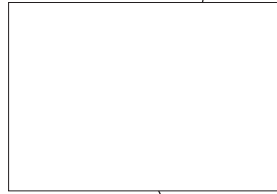
Appias nero

Ariadne ariadne ariadne

Penthema darlisa melema



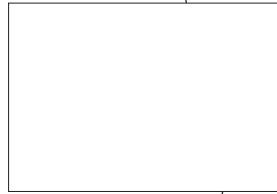
Cethosia biblis perakana



Acherontia lachesis



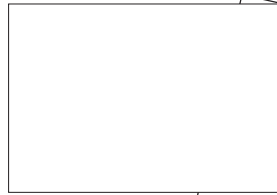
Acherontia styx



Celosterna pollinosa sulphurea



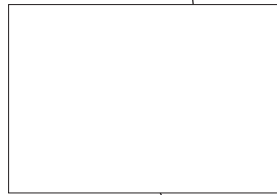
Chrysochroa terminata



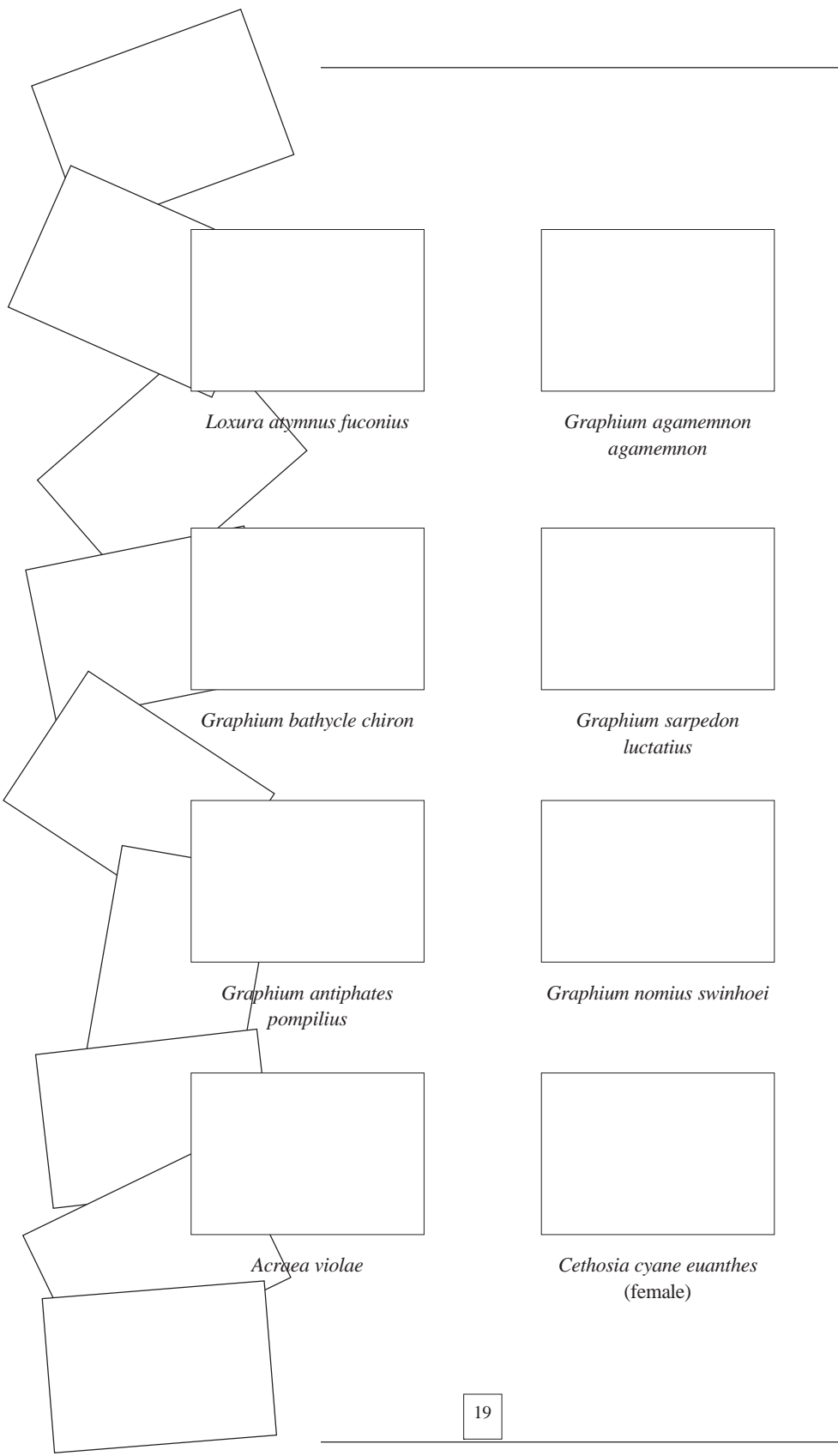
Chrysochroa edwardsi



Eupotorus gracilicornis



Pachyteria dimidiata



Loxura atymnus fuconius

*Graphium agamemnon
agamemnon*

Graphium bathycle chiron

*Graphium sarpedon
luctatus*

*Graphium antiphates
pompilius*

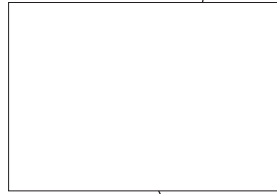
Graphium nomius swinhoi

Acraea violae

*Cethosia cyane euanthes
(female)*



Cethosia cyane euanthes
(male)



Charaxes bernardus hierax



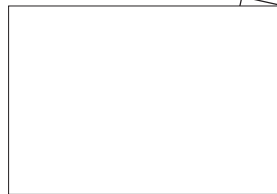
Charaxes bernardus crepax



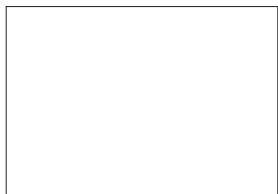
Parthenos sylvia
grambrisius



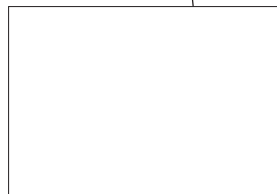
Vindula erota erota (female)



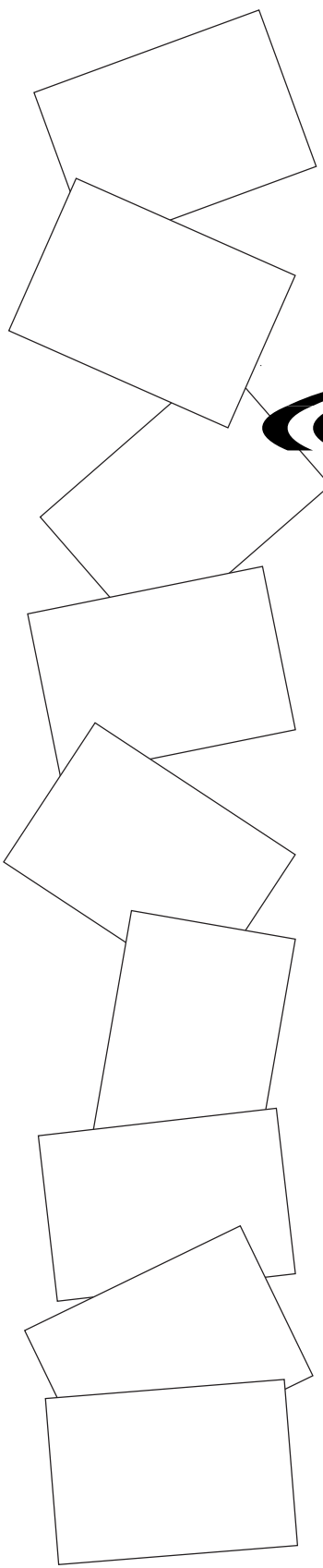
Vindula erota erota (male)



Cheritra freja evansi



Attacus atlas



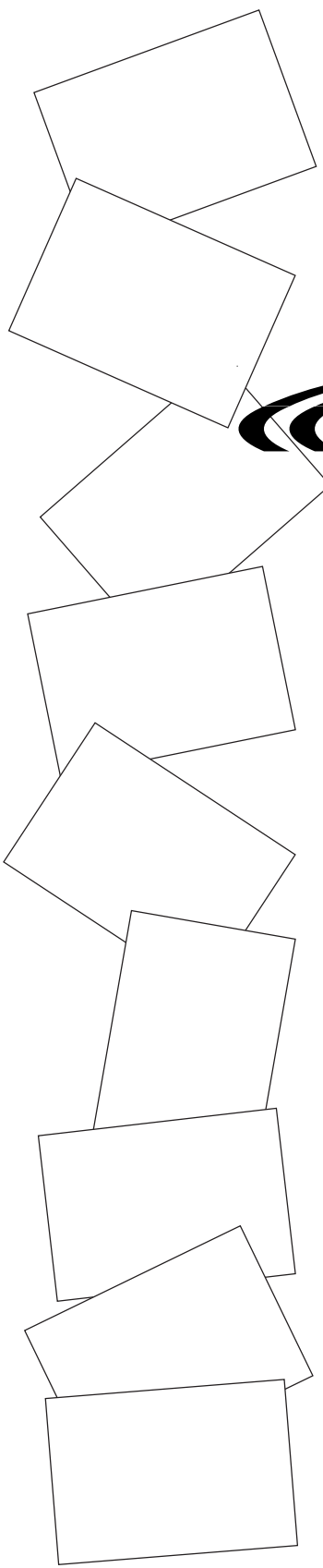
Moths Known to Drink
Mammalian Fluid

Insects that feed on mammalian fluid are acquired from the work of Dr. Hans Banziger (see Bibliography). These insects feed from various skin secretions, mosquito-exuded blood droplets, wound exudates and lacrymation on many different hosts of animals as well as human.



Beneficial Forest Insects

Forest insects can be of direct or indirect benefit to our environment. They can be pollinators, parasites, predators, served as food, producers of useful products, etc. A large number of predators, dragonflies and damselflies, are extracted from "List of the Odonata of Thailand and Annotated Bibliography" by Pinratana and Hamalainen (1988). A more complete list of parasites and predators can be obtained from Assoc. Prof. Kosol Charoensom of the Department of Entomology, Kasetsart University, Bangkok, Thailand who is an expert of insects in this category.



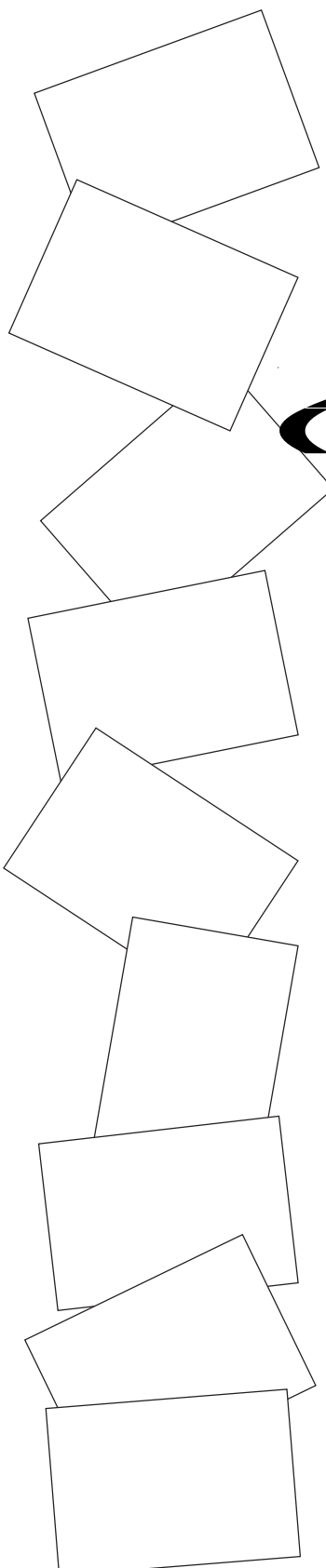
I nsect Pests of Forest Trees

Pest insects in the following table are listed under their relevant host trees. Since some insects attack a wide range of host trees, there may, in some cases, be several references to the same insects. The hosts are generally considered only forest trees, although it is recognized that some insects also destroy agricultural crops. Therefore, the content of this book would inevitably duplicate-in part, at least- other agricultural insect publications. The destructive stage of most insects is either as larva or adult. Some insects may cause damage to trees at both stages, although not necessarily the same type of injury. In such cases, a letter in parenthesis follows the type of injury in order to indicate the stage at which it is caused. For example, the larva (L) of *Aristobia horridula* is a stem borer, while in its adult (A) stage, it is bark feeder. Thus, the type of injuries would be shown as stem boring (L) and bark feeding (A).



Insect Pests of Forest Products

Insect pests of forest products are mostly wood borers. The products infested can be timber, pole, wood, furniture and lac. A number of termites was seen to attack wooden materials of unreported names of the wood species. To omit those termite names would omit a number of known forest insects. Therefore, to supply the readers with as many forest insect names as possible, those termites are also listed in the table under unidentified hosts.



General Forest Insects

Many insects which have not been found or reported to have any association with forest trees, tree products or animals are listed in the following table. Most of these insects are compiled from the work of Bro. Amnuay Pinratana who published many volumes on Butterflies and Moths in Thailand and from the book of Robinson *et al.* (1994), Kitching (1995), Charoensom (1995). These insects are generally considered as forest insects since the definition of forest would include natural forest as well as man-made forest. Therefore, insects found in general areas from which have not been assigned to Table1 to Table4, evethough some are known as pest of weeds, Names marked with "*" are protected species listed in the Ministerial Regulation no. 4, 1995 issued under the Wild Animal Preservation and Protection Act 1992, Article 6.

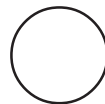
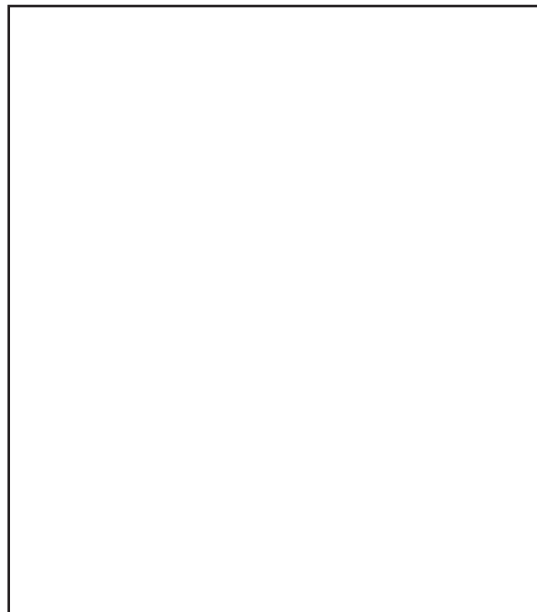
OFFICE OF ENVIRONMENTAL POLICY AND PLANNING
MINISTRY OF SCIENCE TECHNOLOGY AND ENVIRONMENT
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