WATCHING WILDLIFE
EAST AFRICA

David Andrew
Susan Rhind

Lonely Planet Publications
Melbourne Oakland London Paris
# CONTENTS

The Authors ...................................................................................... 8
This Book .......................................................................................... 9
Preface ............................................................................................ 10
Introduction .................................................................................... 11
How to Use this Book ................................................................. 12

## Nature in East Africa ........................................................................ 14
- The East African Environment ........................................... 16
- Conservation .............................................................................. 22
- Wildlife ....................................................................................... 18
- Parks and Reserves ................................................................. 24
- Humans and Wildlife ............................................................... 20

## Wildlife-Watching ........................................................................ 26
- When to Go .................................................................................. 28
- Birdwatching .............................................................................. 42
- How to Look ................................................................................. 29
- Gorilla & Chimpanzee Tracking ............................................ 44
- Getting In & Around ................................................................. 36
- Snorkelling .................................................................................. 46
- Living with Wildlife ................................................................. 38
- Alternative Safaris ....................................................................... 48
- On Safari ....................................................................................... 40
- Photography ................................................................................ 50

## Habitats ......................................................................................... 52
- Savannas ..................................................................................... 54
- The Semi-arid Zone ................................................................. 70
- Grasslands and Woodlands .................................................... 58
- Lakes, Rivers & Swamps ......................................................... 74
- Rainforests ................................................................................ 62
- Sea & Shores ............................................................................... 78
- The High Mountains ............................................................... 66
- Other Habitats ............................................................................. 82

## Parks and Places .......................................................................... 86

### Kenya ......................................................................................... 90
- Lake Baringo ............................................................................. 118
- Masai Mara NR ......................................................................... 92
- Lake Bogoria NR ..................................................................... 119
- Tsavo East & West NPs ......................................................... 98
- Lake Naivasha .......................................................................... 120
- Arabuko–Sokoke FR ............................................................. 102
- Lake Nakuru NP ..................................................................... 121
- Amboseli NP ........................................................................... 106
- Lake Turkana ........................................................................... 122
- Kakamega Forest ..................................................................... 108
- Malindi & Watamu MNPs ..................................................... 123
- Mount Kenya NP ..................................................................... 110
- Marsabit NP ............................................................................... 124
- Nairobi NP ............................................................................... 112
- Meru NP .................................................................................. 125
- Samburu, Buffalo Springs & Mt Elgon NP ......................... 114
- Saiwa Swamp NP ..................................................................... 126
- Aberdare NP ............................................................................. 116
- Shimba Hills NR .................................................................... 128
- Hell’s Gate NP ......................................................................... 117
- Other Sites ............................................................................... 129

### Tanzania ...................................................................................... 130
- Lake Manyara NP ................................................................. 158
- Ngorongoro CA ....................................................................... 132
- Mikumi NP ............................................................................... 160
- Serengeti NP ........................................................................... 138
- Kilimanjaro NP ........................................................................ 162
- Zanzibar & Pemba ............................................................... 144
- Ruaha NP ................................................................................ 164
- Selous GR ............................................................................... 148
- Udzungwa Mountains NP .................................................... 166
- Tarangire NP ............................................................................ 152
- Saadani GR .............................................................................. 168
- Arusha NP ............................................................................... 156
- Other Sites ............................................................................... 169

### Uganda ........................................................................................ 170
- Murchison Falls NP .............................................................. 182
- Kampala .................................................................................... 172
- Queen Elizabeth NP ............................................................ 186
- Bwindi Impenetrable NP ....................................................... 174
- Lake Mburo NP ...................................................................... 190
- Kibale Forest NP ................................................................. 178
- Budongo FR .............................................................................. 192
Contents

Kidepo Valley NP ........................193
Mgahinga Gorilla NP ..................194
Mt Elgon NP ............................195
Rwenzori Mountains NP ............196

Rwanda and the DRC ...............200
PN de l’Akagera ........................202
PN de Kahuzi-Biöga ..................204

Wildlife Gallery ........................208
Mammals ........................................210
Primates .................................212
Greater Galago ........................214
Vervet Monkey ..........................215
Olive Baboon ............................216
Black-and-white Colobus ..........217
Gorilla ......................................218
Chimpanzee .............................219
Dogs ........................................220
Hunting Dog .............................221
Cats ..........................................222
Cheetah ..................................223
Lion ..........................................224
Leopard ....................................225
Mongoose ...............................226
Banded Mongoose ....................227
Spotted Hyena ........................228
Striped Hyena ..........................229
Aardwolf ................................229
Ratel .......................................230
African Clawless Otter ..........230
African Civet ...........................231
Common Genet ......................231
Ground Pangolin .....................232
Dugong .................................232
African Elephant ....................233

Birds ........................................260
Ostrich ..................................262
Great White Pelican ...............263
African Darter .......................263
Herons, Egrets & Bitterns ....264
Shoebill .................................265
Hamerkop ................................265
Storks ....................................266
Ibises & Spoonbills ...............267
Greater & Lesser Flamingos .268
Ducks & Geese .......................269
Birds of Prey .......................270
Vultures ...............................272
Secretary Bird .....................274
African Fish Eagle ...............275
Francolins ............................276
Guineafowl ............................277

Plains Zebra ............................234
Grevy’s Zebra .........................235
White Rhinoceros .................236
Black Rhinoceros .................237
Rock Hyrax ............................238
Aardvark ................................239
Warthog .................................240
Giant Forest Hog .................241
Bushpig ...............................241
Hippopotamus .....................242
Giraffe ..................................243
African Buffalo ....................244
Introduction to Antelopes ....245
Spiral-horned Antelopes ....246
Topi & Hartebeests ...........248
Wildebeest .........................249
Impala .................................250
Horse-Antelopes .................251
Gazelles ..............................252
Gerenuk ..............................253
Reduncine Antelopes .........254
Uganda Kob .......................255
Small Antelopes .................256
Klipspringer .......................257
Small Army of the Bush ...258

Red-knobbed Coot ..................278
Black Crake .........................278
Grey Crowned Crane .........279
Kori Bustard .....................279
Waders ...............................280
Plovers ..............................281
African Jacana .................282
Spotted Thick-knee ..........282
African Skimmer ...............283
Sandgrouse .......................283
Pigeons & Doves ..............284
Parrots & Lovebirds .........285
Cuckoos & Coucals .........285
Turacos .............................286
Owls & Nightjars ..........287
Speckled Mousebird ...288
Kingfishers .....................289
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bee-eaters &amp; Rollers</td>
<td>290</td>
</tr>
<tr>
<td>Hoopoe</td>
<td>292</td>
</tr>
<tr>
<td>Green Wood-hoopoe</td>
<td>293</td>
</tr>
<tr>
<td>Hornbills</td>
<td>294</td>
</tr>
<tr>
<td>Barbets</td>
<td>296</td>
</tr>
<tr>
<td>Woodpeckers</td>
<td>296</td>
</tr>
<tr>
<td>Greater Honeyguide</td>
<td>297</td>
</tr>
<tr>
<td>Larks</td>
<td>297</td>
</tr>
<tr>
<td>Swallows &amp; Martins</td>
<td>298</td>
</tr>
<tr>
<td>Common Bulbul</td>
<td>298</td>
</tr>
<tr>
<td>Wagtails, Pipits &amp; Longclaws</td>
<td>299</td>
</tr>
<tr>
<td>Babblers</td>
<td>300</td>
</tr>
<tr>
<td>Warblers</td>
<td>300</td>
</tr>
<tr>
<td>Thrushes, Chats &amp; Relatives</td>
<td>301</td>
</tr>
<tr>
<td>Flycatchers</td>
<td>302</td>
</tr>
<tr>
<td>Waxbills</td>
<td>303</td>
</tr>
<tr>
<td>Shrikes, Bush-shrikes &amp; Helmet-shrikes</td>
<td>304</td>
</tr>
<tr>
<td>Orioles</td>
<td>306</td>
</tr>
<tr>
<td>Common Drongo</td>
<td>306</td>
</tr>
<tr>
<td>Pied Crow</td>
<td>307</td>
</tr>
<tr>
<td>Sparrows, Weavers, Bishops &amp; Widows</td>
<td>312</td>
</tr>
<tr>
<td>Starlings</td>
<td>308</td>
</tr>
<tr>
<td>Sunbirds</td>
<td>310</td>
</tr>
<tr>
<td>Oxpeckers</td>
<td>307</td>
</tr>
<tr>
<td>Whydahs</td>
<td>314</td>
</tr>
<tr>
<td>Canaries</td>
<td>314</td>
</tr>
<tr>
<td>Pin-tailed Whydah</td>
<td>315</td>
</tr>
<tr>
<td>Lizards</td>
<td>319</td>
</tr>
<tr>
<td>Snakes</td>
<td>320</td>
</tr>
<tr>
<td>Frogs &amp; Toads</td>
<td>320</td>
</tr>
<tr>
<td>The Small Five</td>
<td>321</td>
</tr>
<tr>
<td>More Creatures Great and Small</td>
<td>316</td>
</tr>
<tr>
<td>Nile Crocodile</td>
<td>318</td>
</tr>
<tr>
<td>Nile Monitor</td>
<td>318</td>
</tr>
<tr>
<td>Resource Guide</td>
<td>322</td>
</tr>
<tr>
<td>Glossary</td>
<td>328</td>
</tr>
<tr>
<td>Photo Credits</td>
<td>332</td>
</tr>
<tr>
<td>Index</td>
<td>334</td>
</tr>
</tbody>
</table>
AUTHORS

David Andrew
After his father was mauled by a gorilla at Howletts Zoo, David and his family fled the wilds of England to live somewhere safer – Australia! There David revolutionised the face of birdwatching by creating *Wingspan* and *Australian Birding* magazines; edited *Wildlife Australia* magazine; and among other jobs has been a research assistant in Kakadu NP, a birding guide for English comedian Bill Oddie and an editor of Lonely Planet guides. He is coordinating author for *Watching Wildlife East Africa* and contributed to *Watching Wildlife Australia*. David is amassing a bird list to bequeath to the nation.

Susan Rhind
Susan was raised on a farm in Western Australia and has always been besotted by animals. After working as a nurse and science teacher she became a wildlife biologist, and after completing a PhD went to work in Africa for a rest. Susan spent nearly two years in Africa – until work for Lonely Planet interrupted the good time she was having in Namibia – traversing seven countries and exploring about 45 national parks. She has scientifically studied dolphins, monkeys and Australian marsupials, and is now back in Western Australia publishing her research. Susan’s next ambition is to find a job within cycling distance of home.

FROM THE AUTHORS

David Andrew
Grateful thanks to all who helped with logistics, sound advice and local knowledge, but in particular to Steve Turner (EAOS), Anthony Hyde, Kirsty Sutherland, Claire Anampio and Patrick Shah (A&K), Gail Paul (UTC), Jane and Paul Goldring (G&C Tours), Pamela and Jonathan Wright (Semliki Safaris), Andrew Mukooza (Volcanoes), Chris Chan-Piu (Sheraton Hotels), Mary Lewis (JGI), and Nigel Arensen and Shane Kennedy (Bike Treks). All the drivers and guides who assisted my relentless quest to find creatures from gorilla to zorilla, and aardvark to flappet lark, but particularly Willis Oketch and Edwin Selempo (EAOS), Alfred Twinomujuni (Bwindi) and Simon (Lake Baringo Country Club). The many researchers who let me stick my nose into their business: Dedee Woodside, Julia Lloyd, Malcolm Wilson, Jason Gilchrist, Jonathan Rossouw, Mike Clifton, Stuart Williams, Michel Masozera and Richard Wrangham. The staff of Game-trackers, Mara Intrepids, Little Governor’s Camp, Siana Springs, Mara Safari Club, Lake Baringo Country Club and the Terminal Hotel. Bernadette Hince and Nick Drayson for good food and company, and for finding me a root-rat; Matt Fletcher and Clare Irvine for a great trip to Meru NP; and Bianka Martens and Knut Kaepler for hospitality at Elsa’s Kopje. Thanks also to everyone at LP’s Outdoor Activities Unit for ideas and encouragement. And special thanks to Robyn Coventry for snapping away with our cameras and for putting up with a man obsessed.
Andrew researched and wrote the introductory chapters (Nature in East Africa, Wildlife-Watching and Habitats), the Wildlife Gallery plus the Uganda, Rwanda, DRC and Kenya (co-writer) sections for the Parks and Places chapter. Susan Rhind researched and wrote the Tanzania section and co-wrote the Kenya section for the Parks and Places chapter. The Photography section was written by Luke Hunter; Luke and Andrew van Smeerdijk contributed to several sections; and Dudley Iles advised on the Zanzibar & Pemba section.

The idea for this series came from David Andrew and was supported by Chris Klep, Nick Tapp and Sue Galley. The concept was developed further by Sean Pywell and Jane Bennett; Sean became the first series editor and Mathew Burfoot designed the layout for the series.

Maps for Watching Wildlife East Africa were drawn by Simon Tillema and Chris Klep. Editing and proofing were done by Miranda Wills, Sean Pywell, David Andrew and Andrew van Smeerdijk. Layout was by Mathew Burfoot, Vicki Beale and Wendy Wright. Most of the photos were sourced and supplied by LPI – and special thanks to Annie Horner, Phil Weymouth, Brett Pascoe and all at LPI who put in much extra effort for this title. Indra Kilfoyle and Andrew Weatherill designed the cover. Mapping was checked by Teresa Donnellan; layout was checked by Teresa, Lindsay Brown, Glenn van der Knijff, Jane Hart and Michael Blore. The index was created by Janet Brunckhorst and Glenn van der Knijff. Thanks also to Fiona Kinniburgh, Darren Elder and Sean Pywell for ideas and advice.
WHEN I started my studies of chimpanzees more than 40 years ago in what is now Gombe Stream National Park (Tanzania), travel in many parts of Africa was truly an adventure: roads and infrastructure were almost nonexistent in many places, and to journey overland or by aeroplane during the wet season was to sometimes put oneself at the mercy of the elements. Travel literature then often consisted of lengthy tomes compiled by explorers and adventurers after years on the ‘road’; popular (and portable) travel guides were simply not available for destinations far from western Europe or North America. Likewise, the appreciation of wildlife as a pastime – that is, watching and enjoying live animals for their own sake and in their own environment – was a privilege afforded to few.

All that has changed, of course, in this era of instant communications and fast transport: previously inaccessible and virtually unknown creatures and places appear almost daily in the mass media; travel guidebooks are now available to nearly every place on earth; and a massive growth in ecotourism has encouraged the proliferation of wildlife identification guides.

Watching Wildlife East Africa is a new type of guide. Not only does it help the reader to identify what they’re seeing – with beautiful photos and graphics – it tells them where to look for it in East Africa’s many superb wildlife reserves. But this handy guide goes even further: in language that anyone can understand, it explains what wildlife is doing – what it is eating, how it interacts with others of its own kind and other species, and how it copes with environmental factors such as climate and terrain. This is the first title in the Watching Wildlife series to deal with Africa’s great wildlife spectacles, and ranges from the traditional safari circuits of Kenya, Uganda and Tanzania to the once inaccessible rainforest strongholds of the great apes.

For the first time in history virtually all of the world’s natural wonders are accessible to those with a yen to seek them out. Yet watching wildlife is still a great privilege, albeit one that involves patience and dedication (like many great human endeavours). By using this guide you will certainly get more out of your safari, gorilla or chimp tracking and birdwatching. Lest we become too complacent, consider you belong to one of the last generations who will be able to enjoy wildlife in its pristine state.

Jane Goodall PhD CBE

Dr Jane Goodall’s study of wild chimpanzees in Gombe Forest (now Gombe Stream NP) began in 1960 and continues today. In 1977 she founded the Jane Goodall Institute (www.janegoodall.org), which aims to empower individuals to take informed and compassionate action to improve the environment for all living things. Her passion has taken her to almost every corner of the globe as an advocate for conservation – for human and nonhuman primates, and for all living things. The Institute’s philosophy is ‘Every individual makes a difference.’
INTRODUCTION

FROM the coral reefs off Kenya and Tanzania to the summits of Africa’s highest mountains, nowhere else on earth within a similar geographical area is so great an assemblage of large animals supported by such a range of environmental and climatic variation – elements which continue to shape animal distribution and behaviour today.

But too often watching wildlife in East Africa involves being shuttled from one herd or pride to the next, a two-dimensional experience not unlike watching a TV documentary. A more expansive experience can be had by understanding the elements of an ecosystem and their inextricable linkage. For example, the abundance of tiny insects at the bottom of a food chain can affect the behaviour of predators at the top; and entire habitats can appear or disappear according to the behaviour of animals – and people.

The stimulation of the sheer variety and endless activity of forest and savanna should be justification in itself to find out why, how and when it all started, and what makes the cogs turn. And if the emotions stirred by the experience prompt you to take further action for the conservation of what you have seen, then a greater understanding will make that action more effective.

Few visitors come away unmoved from tracking mountain gorillas or our closest living relatives, chimpanzees; for many the experience challenges preconceptions about human nature and evolution. Yet habitat favoured by early humans – mosaics of riverine forest, savanna and lake shore – remain today much as they did a million years ago. Extensive fossil beds in Kenya and Tanzania show that large numbers of existing animal species shared the savannas of East Africa when our ancestors first began to walk upright. If not for the evolutionary pressures that caused their extinction, those early hominids could still be living and reproducing alongside modern lions, antelopes, giraffes… and human beings.

So in a sense the East African wildlife-watching experience is also a direct and profound link with the origins of every human being on the planet. As Karen Blixen wrote in her famous book, Out of Africa: ‘In Africa…you woke up in the morning and thought: Here I am, where I ought to be.’
YOU'RE here to see the animals and we'll help you: Watching Wildlife East Africa shows you how to recognise the major players and advises you where to find them. But this book is also packed with background information on wildlife habitats, advice on getting started, when to go and how to prepare. There are also watching tips (eg, which trail or lake to go to), and clues on the best time to look. Read on to help plan your wildlife-watching adventure and to get the best out of this treasure-trove.

Getting Started

There are two main ways to go about watching wildlife: pick your animals and then find out where to go; or choose where you want to go and then find out what’s there. In East Africa you’ll see a lot of the same wildlife in a lot of places (eg, giraffes and zebras); but for other animals you’ll need to go to certain places (eg, flamingos are best sought at Rift Valley lakes). The key chapters cover both approaches: Parks and Places describes where to go and what’s there; and the Wildlife Gallery tells you about the animals. Flipping between these chapters will tell you almost everything you need to know.

Index

The quickest way to find out about an animal or reserve is to look it up in the Index. Animals are arranged into groups according to their common names (Grey’s zebra comes under zebras) – page numbers in bold indicate a photo of that animal. Reserves are listed alphabetically by name.

Table of Contents

This gives you a quick overview of the book. We’ve colour-coded each chapter to help you find your way around until you’re more familiar with the layout.

Wildlife Gallery

A run down on all the key species and groups: what they look like (and how to tell them apart) and the kinds of things you can see them doing. This chapter is divided into three sections: Mammals, Birds, and Other Creatures Great and Small (eg, reptiles).

Key animals are presented as feature pages which describe unusual and interesting aspects of their ecology. A sidebar next to the main text summarises some of their main characteristics (eg, behaviour, breeding and preferred habitat); Swahili names are included for most species; and a Hotspots box lists some places where they might be
found (use this as a link to the Parks and Places chapter). A small map indicates each species' range.

Other animals appear in family (or closely related) groups – these pages are packed with photos to help you work out what's what.

**Parks and Places** Organised country by country and starting with an introduction to the overall region, this chapter describes the best national parks, reserves and other places in which to see wildlife. Each country section begins with an overview (including itineraries) and includes an urban section if wildlife can be seen there, eg, in Nairobi. Specific destinations, eg, national parks and other reserves, are ordered alphabetically according to their importance for wildlife-watching. Thus, major attractions, such as Serengeti NP, are given detailed treatment and less-frequented reserves may be covered in only one page. Wildlife highlights, watching tips and facts for travellers are summarised for each; and a colour map points out major features and good wildlife-viewing areas.

**Wildlife-Watching** Essential background reading. This chapter tells you when to go and what time of day to look, and explains the ins and outs of safaris, guides, equipment and field guides. Special features cover game drives, gorilla and chimp tracking, birdwatching and some safari alternatives, such as walking.

**Nature in East Africa** We explain the reasons behind East Africa's great biodiversity and introduce some of the conservation issues.

**Habitats** Explains East African ecosystems in simple terms.

**Resource Guide** This lists recommended field guides and other books, reliable tour operators and wildlife-related websites.

**Glossary** Explains any confusing words in the text.
WILDLIFE-WATCHING

Tips and hints on the art of watching wildlife
Up at first light, a quick gulp of coffee and into the vehicle for an early game drive – few experiences compare with sunrise over the savanna. There’s no way of knowing what each day will bring, but be assured that each day will bring something. Whether you want to see as much variety as possible or get better acquainted with an old favourite, it is essential that you plan your trip to get the most out of every day and location. The following pages offer tips to help you maximise your wildlife-watching experiences, but it is invaluable to read as much as possible before you go (see the Resource Guide for a list of useful references) and talk to people who’ve been – watching documentaries and attending public lectures is also a good way of keeping up to date with new discoveries on the wildlife scene.

When to Go

Possibly the single most important influence on the behaviour of wildlife – and therefore your chances of seeing it – is rain (see the Nature in East Africa chapter for more on rainfall patterns). Rain affects plant growth, the seasonal availability of fruits and drinking water, and the number, distribution, breeding and/or migration of prey animals and their predators. Of course, it also affects the personal comfort of the observer and the condition of roads.

Savannas During the dry seasons (which coincide with the peak tourist seasons) animals can usually be found reasonably close to permanent water – elephants in particular remain nearby – and burnt or trampled grasses make viewing easier. Rain on the savannas brings on spurts of green growth and triggers the breeding or migration of many herbivores and predators, the courting and breeding of birds, and the appearance of wildflowers. By late in the wet seasons visibility is greatly reduced by high grass, and wildlife has dispersed as water and food is more widely available – but tourists are then fewer in number. Getting around is usually no problem in dry seasons, but can become difficult, and in places impossible, during wet seasons.

Forests Rainforests can be very wet places at any time of year, but don’t let the wet put you off – carry a light umbrella so observation can continue during showers. Dry seasons will mean easier but hotter tracking of the forest-dwelling great apes, but they are active year-round (their movement is dictated mainly by the availability of food). Bird courtship – and therefore peak activity – tends to coincide with wet seasons.

Mountains Rain, falling as snow on the high peaks, forces antelopes, elephants and birds to lower altitudes during wet seasons. Cold and wet conditions on the great mountains can pose a physical challenge to visitors at any time of year (although dry seasons are usually fine) and every care should be exercised – see Lonely Planet’s Trekking in East Africa for more information.
HOW TO LOOK

Looking at the right time and place
Animals are free to roam and may not be where you want them to be, but the better informed you are, the more likely you are to see what you are after. If you are on a tour, your knowledge will complement that of the guide and will often be in demand by other members of the party.

Time of Day Arguably the most important factor in successful wildlife-watching. Learn what time of day your quarry is most active, how it spends other times and how these might vary according to season and weather conditions – and plan your days to make the most of these factors. An early start may catch nocturnal predators still on the move; birds are most active in the early morning, although raptors ride thermals as the day warms up; and nocturnal animals may be active in overcast conditions. Activity dies off during the heat of the day, especially during the dry season (large mammals shelter under trees or shrubs, and birds rest in shade), picking up again in the late afternoon and peaking near sundown.

Weather Daily, as well as seasonal, temperature and rainfall patterns also make a difference. For example, puff adders are often on the move after rain; lizards like to bask in early sunshine; and monkeys are more active when the day warms up. A storm can bring on a flurry of activity – swifts moving through on the front, termites swarming, and, in the aftermath, predators snapping up wind-blown insects and rodents swept about. And predators generally hunt into the wind – this helps guides predict where they’ll be the next day.

Food Sources Food availability can change with season, and knowing your quarry’s food preferences can help. Note what’s about, eg, trees in flower attract birds, butterflies and bats; termite swarms are snapped up by many animals, from jackals to rollers; and some lions follow the wildebeest migration.

Water For many animals daily access to water is essential and during dry seasons they will stay close to a ready source; naturally the concentration of prey will attract predators. The daily ebbing and flowing of tides affects marine life, and the roosting and feeding of shorebirds on mudflats.

Know Your Habitat Some knowledge of where an animal lives will be of great value in finding it, eg, don’t expect gorillas on the savanna (see the Habitats chapter for more details). Learn what to expect in each major habitat and by patiently waiting – sooner or later something will show. For example, a cliff face may harbour klipspringers, a leopard’s den or an owl’s nest. Once you make the link between species and habitat, your ‘search pattern’ will change and new things will reveal themselves. The area where one habitat merges into another is usually especially productive, eg, woodland abutting grassland.