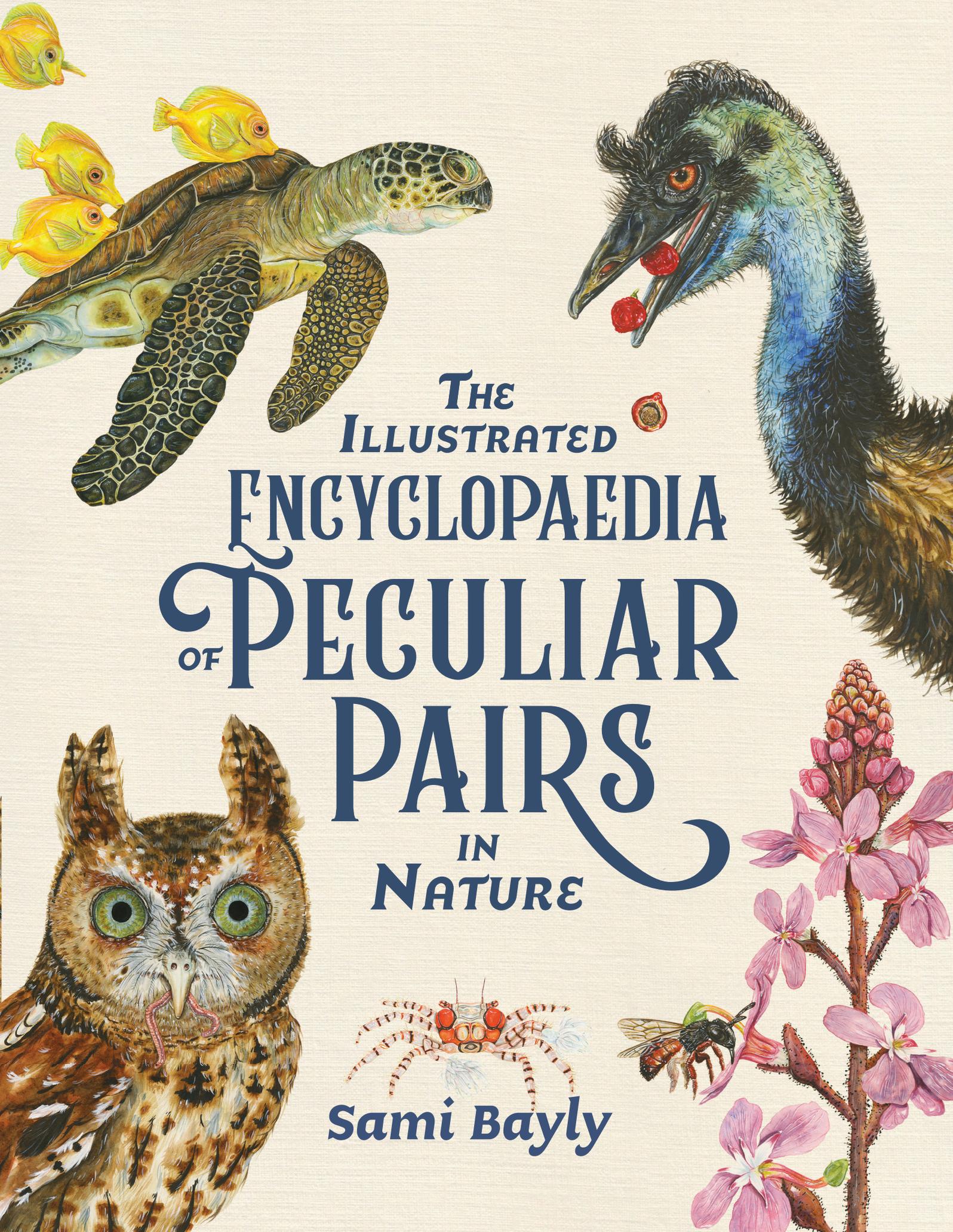


# TEACHERS RESOURCES



THE  
ILLUSTRATED  
ENCYCLOPAEDIA  
OF PECULIAR  
PAIRS  
IN  
NATURE

Sami Bayly

*THE ILLUSTRATED*  
**ENCYCLOPAEDIA**  
*OF PECULIAR PAIRS*  
*IN NATURE*

***Sami Bayly***

**Teachers Resources by Robyn Sheahan-Bright**

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# INTRODUCTION

Come along for another fresh take on the animal kingdom from bestselling author and illustrator, Sami Bayly.

Discover 60 of the most peculiar pairs in nature and learn how plant and animal species rely on each other for their survival.

Whether it be a rare tick living in the fur of a pygmy possum, a stick insect feasting and hiding out amongst the Melaleuca or a handfish laying its eggs on a sea squirt, incredible natural relationships deserve to be explored and celebrated. Investigating all types of relationships, from symbiotic to parasitic, this is an eye-opening guide to the natural world.

Many species steer clear of those who are different, but the animals and plants in this book have evolved to form relationships with some of the most unlikely partners, and they couldn't live without them.

This gorgeous hardcover book is illustrated in exquisite detail by award-winning author and illustrator Sami Bayly. The perfect companion to *The Illustrated Encyclopaedia of Ugly Animals* and *The Illustrated Encyclopaedia of Dangerous Animals*.

## THEMES & CURRICULUM TOPICS

Several themes and curriculum topics (for primary school students) are covered in this book which might be related to areas covered under: 'Australian Curriculum' <[https:// www.australiancurriculum.edu.au](https://www.australiancurriculum.edu.au)>

### SCIENCE

'Australian Curriculum: Science' <<https://www.australiancurriculum.edu.au/f-10-curriculum/science/>>

Each 'peculiar pair' in this text is covered under the same headings: Description, Peculiar Pairing, Conservation Status, Diet, Location/Habitat and Fun Facts.

**ACTIVITY:** After you have finished studying this book use these same headings to research another peculiar relationship between two animals or plants in nature.

**DISCUSSION POINT:** In her introduction, Sami Bayly explains 'peculiar pairings', in further detail: 'When you think about peculiar pairs in nature, you probably think about the term symbiosis, which is when different animals or plants share a relationship that mutually benefits them both throughout their lives. But there are many types of interesting relationships between plants or animals that are not so straightforward, and these fall into three categories: *Mutualism*: Both sides of the partnership benefits from their relationship. *Commensalism*: Only one side of the partnership benefits from their relationship, while the other is unaffected.

*Parasitism*: One side of the partnership benefits and the other is negatively affected.’ (p 7) Encourage students to identify any peculiar pairing that matches to one of these three terms.

**ACTIVITY:** Study any other websites or books which focus on peculiar pairs. [See **Bibliography**.]

**ACTIVITY:** Quiz students regarding the scientific names of some of these animals, e.g. What is an *Amphiprion rubrocinctus*? Answer: Australian clownfish.

**ACTIVITY:** Which of the animals in this book is endangered or at risk?

## THE LIFE CYCLES AND HABITATS OF ANIMALS

**ACTIVITY:** Study the life cycles of any of the animals in this book.

**ACTIVITY:** Study metamorphosis, and how some animals change physically as they develop. Study such life cycles in the animals included in this book, and in other creatures.

**ACTIVITY:** Study how each of these peculiar pairs employ unique survival skills in order to avoid predators, or are predators themselves.

**ACTIVITY:** Camouflage is used by many of the creatures in this book. Oceanic Whitetip Sharks in this book are one example: ‘These sharks have evolved a strategy to remain camouflaged from both above and below, known as ‘countershading’. By being dark on the top and light on their bellies, they can blend in to both the shadows and the sunlit water at the same time.’ (p 97) Research the four main types of camouflage: Concealing Coloration, Disruptive Coloration, Disguise and Mimicry. [See ‘Animal Camouflage: Pictures and Information for Kids’ *K5 Computer Lab 5* <<https://oakdome.com/k5/lesson-plans/multi-media/look-again-camouflage/index.php>>] Apply what you have learned to your observation of other animals.

**ACTIVITY:** Research any other special skills or features which the animals in this book have developed for finding food, protecting their territories, and surviving harsh conditions.

**ACTIVITY:** Research forms of adaptation revealed in any of the peculiar pairs included in this book.

## HUMANITIES AND SOCIAL SCIENCES (HASS)

‘Australian Curriculum: HASS’ <<https://www.australiancurriculum.edu.au/f-10-curriculum/humanities-and-social-sciences>>

## THREATS TO WILDLIFE AND CONSERVATION

**DISCUSSION POINT:** Read about some of the threats to wildlife in the following two

quotes and then discuss:

Emperor Shrimp and Spanish Dancer: 'While the conservation details are not entirely known, we do know the pair faces climate-related threats and natural predators.' (p 45)

Leadbeater's Possum and the Goblin Flea: 'Bushfires, logging and climate change have led to this pair's critically endangered status.' (p 73)

## CLIMATE CHANGE

**ACTIVITY:** 'Climate change' is a hotly contested subject about which climate change advocates argue, with some refuting arguments that human beings have had an impact on biodiversity. This topic is mentioned in a number of entries in this book. Research climate change in relation to any of the animals or plants included and write an essay outlining your findings.

**ACTIVITY:** Research the decline or endangered status of any animal mentioned in this book, and whether scientists have discovered the impact of climate change or pollution on that animal.

**ACTIVITY:** How should our government be responding to climate change in order to combat it? Examine such initiatives as the *Intergovernmental Panel on Climate Change (IPCC)* <<https://www.ipcc.ch>> in order to respond to this question. [See **Bibliography.**]

## HUNTING VERSUS PROTECTION OF WILDLIFE AND MORAL ISSUES

**ACTIVITY:** Some animals are considered dangerous to humans and are eradicated by hunting, poisoning or other methods. Research this topic further. Should we kill or remove such animals from their habitat simply because they pose a threat to human life?

**ACTIVITY:** Some animals are simply considered to be 'pests' by humans, since they are considered detrimental to other forms of wildlife or plantlife. How do we balance an animal's right to live with their effect on our ecosystem?

## VALUES

**DISCUSSION POINT:** Discuss the key values conveyed in this text.

## ENGLISH LANGUAGE AND LITERACY

'Australian Curriculum: English' <<https://www.australiancurriculum.edu.au/f-10-curriculum/english/>>

The text of this book might be studied in relation to the following aspects:

**ACTIVITY:** The entries on each peculiar pair are written in third person, as an expository text. Invite students to write an expository text about any other animal paired with another animal or plant which doesn't feature in this book. There are different types of expository writing, eg. descriptive, sequential, cause/effect etc. [See **Bibliography.**] [See also **Visual Literacy** exercise below.] [See also **Worksheet 2** below.]

**ACTIVITY:** Test your students' comprehension by asking them questions about the written text. [See also **Worksheets 4 & 5.**]

**ACTIVITY:** Invite students to write an acrostic poem using the letters in Emperor Shrimp.

**ACTIVITY:** Write a lyrical poem about any animal included in this book using models written by published poets. [See **Bibliography.**]

**ACTIVITY:** The collective nouns for some of the animals in this book are included in the text. Discover other such collective nouns. [See **Worksheet 6.**]

**ACTIVITY:** Invite students to write a simple cumulative text as the basis for a picture book about a peculiar pair of their choosing.

## VISUAL LITERACY

Australian Curriculum: Visual Arts

<<https://www.australiancurriculum.edu.au/f-10-curriculum/the-arts/visual-arts/>>

The visual text in this book has been created by a highly skilled natural history illustrator and she combines this with her written text to illustrate features of the various animals described.

**ACTIVITY:** The cover of the book depicts a number of 'peculiar pairs'. What does this cover suggest to you about the book's content? Create another cover depicting other peculiar pairs.

**ACTIVITY:** The title page is without images. Draw an appropriate image to adorn this page.

**DISCUSSION POINT:** The format of the book is standardised with an image opposite an expository text. The medium employed is watercolour. Sami has studied Natural History Illustration and uses a careful drawing style to document the features of each of these animals. Study her drawings and then create your own detailed sketch of the peculiar pair you have written about in the expository text you wrote under **English Language and Literacy** above. Make a display of the texts and images created by each student. Copy them and make them into a class book.

**ACTIVITY:** Create a collage image of a Boxer Crab and Sea Anemone. [See **Worksheet 1** below.]

**ACTIVITY:** Encourage students to use critical literacy skills to unearth further meaning in this text, by looking closely at the images, explaining what they see, and then what the text says, and how the two texts add meaning to each other. [See also **Worksheet 3.**]

**ACTIVITY:** Invite students to create a storyboard for the picture book text they wrote under **English Language and Literacy** above. [Discuss the conventions of the picture book story format before embarking on this exercise.]

## CREATIVE ARTS

There are many creative activities suggested by this text:

- 1. CRAFT:** Make a **Model** of any of the animals included in this text. [See 'Fimo Clay Instructions' *eHow* <[https://www.ehow.com/way\\_5418195\\_fimo-clay-instructions.html](https://www.ehow.com/way_5418195_fimo-clay-instructions.html)>]
- 2. CRAFT:** Create a Peculiar Pairs **Mobile**. [See **Worksheet 6.**] [See **Bibliography.**]
- 3. CRAFT:** Create a mask of any of these animals using relevant materials such as feathers.
- 4. CRAFT:** Create a **Diorama** depicting a Golden Jackal and a Bengal Tiger in their habitat. [See **Bibliography** for relevant resources.]
- 5. SCRIPT:** Create a **Book Trailer** to promote this book. [See **Bibliography** for relevant resources.]

## LEARNING TECHNIQUES

**ACTIVITY:** Research topics suggested in these notes online.

## MATHEMATICS

**ACTIVITY:** Have fun investigating mathematical facts about these animals, such as their population numbers, their longevity, how many eggs or offspring they produce, etc.

## FURTHER TOPICS FOR DISCUSSION AND RESEARCH

- Visit Sami Bayly's website and view some of the other illustration projects she has engaged in.
- Students might research this book in comparison to picture books and non-fiction books such as those listed in the **Bibliography**.
- Investigate any other topic suggested by this text.

## CONCLUSION

This book is a companion to Sami Bayly's earlier two books *The Illustrated Encyclopaedia of Ugly Animals* and *The Illustrated Encyclopaedia of Dangerous Animals* and is similarly carefully illustrated and researched as a tribute to some of the animals which are feared or even reviled because of their dangers to humans. Sami Bayly's work seeks to uncover not just the dangerous or ugly or peculiar aspects of animal life but actually amazing things which make each animal worthy of study and so very unique.

## ABOUT THE AUTHOR/ILLUSTRATOR

**Sami Bayly** is a natural history illustrator based in Armidale, NSW, who loves all things weird and wonderful. She finds the beauty and importance of all animals regardless of their appearance, and hopes to share her appreciation with others.

Sami's first book, *The Illustrated Encyclopaedia of Ugly Animals*, won the Children's Indie Book of the Year Award and the Australian Book Design Award for Younger Readers. It was a CBCA Honour Book and was shortlisted for an ABIA Book of the Year for Younger Children and longlisted for the ABA Booksellers' Choice 2020 Book of the Year Awards. Her second book, *The Illustrated Encyclopaedia of Dangerous Animals*, was shortlisted for the Children's Indie Book of the Year 2020 and the CBCA Eve Pownall Award, an ABIA Book of the Year for Younger Children and an Australian Book Design Award for Younger Readers. To keep up to date you can follow Sami on Instagram: <https://www.instagram.com/samibayly/> and her website: <http://www.samibayly.com/>

## ABOUT THE AUTHOR OF THE NOTES

**Dr Robyn Sheahan-Bright AM** operates justified text writing and publishing consultancy services, and is widely published on children's literature, publishing history and Australian fiction. In 2011 she was the recipient of the CBCA (Qld Branch) Dame Annabelle Rankin Award for Distinguished Services to Children's Literature in Queensland, and in 2012 the CBCA (National) Nan Chauncy Award for Distinguished Services to Children's Literature in Australia, and in 2014, the QWC's Johnno Award. In 2021 she was appointed a Member of the Order of Australia.

# WORKSHEETS

## WORKSHEET 1. CREATE A COLLAGE OF BOXER CRAB AND SEA ANEMONE

Enlarge this image to A3 on a photocopier and then encourage students to use a range of detailed materials, colour and texture, to make this collage, to achieve effect.



## WORKSHEET 2. CREATE AN ALPHABET OF OTHER PECULIAR PAIRS

Find animals which don't appear in this book and then write one 'interesting fact' beside it. (Enlarge this sheet to A3 on a copier to give you more space.)

<b>PAIR</b>	<b>FACT</b>
<b>A</b>	
<b>B</b>	
<b>Caribou/Arctic Fox</b>	
<b>Dwarf Mongoose/Yellow-billed Honeybill</b>	
<b>E</b>	
<b>F</b>	
<b>G</b>	
<b>H</b>	
<b>I</b>	
<b>J</b>	
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<b>T</b>	
<b>U</b>	
<b>V</b>	
<b>W</b>	
<b>X</b>	
<b>Yucca Moth/Yucca Plant</b>	
<b>Zebra/Oxpecker Bird</b>	

## WORKSHEET 3. IDENTIFY THE PAIR FOR THESE ANIMALS

Name the pair for each of these animals or plants, each of which is included in this book.

<b>1. Grey Whale</b>	<b>2. Candy Stripe Pistol Shrimp</b>	<b>3. Cape Sugarbird</b>
<b>4. Common Warthog</b>	<b>5. Desert Quandong</b>	<b>6. Emperor Shrimp</b>
<b>7. Fire Urchin</b>	<b>8. Galapagos Dove</b>	<b>9. Golden Jackal</b>
<b>10. Green Sea Turtle</b>	<b>11. Kinkajou</b>	<b>12. Leadbeater's Possum</b>
<b>13. Marine Iguana</b>	<b>14. Mountain Treeshew</b>	<b>15. Northern Bettong</b>
<b>16. Pea Crab</b>	<b>17. Stinking Corpse Lily</b>	<b>18. Vampire Finch</b>

**ANSWERS:** **1.** Barnacle. **2.** Black-ray Goby. **3.** King Protea. **4.** Banded Mongoose. **5.** Emu **6.** Spanish Dancer. **7.** Carrier Crab. **8.** Opuntia Cactus. **9.** Bengal Tiger. **10.** Yellow Tang. **11.** Balsa Tree. **12.** Goblin Flea. **13.** Floreana Lava Lizard. **14.** Pitcher Plant. **15.** Truffle. **16.** Blue Mussel. **17.** Liana Vine. **18.** Nazca Booby.

## WORKSHEET 4. PECULIAR PAIRS (GENERAL) QUIZ

1. What is the difference between mutualism, commensalism and parasitism?
2. Which of the animals in this book live in Australia? (Some of these live elsewhere as well.)
3. The Fig Wasp and the Moreton Bay Fig 'is one of only three obligate mutualistic relationships in this book.' (p 49) What are the other two?
4. What is an 'epiphyte' and which of the plants in this book is one?
5. What is 'obligate siblicide'?
6. Is an orchid on a branch an example of - Mutualism, Commensalism or Parasitism?
7. There are three types of parasites. Ectoparasites, Protozoa and Helminths. What type of parasite is the Tongue-biting Louse?
8. What is Phoresy Commensalism?
9. What is Predation?
10. Bell Miners are examples of 'obligate cooperative breeders'. What does this mean?

**ANSWERS:** **1.** *Mutualism:* Both sides of the partnership benefits from their relationship. *Commensalism:* Only one side of the partnership benefits from their relationship, while the other is unaffected. *Parasitism:* One side of the partnership benefits and the other is negatively affected.' (p 7) **2.** Australian Clownfish and Bubble-tip Anemone; Bell Miner, Psyllid and Eucalyptus; Blue-banded Bee and Climbing Guinea Flower; Boxer Crab and Sea Anemone; Canberra Grassland Earless Dragon and Garden Wolf Spider; Cattle Egret and Grazing Animals; Common Jack Mackerel and Tongue-biting Louse; Desert Quandong and Emu; Emperor Shrimp and Spanish Dancer; Fig Wasp and Moreton Bay Fig; Glossy Black Cockatoo and Drooping She-oak; Golden Ant and Ant Plant; Golden-tipped Bat and Australian Garden Orb Weaver Spider; Green-thighed Frog and Rain; Green Sea Turtle (though not generally the Yellow Tang); Leadbeater's Possum and Goblin Flea; Leopard Coral Grouper and Bluestreak Cleaner Wrasse; Little Red Flying Fox and Flowering Eucalypts; Lord Howe Island Stick Insect and Melaleuca; Northern Bettong and Truffle; Pinhead Pearlfish and Leopard Sea Cucumber; Pink-tailed Worm and Tyrant Ant; Reef Manta Ray and White Suckerfish; Scarlet Banksia and Fire; Sponge Decorator Crab and Sea Sponges; Spotted Handfish and Sea Squirt; Verco's Nudibranch and Bryozoan. **3.** The Acacia Ant and the Bullhorn Acacia (p 9), and the Sweet Bursaria, the Eltham Copper Butterfly and the Notoncus Ant. (p 121) **4.** 'The ant plant is an 'epiphyte', an interesting type of plant that doesn't grow out of the ground but actually grows on a host without harming it.' (p 57) **5.** If a pair of chicks is hatched, the strongest kills the other chick in order to survive. [See Booby (p 125).] **6.** Commensalism. **7.** Ectoparasite. **8.** 'One side of the partnership uses the other side as a means of transportation.' (p 7) **9.** 'One side of the partnership preys upon and kills the other side, usually as a key food source in their diet.' (p 7) **10.** 'These birds are 'obligate cooperative breeders', which means they require help from other birds in their family to raise their babies.' (p 17)

## WORKSHEET 5. PECULIAR PAIRS (SPECIFIC) QUIZ

Each of the questions below relates to one of the over 120 animals in this book.

1. What protects a **Bullhorn Acacia** from being eaten or destroyed by animals?
2. The relationship between the **African Death's-head Hawkmoth** and the **Western Honey Bee** is based on an unusual lie. What is that lie?
3. The **Australian Clownfish** pairs with what animal?
4. The **Grey Whale** plays host to the **Barnacle**. In what way does the barnacle assist whale scientists?
5. The combined effect of **Bell Miners** feeding on the lerps of **Psyllids** causes what to happen to their host tree, the **Eucalyptus**?
6. What makes the pairing of the **Blue-banded Bee** and the **Climbing Guinea Flower** so mutually beneficial?
7. How does the **Boxer Crab** benefit from its pairing with the Sea Anemone?
8. What is the green substance on the back of the **Brown-throated Three-toed Sloth** on which the **Sloth Moth** resides?
9. How does the **Canberra Grassland Earless Dragon** benefit from its pairing with the **Garden Wolf Spider**?
10. The **Candy Stripe Pistol Shrimp** is protected by the **Black-ray Gob** and provides what benefit in return?
11. The **Cape Sugarbird** and the **King Protea** have a mutually beneficial relationship. Of what country is the King Protea the national flower?
12. When the **Cattle Egret** spends time on the back of **Grazing Animals** how does it benefit?
13. How are the **Columbian Lesserblack Tarantula** and the **Dotted Humming Frog** paired?
14. The **Common Jack Mackerel** and the **Tongue-biting Louse** are a parasitic pair with a rather ghastly relationship. How does the Tongue-biting louse relate to the Common Jack Mackerel?
15. The **Common Warthog** and the **Banded Mongoose** are a pair. What other animals do the Common Warthog pair with?
16. The **Desert Quandong** and the **Emu** are a pair which flourish in southern and inland Australia. How do they benefit each other?
17. The **Eastern Screech Owl** and the **Texas Blind Snake** are a curious pair. Both names include a misleading word. Why?
18. What dangerous features do the **Egyptian Spiny-tailed Lizard** and the **Arabian Fattail Scorpion** have?
19. The **Emperor Shrimp** uses the **Spanish Dancer** as a form of transport and protection. By what other name is the Spanish Dancer known?
20. The **Femme Fatale Firefly** tricks the male **Common Eastern Firefly** in order to eat and imbibe the predator-deterring steroids it produces as the Femme Fatale can't produce this itself. How much of this steroid does the Common Eastern Firefly contain?
21. The **Fig Wasp** and the **Moreton Bay Fig** have very different life cycles. How different are they?

22. The **Fire Urchin** rides on the back of the **Carrier Crab** which gives it access to new feeding grounds. How does the Carrier Crab benefit from the pairing?
23. The **Galapagos Dove** feeds and nests on the **Opuntia Cactus** and in return pollinates other cacti. What is the common name for the cactus?
24. The **Glossy Black Cockatoo** nests on the **Drooping She-oak** and eats up to how many seed pods a day?
25. The **Golden Ant** and the **Ant Plant** are a pair. But there is another animal which has a relationship with this pair and another which needs the Ant Plant. What are they?
26. The **Golden-tipped Bat** and the **Australian Garden Orb Weaver Spider** pairing is an example of predation. How does the Golden-tipped Bat locate the Australian Garden Orb Weaver spider as its prey?
27. How does the **Golden Jackal** rely on the **Bengal Tiger**?
28. The **Green-banded Broodsac** pretends to be a caterpillar in order to attract birds. Once eaten, it lays its eggs inside the bird which are later expelled in their poo, which is then eaten by the **Amber Snail**. What is this pretence called?
29. The **Green-thighed Frog** relies on **Rain** to reproduce. What is the smell of rain called?
30. The **Green Sea Turtle** provides food for the **Yellow Tang** which in turn removes parasites from the turtle. What prevents parasites from feeding on the Yellow Tang?
31. The **Grey Wolf** and the **Common Raven** support each other in hunting and eating their prey. How widespread is the Grey Wolf population?
32. The **Kinkajou** helps the **Balsa Tree** to pollinate, but despite its sharp teeth the kinkajou is a what?
33. The **Leadbeater's Possum** and the **Goblin Flea** are dependent on each other. Have they always been known to scientists?
34. The **Leopard Coral Grouper** and the **Bluestreak Cleaner Wrasse** rely on each other in what way?
35. The **Little Red Flying Fox** assists in pollinating **Flowering Eucalypts**. These foxes are known as fruit bats which is a misleading name. Why?
36. The **Lord Howe Island Stick Insect** feeds on **Melaleuca**. When was this critically endangered insect re-discovered?
37. The **Marine Iguana** provides food and the **Floreana Lava Lizard** removes 'parasites, pesky flies and the iguana's decaying skin' (p 81) from its huge companion. Where does the lizard derive its name from?
38. The **Mind-controlling Parasite** enters the body of a **Common Rat** when it consumes the urine or poo of a Cat and then causes what?
39. The **Monarch Butterfly** eats milkweed which 'makes it extremely dangerous to predators because it becomes highly toxic. The **Viceroy Butterfly**, although it doesn't taste good, is not toxic. It doesn't need toxins to survive because where the monarch butterflies live, the viceroy has evolved to look very similar. Predators can't tell the species apart and this means that both butterflies are left alone.' (p 85) What is this deception called?
40. The **Mountain Pygmy Possum** provides a home for the tiny **Heath's Tick**. What provides most of the possum's diet?

41. The **Mountain Treeshaw** and the **Pitcher Plant** have an unusual pairing. What diet does the Pitcher Plant have?
42. The **Nile Crocodile** relies on the **Egyptian Plover** to clean its teeth of debris and parasites. What distinguishes the Nile Crocodile from other crocodiles?
43. The **Northern Bettong** which feeds on the **Truffle** is found in only one area; what is it?
44. The **Ocean Sunfish** basks on the surface of the ocean allowing the **Laysan Albatross** to land on its back and to eat the parasites on its back. Baby sunfish have an unusual shape. What is it?
45. The **Oceanic Whitetip Shark** and the **Pilot Fish** are a peculiar pair. The shark is critically endangered. How much of the world's population has disappeared?
46. The **Painted Honeyeater** and the **Grey Mistletoe** rely on each other for feeding and propagation. The origin of the Mistletoe's name is curious. What is it?
47. The **Pea Crab** lives inside the **Blue Mussel** and can do what damage?
48. The **Pinhead Pearlfish** takes up residence inside the **Leopard Sea Cucumber** as a form of refuge. How are Sea Cucumbers regarded by humans?
49. The **Pink-tailed Worm Lizard** relies on the **Tyrant Ant** for two reasons. What are they?
50. The **Pseudoscorpion** rides on the **Giant Harlequin Beetle** tucked under its wing case or 'elytra' (p 106). Why are the male Giant Harlequin Beetle's legs so long?
51. The **Red Weaver Ant** 'farms' the **Soft Scale Bug** for food. How do the Red Weaver Ants make their nests?
52. The **Reef Manta Ray** and the **White Suckerfish** rely on each other, but can the White Suckerfish find the same support elsewhere?
53. The **Scarlet Banksia** and **Fire** are a very interesting pair, for the Scarlet Banksia relies on bushfires to propagate. What are such plants called?
54. The **Sponge Decorator Crab** and **Sea Sponges** have a fascinating pairing. 'Decorator crabs attach the sponges to the hooked hairs that cover their carapace. This adaptation allows the crab to camouflage itself and stay safe, as the toxic sponges deter predators.' (p 114) What other name is the Sponge Decorator Crab known by because of this adaptation?
55. The **Spotted Handfish** lays its eggs on the **Sea Squirt** which provides a safe place to guard the eggs until they hatch. What does the Sea Squirt look like?
56. The **Stinking Corpse Lily** uses the **Liana Vine** and takes its nutrients from the vine in a holoparasitic manner. What threatens the Stinking Corpse Lily's reproduction process?
57. The **Sweet Bursaria**, the **Eltham Copper Butterfly** and the **Notoncus Ant** live in harmony. What is another name for the Sweet Bursaria?
58. The **Trigger Plant** and the **Reed Bee** are a pair. The Trigger Plant is 'protocarnivorous'. What does this mean?
59. The **Vampire Finch** and the **Nazca Booby** have a sinister relationship. Why?
60. The **Verco's Nudibranch** and the **Bryozoan** have a predator relationship. What are Bryozoan also known as?

**ANSWERS:** 1. 'Acacia ants are so territorial they scare away any pest or creature – such as cows, horses or caterpillars – that comes along with plans to eat the bullhorn acacia.' (p 9) 2. 'The hawkmoth is an imposter. It mimics the smell of the bees, pretending to be one of them to trick the bees into letting it inside their hive where it can feed on their precious honey.' (p 10) 3. The Bubble-tip Anemone. 4. 'Similar to a human fingerprint, scientists can use the unique arrangement of barnacles on a whale to help identify it.' (p 14) 5. Canopy dieback. 6. 'The bee holds on to the flower and quickly vibrates its flight muscles in order to stimulate the flower into dropping its pollen all over the bee's body. Then the bee flies to another plant and begins the pollination process.' (p 18) 7. 'Not only does the crab protect itself from predators by waving the anemone's stinging cells in their faces, it also uses these tentacles to help it eat.' (p 21) 8. Algae. 9. 'The earless dragon relies on the spider's burrow to sleep in, but also as a place to hide from predators, reset its body temperature, mate and eat.' (p 25) 10. 'In return for this bodyguard service, the shrimp frequently fixes and strengthens the burrow, providing a long-term safe haven for both creatures.' (p 26) 11. South Africa. 12. 'Grazing animals walk around a lot, looking for food, which stirs up small animals for the egret to feast on.' (p 30) 13. 'The frog and spider live happily together in one burrow.' (p 33) 14. 'The female louse enters the fish through its gills and slowly makes her way to its mouth. She clamps onto the mackerel's tongue with her legs and powerful bite and begins to suck its blood.' (p 34) 15. 'The red-billed and yellow-billed ox peckers.' (p 37) 16. 'The emu eats many quandong fruits and passes the seeds in its droppings as it travels, thereby assisting the fertilisation and germination process, and helping the plant to spread and grow in new places.' (p 38) 17. 'Despite having 'screech' in their name, the call of an eastern screech owl is rather soft and can be compared to the muffled whinnying of a horse.' (p 41) 'Despite their name, the Texas blind snake is not actually blind.' (p 41) 18. The Egyptian Spiny-tailed Lizard has a weaponised tail and the Arabian Fattail Scorpion has a toxic sting. (p 42) 19. A nudibranch. (p 45) 20. 'A single male common eastern firefly has enough defensive steroids inside him to protect the femme fatale firefly for her whole life.' (p 46) 21. 'The Moreton Bay fig can live for over 100 years in the wild, but the wasps have a very short lifespan, only living for 2–3 days.' (p 49) 22. 'Because the urchin has many toxic spines all over it, the crab is able to deter most of its own predators just by holding the urchin on its back.' (p 50) 23. Prickly Pear. 24. '580 seedpods a day.' (p 54) 25. 'The Apollo jewel butterfly lays its eggs on the ant plant. The eggs have evolved the same scent as ant larvae, tricking the ants into taking care of the butterfly babies... Ant plant fruit is eaten by the mistletoe bird. After digesting the seeds, the bird poops them out in another location, generally up high in a tree. This is how ant plants spread.' (p 57) 26. 'By making noise and using the soundwaves that bounce back to guide them, called 'echolocation', the golden-tipped bat can easily home in on the 5-centimetre Australian garden orb weaver.' (p 58) 27. 'The solitary jackal follows the tiger's moves and kills, eating their leftovers, that way safely avoiding any predators who are scared away by the big cat.' (p 61) 28. 'When an organism disguises itself as something else in order to be eaten, it is known as 'aggressive mimicry'.' (p 62) 29. 'The smell associated with rain actually has a name, 'petrichor'. It is created by bacteria in soil that releases into the air after rainfall.' (p 65) 30. 'Yellow tang are covered in a layer of mucus which leaks out of their skin, preventing parasites from latching on and also helping them swim faster.' (p 66) 31. 'The grey wolf used to be the world's most widespread mammal, but it was hunted by humans. They now only inhabit portions of Asia, Europe, northern USA and Canada.' (p 69) 32. A 'frugivore, mostly eating fruit.' (p 70) 33. 'The Leadbeater's possum was rediscovered in 1961

after it was thought to have gone extinct for approximately 60 years.' (p 73) **34.** The Bluestreak Cleaner Wrasse eats the parasites and debris which might lead to permanent damage in the Leopard Coral Grouper. (p 74) **35.** Because 'the flying fox almost never eats fruit.' (p 77) **36.** In 2001. (p 78) **37.** It 'takes its name from its habit of basking in the hot sun on old volcanic rocks.' (p 81) **38.** 'Once inside the rat, the parasite reworks the rodent's fear receptors in the brain, preventing it from following its natural instincts to stay away from predators like cats. The parasite also tricks the rat into thinking that cats are potential mates.' (p 82) **39.** 'Müllerian Mimicry' (p 85) **40.** The Bogong Moth. (p 86) **41.** It is a carnivorous plant. (p 89) **42.** It 'is the deadliest crocodile in the world,' (p 90). **43.** In north-east Queensland. (p 93) **44.** Shaped like a star. (p 94) **45.** 'Over approximately the last 60 years, as many as 80% of the oceanic whitetip shark population has disappeared.' (p 97) **46.** 'Mistletoes were named after the way their seeds are dispersed (through the bird's poo). The Old English word was 'mistlelan', with 'mistel' meaning dung and 'tan' meaning twig, essentially translating to 'poop on a stick'.' (p 98) **47.** 'Pea crabs can distort the mussel's shell or slow their growth. When there is less food available, the pea crab makes sure to eat first and the mussel goes hungry.' (p 101) **48.** 'Sea cucumbers are often fished as they are a popular food in several cultures, with many considering them as a delicacy both fresh and dried.' (p 102) **49.** 'The pink-tailed worm lizard likes tyrant ants so much that it not only eats them, but also lives with them inside their burrows.' (p 105) **50.** 'The front legs of the male giant harlequin beetle are often longer than the beetle's body and attract females at mating time. They are also used to kick competing males off trees and hopefully far away.' (p 106) **51.** 'The ant larvae create thousands of silk strands that the mature ants use to stick leaves together.' (p 109) **52.** 'In the few cases where white suckerfish are not with the reef manta ray, they will find hosts in sharks or even black marlin.' (p 110) **53.** 'Plants that have evolved to need fire in their reproduction are called 'pyrophiles'.' (p 113) **54.** A 'rhinoceros crab' (p 114). **55.** It 'looks a little like a flower.' (p 117) **56.** 'The plant relies on cross pollination between male and female flowers, but as there are so few left in the wild, this means many are never pollinated and in turn, they are unable to increase their population size.' (p 118) **57.** 'The sweet bursaria is also known as the 'Christmas bush' because it flowers in December each year.' (p 121) **58.** 'Trigger plants are 'protocarnivorous', meaning they can catch insects using the hairs on their stems, but they cannot digest them.' (p 122) **59.** While clearing the Nazca booby's skin and feathers of parasites, the finch would sometimes extract a small amount of blood too. The finch recognised the nutritional benefits of drinking this blood. Now, when other food is scarce, the finch will feast on the booby's blood, starting at the base of the bird's tail and wings.' (p 125) **60.** 'Bryozoa are often referred to as 'sea mats', 'lace corals' and 'horn wrack'. (p 126).

## WORKSHEET 6. PECULIAR PAIRS MOBILE

Enlarge this sheet to A3 and stick to craft paper. Invite students to cut out the animals, and then attach to fishing line and hang from a straw, a metal hanger, or an embroidery hoop to create a peculiar pairs mobile. [See 'How to make a Mobile' *Wikihow* <<http://www.wikihow.com/Make-a-Mobile>>]



## WORKSHEET 7. PECULIAR PAIRS COLLECTIVE NOUNS

This book records that: 'The collective noun for a group of moths is a 'whisper'.' (p 10) 'The collective noun for a group of spiders is a 'cluster'.' (p 25) 'The collective noun for a group of warthogs is a 'sounder'.' (p 37) 'The collective noun for a group of snails is a 'walk'.' (p 62) 'The collective noun for iguanas is a 'slaughter'.' (p 81) 'The collective noun for a group of crocodiles is a 'congregation'.' (p 90) 'The collective noun for sharks is a 'shiver'.' (p 97) 'The collective noun for ants is a 'colony'.' (p 105) 'The collective noun for a group of butterflies is a 'flutter'.' (p 121)

Try to discover the collective nouns for the following animals and insects:

1. LOUSE.
2. SCORPION.
3. POSSUM.
4. WOLF.
5. SEA CUCUMBER.
6. TIGER.
7. STICK INSECT.
8. BEE.
9. SPIDER.
10. PLOVER.

**ANSWERS:** 1. Flock, colony, infestation. 2. Bed or nest. 3. Passel. 4. Pack, rout or route. 5. Pickle. 6. Ambush, hide or streak. 7. A bushel. 8. Grist, hive, swarm, flight, bike. 9. Cluster, clutter. 10. Wing or Congregation.

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