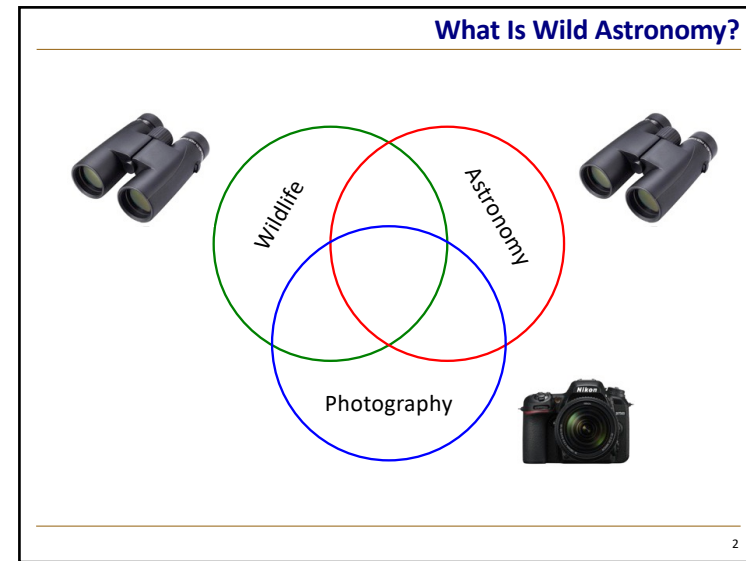


Wild Astronomy



What Am I Talking About

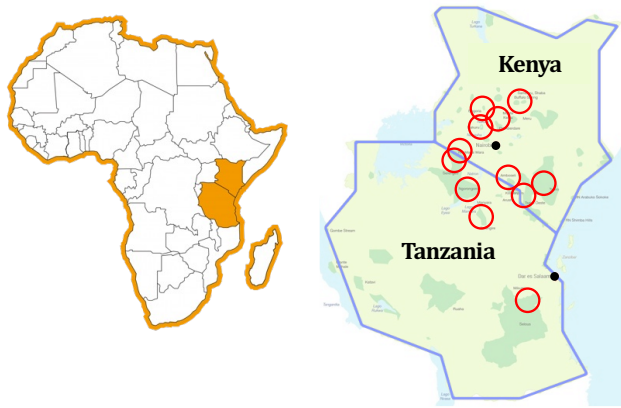
Going on Safari	Where to go, what to take
Lodges and Camps	Where to stay
Game Drives	How to see all the wildlife
Wildlife Photography	Capturing it all
Astrophotography	Under the darkest skies

3



Wild Astronomy

Kenya and Tanzania



5

Going on Safari



6

Hitting the Road



7

Quintessential Africa



Lots of zebras, elephants and giraffes ...

... and a watering hole

8

Wild Astronomy

Flying To Rufiji



Flying by bush aircraft – faster and more expensive than by road

9

Rufiji International Airport



Mtemere Airstrip, Rufiji River Camp

10

Lodges and Camps



Sunbird Lodge



View from terrace of Sunbird Lodge, Lake Elementaita

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Wild Astronomy

Sunbird Lodge



Inside Sunbird Lodge room, Lake Elementaita

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Mara Serena Lodge



View from terrace of Mara Serena Lodge, Maasai Mara

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Kilaguni Serena Lodge



Terrace of Kilaguni Serena Lodge, Tsavo West National Park

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Overlooking the Watering Hole



Terrace of Kilaguni Serena Lodge, Tsavo West National Park

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Wild Astronomy

Eland at Sunrise



Watering hole of Kilaguni Serena Lodge, Tsavo West National Park

17

Floodlit Watering Hole



Watering hole of Kilaguni Serena Lodge, Tsavo West National Park

18

Star Trails Over Kilaguni



2003 First attempts at astrophotography, Kilaguni Serena Lodge, Tsavo West National Park

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Rooms On Stilts



Sunrise at Salt Lick Lodge, Taita Hills

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Wild Astronomy

Crater View



View from Ngorongoro Lodge room, Ngorongoro Crater

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Keekorok Lodge



Boardwalk in grounds of Keekorok Lodge, Maasai Mara

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Oi Tukai Lodge



Oi Tukai Lodge, Amboseli National Park

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Oi Tukai Lodge



Grounds of Oi Tukai Lodge, Amboseli National Park

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Wild Astronomy

Star Trails Over Ol Tukai



2003 First attempts at astrophotography, Ol Tukai Lodge, Amboseli National Park

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Tented Camps



Mara Sarova Game Camp, Maasai Mara

26

Tents by the River



Governors' Camp, Maasai Mara

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Tents by the River



Signs of a nocturnal visitor – maybe astrophotography is not such a good idea

28

Wild Astronomy

Rufiji River Camp



Rufiji River Camp, Selous Game Reserve, Tanzania

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Star Trails Over Rufiji River Camp



Nikon D70 + 18-70mm lens
Static tripod (no tracking)
120s exposures

2005 Early attempts at astrophotography, Rufiji River Camp, Selous Game Reserve, Tanzania

30

Game Drives



Our Safari 'Team'



The Syzygy Society with David – our driver, guide and friend

32

Wild Astronomy

Room in the Van



Amboaseli National Park

33

Do You Need a Big Telephoto Lens?



Sigma 200–500 mm

Nikon 300 mm

Canon 600 mm

Telephoto lenses up to 300 mm are great for wildlife photography

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Can You Get Close?



Impala

36

Wild Astronomy

Can You Get Close?



Leopard walks past us, Maasai Mara

37

Ready For a Game Drive



Waiting for a game drive at Ashnil Mara Camp, Maasai Mara

38

Wildlife Photography



A Million Wildebeest



About 1.5 million wildebeest migrated from Tanzania to Kenya

40

Wild Astronomy

A Thousand Pelicans



Flock of pelicans, Lake Nakuru

41

Animals Are Curious About Us



Zebra (Maasai Mara) / Giraffe (Amboseli) / Lion (Serengeti)

42

Animals in the Grass



Lioness watching over her cubs in the grass, Serengeti National Park, Tanzania

43

Animals in the Grass



Elephant in the swamp, Amboseli National Park

44

Wild Astronomy

Animals in the Grass



Giraffe in the long grass, Maasai Mara

45

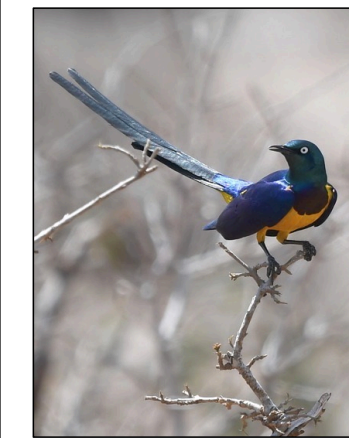
Zebras Grazing



Zebras grazing at sunrise, Maasai Mara

46

Starlings



Red-winged starling / Golden-breasted starling

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Starlings



Greater blue-eared / Superb / Lesser blue-eared

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Wild Astronomy

Little Birds



Dusky flycatcher / Rosey-patched bush-shrike / White-eyed slaty flycatcher / Common waxbill / Paradise flycatcher 49

Colourful Birds



Purple grenadier / Malachite kingfisher / Collared sunbird / Crested barbet / Red-cheeked cordon-bleu 50

White-fronted Bee-eaters



White-fronted bee-eaters, Rufiji River Camp

51

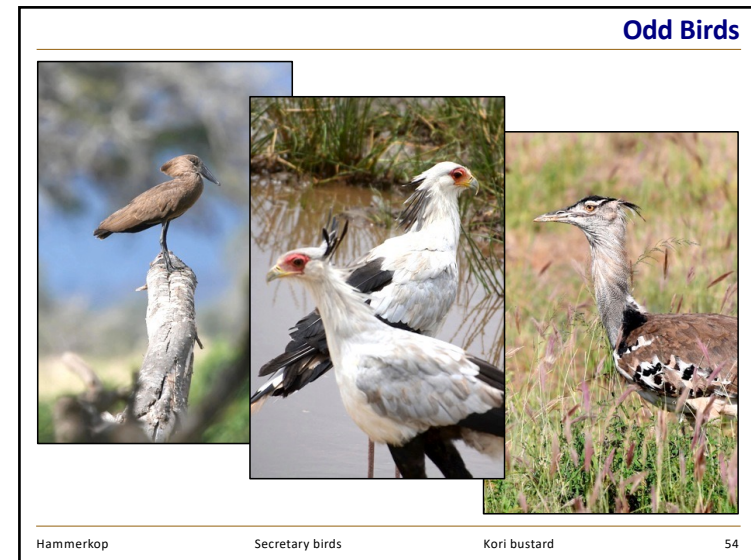
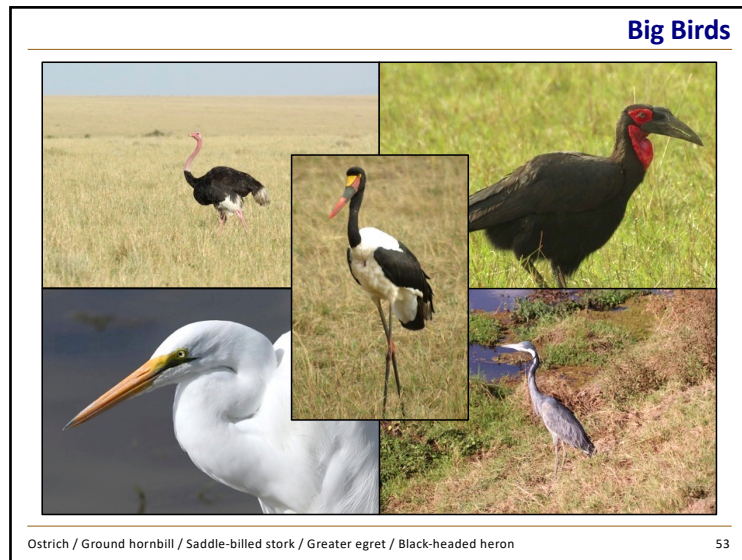
Lilac-breasted Roller



Lilac-breasted roller, Taita Hills

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Wild Astronomy



Wild Astronomy

Patience



Tawny eagle, Tsavo West National Park

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Bad Hair Day?



Tawny eagle, Tsavo West National Park

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Water Birds



Black-winged stilt / Greater painted-snipe / African jacana

59

Lesser Flamingo



Lesser flamingo, Ol Tukai Lodge, Amboseli National Park

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Wild Astronomy

Reflections



Great white pelican / Lesser flamingo / Black-headed heron / Great cormorant / Lesser flamingo

61

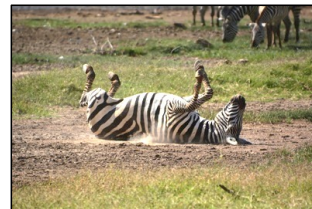
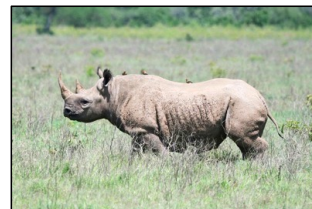
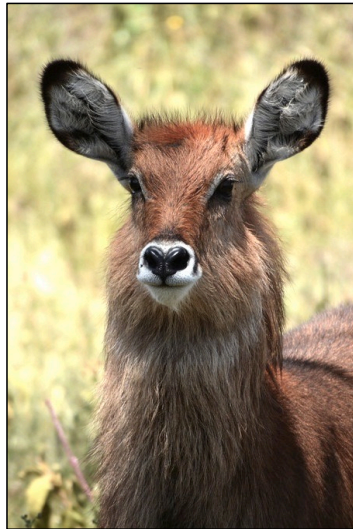
Reflections



Elephant (Amboseli NP) / Impala (Tsavo West NP) / Zebra (Tsavo West NP)

62

Lake Nakuru



Waterbuck / Black rhinoceros / Zebra

63

Play Fighting



Young lions play fighting, Maasai Mara

64

Wild Astronomy

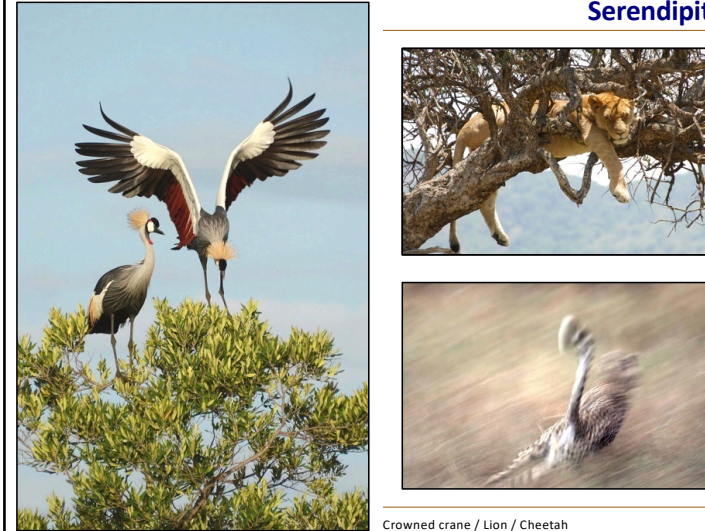
Real Fighting



Lappet-faced vultures / Hippopotamus / Cape buffalo / Lion and hyenas

65

Serendipity



Crowned crane / Lion / Cheetah

66

Zebra Crossing



Zebras crossing flooded plain, Ol Tukai Lodge, Amboseli National Park

67

Yawns



Olive baboon / Leopard / Cheetah / Hippopotamus

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Wild Astronomy

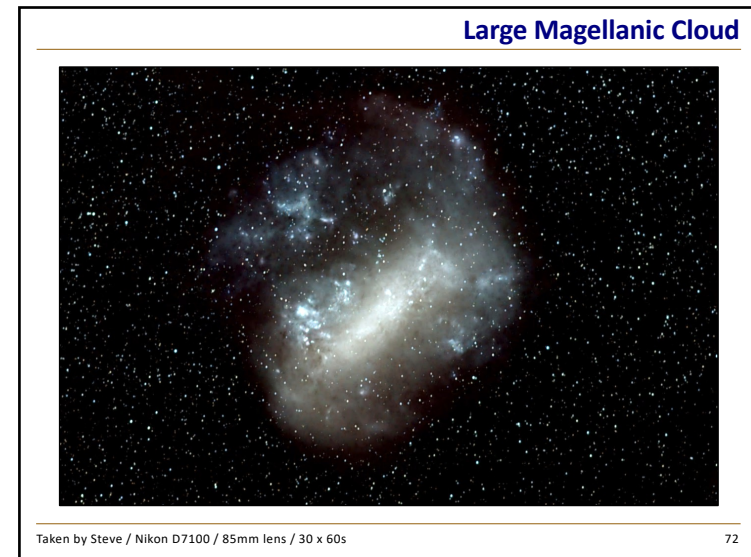


Star Trackers

Two star trackers are shown. On the left is a DIY star tracker 'K2' designed and built by Steve, used from 2007 to 2013. It is a black metal frame with a camera mounted on top. On the right is an iOptron SkyTracker™, used since 2013. It is a white, compact device with a camera mounted on top. The text "iOptron SkyTracker™ Used since 2013" is written above it.

K2 and iOptron star trackers

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Wild Astronomy

Carina Nebula



Nikon D7500 / 85mm lens / 15 x 60s

73

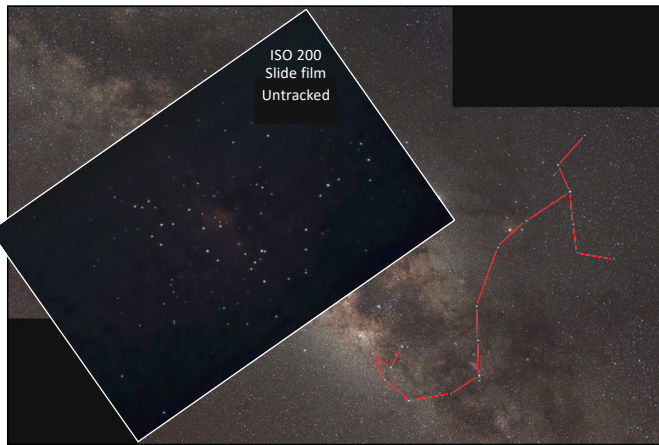
Milky Way



Taken by Steve / Nikon D7500 / 35mm lens / 10 x 120s

74

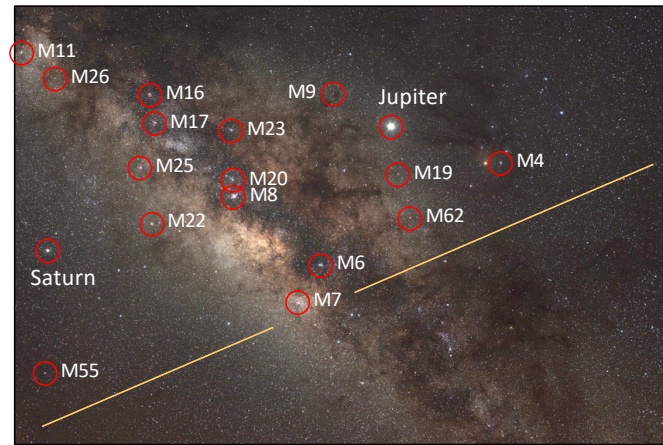
Milky Way



Taken by Steve / Nikon D7500 / 35mm lens / 10 x 120s

75

Milky Way



Taken by Steve / Nikon D7500 / 35mm lens / 10 x 120s

76

Wild Astronomy

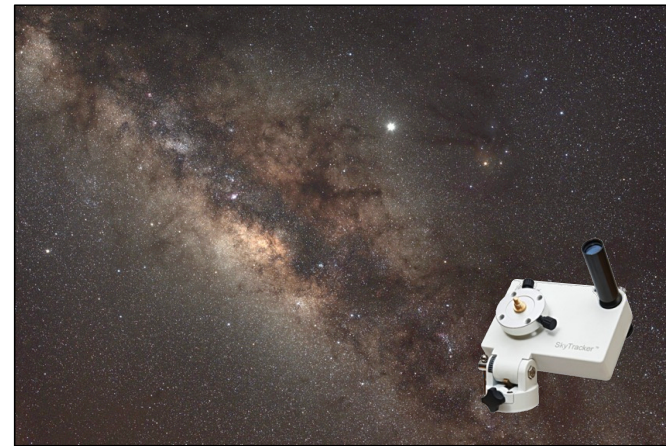
Lagoon and Trifid Nebulae



Taken by Steve / Nikon D7500 / 300mm lens / 1 x 30s

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Milky Way



Taken by Steve / Nikon D7500 / 35mm lens / 10 x 120s

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The End(s)



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Wildlife by day ...
... stars by night

Wild Astronomy

www.liverpool.ac.uk/~sdb/Talks

Dr Steve Barrett

NNHS 13 May 2024