

EXPLORING INDIA'S WESTERN GHATS
**THE SECRET
GARDENS**

A trip to the UNESCO's World Heritage Site -
one of the "hottest hotspots" for biodiversity
and a little-visited, exceptionally beautiful,
richly rewarding destination for serious wildlife
and nature photography

An Indian or Spectacled Cobra
Naja naja spreads its hood, rearing
up in a truly impressive threat display
- a symbol of the Western Ghats
at their wild, natural best.

*Steep hill forests crossed
by quiet brooks and inhabited
by countless creatures*



A Grey Langur *Semnopithecus dussumieri* surveys its home range with the Anshi-Dandeli Tiger Reserve forested hills in the background. Truly wild Grey Langurs are very shy and not easily approached.

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*V*irtually - and inexcusably - ignored by most European or North American wildlife photographers and nature travellers, India's Western Ghats are an immense region of mystery and legend, exceptionally rich in fauna, flora and spectacular landscapes. According to a short summary from Wikipedia, "The Western Ghats or the Sahyadri constitute a mountain range along the western side of India. It is a UNESCO World Heritage Site and is one of the eight "hottest hotspots" of biological diversity in the world. The range runs north to south along the western edge of the Deccan Plateau,

and separates the plateau from a narrow coastal plain, called Konkan, along the Arabian Sea. A total of thirty nine properties including National Parks, Wildlife Sanctuaries and reserve forests were designated as World Heritage sites - twenty in Kerala, ten in Karnataka, five in Tamil Nadu and four in Maharashtra. [The range starts near the border of Gujarat and Maharashtra, south of the Tapi river, and runs approximately 1,600 km (990 mi) through the states of Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala ending at Kanyakumari, at the southern tip of

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■ A brown phase Malabar Pit Viper *Trimeresurus malabaricus* waits in ambush by a forest trail. This endemic, highly variable species is rather common in its range but not easily seen due to its exquisite camouflage.



A pair of mating Blue Mormon butterflies *Papilio polymnestor*. The Western Ghats are a true paradise for those interested in butterflies.

India. These hills cover 160,000 square kilometers (62,000 sq mi) and form the catchment area for the complex riverine drainage systems that drain almost 40% of India. The average elevation is around 1,200 m (3,900 ft). The area is one of the world's eight "hottest biodiversity hotspots" and has over 5000 species of flowering plants, 139 mammal species, 508 bird species and 179 amphibian species; it is likely that many undiscovered species live in the Western Ghats. At least 325 globally threatened species occur in the range". We had long desired visiting and exploring at leisure this veritable naturalistic treasure trove, and we finally realized our dream thanks to our friend Yuwaraj Gurjar, a true macrophotography maestro from Mumbai. But before telling you where we went and what we saw, let us quote

here a few more paragraphs, this time from the UNESCO website, which will help you realizing how exceptionally unique is this enormous stretch of wilderness: "Older than the Himalaya mountains, the mountain chain of the Western Ghats represents geomorphic features of immense importance with unique biophysical and ecological processes. The site's high montane forest ecosystems influence the Indian monsoon weather pattern. Moderating the tropical climate of the region, the site presents one of the best examples of the monsoon system on the planet. It also has an exceptionally high level of biological diversity and endemism and is recognized as one of the world's eight "hottest hotspots" of biological diversity. The forests of the site include some of the best representatives of non-equatorial tropical evergreen forests anywhere and are home to at least

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A stronghold of rare, endemic and amazingly beautiful species



■ A large Bamboo Pit viper *Trimeresurus gramineus* in the idyllic setting of the Yeoor Hills - just a few minutes from the noisy and polluted streets of Mumbai and its suburbs.

■ A stunningly colorful Golden-fronted Leafbird *Chloropsis aurifrons* from the grounds of the Old Magazine House lodge in Ganeshgudi, on the Londa-Dandeli road in the State of Karnataka.



325 globally threatened flora, fauna, bird, amphibian, reptile and fish species. The Western Ghats are internationally recognized as a region of immense global importance for the conservation of biological diversity, besides containing areas of high geological, cultural and aesthetic values. A chain of mountains running parallel to India's western coast, approximately 30-50 km inland, the Ghats traverse the States of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujarat. These mountains cover an area of around 140,000 km² in a 1,600 km long stretch that is interrupted only by the 30 km Palghat Gap at around 11°N. The Western Ghats of India are a geomorphic feature of immense global importance. The outstanding universal value of the Western Ghats is manifested in the region's unique and fascinating influence on large-scale biophysical and ecological processes over the entire Indian peninsula. The mountains of the Western Ghats and

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The small, strangely-shaped and highly cryptic Hooded Leaf grasshopper *Phyllochoreia* sp. is rather common but quite difficult to spot in the shrubbery of the Western Ghats.




■ The lower reaches and the coastal strip of the Western Ghats offer wonderful opportunities for bird photography. Left, dueling Ospreys *Pandion haliaetus* at Carambolim lake; top right, Black-capped Kingfisher *Halcyon pileata* in Dr.Salim Ali Bird Sanctuary; bottom right, White-throated Kingfisher *Halcyon smyrnensis* in Bhagwan Mahawir Wildlife Sanctuary,.





A beautiful Tamil
Lacewing butterfly
Cethosia nietneri
photographed
in the Cotigao
Wildlife Sanctuary.

A pair of 
 Malabar Pied Hornbill
Anthracoceros coronatus
 perch on a dead tree on
 a cloudy, rainy day in
 Dandeli. This is a rather
 common but nevertheless
 very impressive species.



their characteristic montane forest ecosystems influence the Indian monsoon weather patterns that mediate the warm tropical climate of the region, presenting one of the best examples of the tropical monsoon system on the planet. The Ghats act as a key barrier, intercepting the rain-laden monsoon winds that sweep in from the south-west during late summer. A significant characteristic of the Western Ghats is the exceptionally high level of biological diversity and endemism. At least 325 globally threatened (IUCN Red Data List) species occur in the Western Ghats. The globally threatened flora and fauna in the Western Ghats are represented by 229 plant species, 31 mammal species, 15 bird species, 43 amphibian species, 5 reptile species and 1 fish species. Of the total 325 globally threatened species in the Western Ghats, 129 are classified as Vulnerable, 145 as Endangered and 51 as Critically Endangered. The Western Ghats contain exceptional levels of plant and animal diversity and endemism for a continental area. In particular, the level of endemism for some of the 4-5,000 plant species recorded in the Ghats is very high: of the nearly 650 tree species found in the Western Ghats, 352 (54%) are endemic. Animal diversity is also

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Left, a rare encounter with a brightly patterned juvenile Common Indian or Bengal monitor *Varanus bengalensis*; left, the fairy-tale atmosphere pervading the open forests of the Bhagwan Mahavir Wildlife Sanctuary in the early morning hours.





Colors and shapes blending in an infinite variety of unique elegance

A large Green Vine Snake *Ahaetulla nasuta* puts on a very impressive but harmless threat display. This is an exceptionally common, rear-fanged species with a relatively weak venom.



Far left, Owl Fly (Ascalaphidae) photographed during a night walk in Tambdi Surla; left, Handmaiden Day moth *Euchromia polymena* in the bungalow gardens at Cotigao.

exceptional, with amphibians (up to 179 species, 65% endemic), reptiles (157 species, 62% endemic), and fishes (219 species, 53% endemic). Invertebrate biodiversity, once better known, is likely also to be very high (with some 80% of tiger beetles endemic). A number of flagship mammals occur in the property, including parts of the single largest population of globally threatened "landscape" species such as the Asian Elephant, Gaur and Tiger. Endangered species such as the Lion-tailed Macaque, Nilgiri Tahr and Nilgiri Langur are unique to the area. The property is also key to the conservation of a number of threatened habitats, such as unique seasonally mass-flowering wildflower meadows, Shola forests and Myristica swamps.

EASILY REACHED AND EASILY EXPLORED

Even before we had read and digested the above, we had long been under India's spell for a long time - we simply had to go there. Now, we have visited India several times and we feel fully entitled to offering a word of advice here - do visit her National Parks and Wildlife Sanctuaries and do not miss her incredibly beautiful wildlife, but always try to do so with the help and advice of an Indian friend. The country's stifling bureaucracy has often mysterious ways, and India's

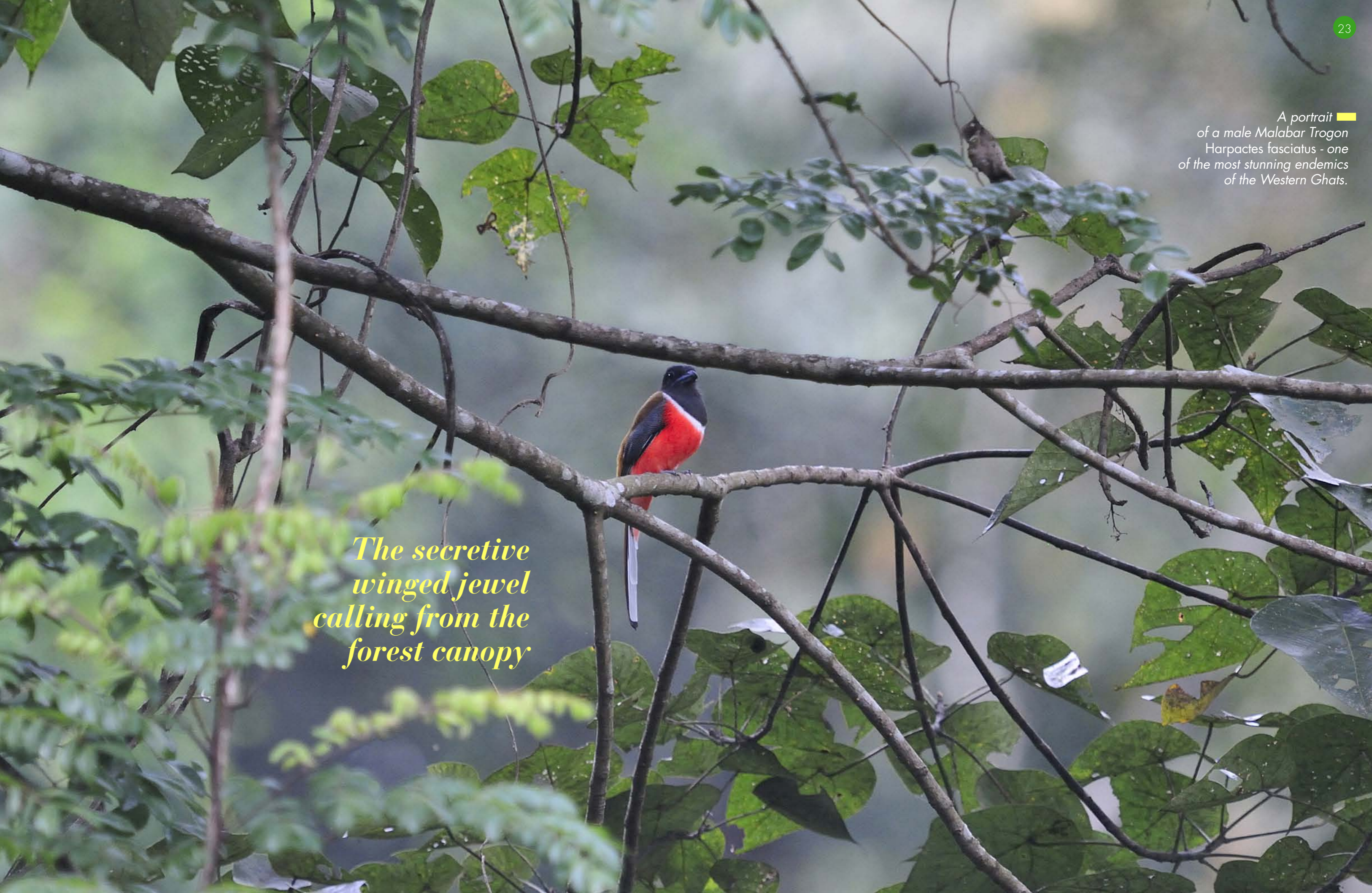
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Male Loten's Sunbird - also known as Long-billed Sunbird or Maroon-breasted Sunbird - *Cinnyris lotenius* in Cotigao Wildlife Sanctuary.

A portrait
of a male Malabar Trogon
Harpactes fasciatus - one
of the most stunning endemics
of the Western Ghats.

*The secretive
winged jewel
calling from the
forest canopy*





■ Top left, unidentified metallic grasshopper; top right, Jewel beetle *Chrysocoris stollii*. Bottom left, *Antestia* sp., family Pentatomidae; bottom right, Tessaratomid Stink bug *Catantopus incarnatus*.



■ The terror of the forest floor - highly active, fast, aggressive and with a venomous bite, the Indian Giant Tiger Centipede *Scolopendra hardwickei* is a fearsome day predator heralded by a gaudy aposematic (ie warning) coloration and pattern.





■ An idyllic brook murmurs quietly among the trees of the Cotigao Wildlife Sanctuary. This is the perfect place to look for frogs, King Cobras - and leeches.

transportation system can be bafflingly efficient or downright frustrating for the uninitiated. This is a place which can bring a fully grown man to tears with its stunning beauty - or with its exhausting, incomprehensible delays! So do yourself a favor and try to enlist the help of a local fellow photographer to organize your itinerary and solve the inevitable problems which are going to crop up. This will not only make your life easier and your photographic work more rewarding, but will also offer the rare chance to fully and intimately interact with true local culture - a priceless joy and privilege for us.

THE RIGHT PEOPLE ARE THE KEY TO SUCCESS

Our friend Yuwaraj - being an experienced wildlife photographer himself - knew exactly what our needs and desires were, and cooked up a wonderful (and affordable) itinerary for us. After one day of spectacular snake photography in Yeoor - Sanjay Gandhi National Park in the wooded hills and rocky escarpments above Mumbai and Thane, we moved by night train to our first and most important base camp - Nature's Nest Nature Resort in Surla, in the hills above Goa. This was a most welcome surprise after the stifling heat and deafening noise of Mumbai - a simply delightful little lodge hidden in the wooded countryside, with basic but very clean amenities, excellent local

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■ Top left, Assassin bug
Sycanus sp., family
Reduviidae;
top right, Tortoise beetle,
probably *Aspidomorpha* sp.
Bottom left, Jewel beetle,
Chrysochroa sp., family
Buprestidae; bottom right,
Stink bug nymph,
Tessaratomia sp.



■ The intimidating and unmistakable threat display of the Indian Violet Tarantula *Chilobrachys fimbriatus*, a large, very colorful and quite ready-to-bite species.





food and a highly-motivated, exceptionally knowledgeable team of resident young naturalists. Lodge managers Pankaj Lad and Ramesh Zarmekar and wildlife guide Omkar Dharwadkar spared no efforts to make our stay truly memorable, and to help us finding a great number of rare or highly cryptic endemic species. As we have already said, it's the right people who make the difference when in India!


A WELL-DESERVED REPUTATION

What followed in the three weeks which ensued was a veritable whirlwind of day and night activity - we could not have ever imagined the Western Ghats had so much to offer, even in the relatively small area we explored. This is a chronicle of our activities:

15 Oct:Evening: Plateau near Nature's Nest (Bhagwan Mahavir Wildlife Sanctuary) 16 Oct:Morning:

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A lucky and very uncommon find - the Brown Vine snake Ahaetulla pulverulenta, a rare, endemic and exceptionally cryptic species of the Western Ghats.



Many small species of the Western Ghats are exceptionally cryptic. Left, Southern Flying Lizard *Draco dussumieri*; center, Ornamental Tree Trunk Spider *Herennia multipuncta*; right, Indian Bark Mantis, possibly *Humbertiella* sp.





■ The unmistakable profile of a Green Vine snake *Ahaetulla nasuta* shows to advantage its typical keyhole-shaped pupils. This extremely common, easily observed and truly beautiful species is gifted with frontal, binocular vision.



India's Western Ghats are home to some of the world's most wonderful and cryptic mantids. Left, Wanderin Violin mantis *Gongylus gongylodes*; right, Indian Stick mantis *Aethalochroa* sp.



■ A tiny jewel of the Western Ghats open forests - the Monkey Puzzle butterfly *Rathinda amor*.



Tambdi Surla area (Bhagwan Mahavir Wildlife Sanctuary) Evening: Night trail on the plateau. 17 Oct:Morning: Sunset Point Trail at Mollem (Bhagwan Mahavir WLS) Evening: Around Nature's Nest 18 Oct:Morning: Chorla Ghat and Surla (Mhadei Wildlife Sanctuary) Evening: Nature's Nest 19 Oct:Morning: Castle Rock (Karnataka) Evening: Nature's Nest 20 Oct:Morning: Bondla Wildlife Sanctuary Evening: Travelled to Netravali Wildlife Sanctuary and stayed at Tanshikar's Spice Farm 21 Oct:Morning: Verle area (Netravali WLS) Evening: Travelled to Cotigao WLS, stayed in Forest Dept cottages, Night trail around the eco-tourism complex. 22 Oct:Morning: Tulshimol area (Cotigao WLS) Evening: Spent time at the butterfly garden at Cotigao, went to Galjibag beach 23 Oct:Morning: Travelled back to Nature's Nest Evening: Around Nature's Nest 24 Oct: Relaxed for the day 25 Oct:Morning: Tambdi Surla area (Bhagwan Mahavir Wildlife Sanctuary) Evening: Night trail in Bhagwan Mahavir WLS (near Nature's Nest) 26 Oct:Morning: Bondla WLS 27 Oct:Morning: Chorla Ghat, Surla(Mhadei WLS). Evening: Sunset Point Trail at Mollem (Bhagwan Mahavir WLS) 28 Oct:Morning: Travelled to Dandeli 28th Oct Afternoon - 3rd Nov afternoon: Dandeli WLS (also known

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Left, Crab spider
Thomisus sp.; right,
Scorpion Jumper
Bavia kairali, female
(Salticidae) with
prey. Bottom left,
male Banded
Phintella Jumper
Phintella vittata:
bottom right, Crab
spider (Thomisidae).





*The slow silent stalker
wading among the
fragrant lotus flowers*

■ A Purple Heron *Ardea purpurea* hunts among the lotus flowers dotting the wide, still expanse of Carambolim lake.



Left, Crab spider (Thomisidae) on flower with bumblebee prey; center, Lynx spider (Oxyopidae) guarding egg-sac; right, Golden orb web spider *Nephila pilipes* (large female with small male) feeding on butterfly.





■ Giant forest scorpion
Heterometrus sp. on
laterite - the typical surface
rock of the Western Ghats.
Laterites are soil types rich
in iron and aluminium,
formed in hot and wet
tropical areas. Nearly
all laterites are rusty-red
because of iron oxides.



as Anshi-Dandeli Tiger reserve). 3 Nov: Evening: Reached back at Cotigao (stayed at Forest rest house), Spent time at the Butterfly garden at Cotigao. 4 Nov: Morning: Tree top area (Cotigao WLS), Trail around the Eco-tourism complex. Evening: Spent time at the Butterfly garden at Cotigao, Night drive in the sanctuary buffer zone. 5 Nov: Morning: Tulshimol area (Cotigao WLS) Evening: Spent time around the Eco-tourism complex, travelled back to Nature's Nest. 6 Nov: Morning: Bondla WLS 7 Nov: Morning: Boat Safari in Dr.Salim Ali bird sanctuary, visit to Carambolim Lake. 8 Nov: Morning: Visit to Carambolim Lake.

Quite a tour-de-force, wasn't it? And yet - given the gentle, rolling nature of the landscape - we never really exhausted ourselves or felt fatigued, quite the opposite. But what did we actually see and photograph in the mystical forests of the Western Ghats? A detailed species-by-species answer in our next issue...

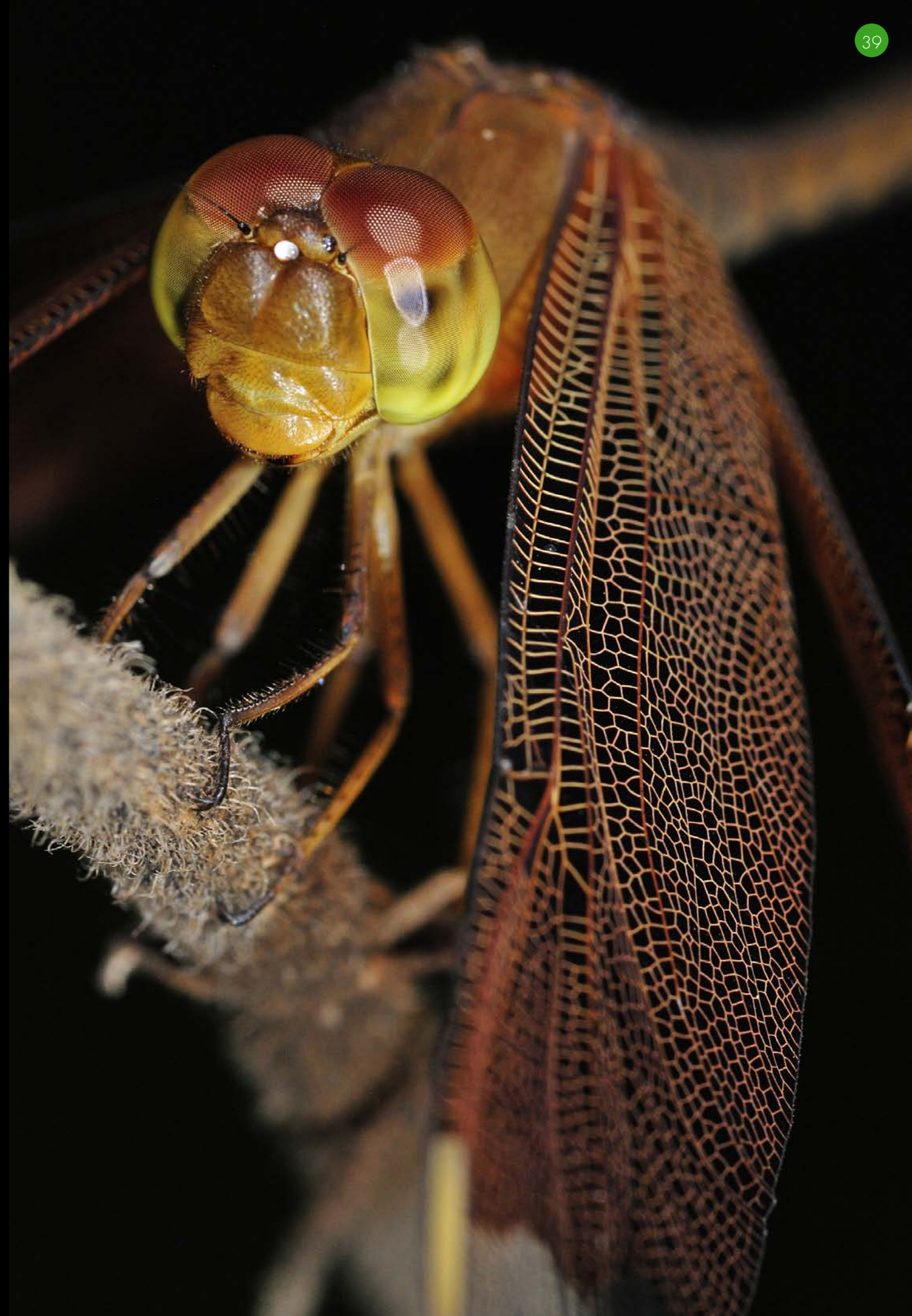
DON'T MISS THE SECOND INSTALLMENT OF OUR WESTERN GHATS STORY – COMING IN APRIL 2014 ON ISSUE 14 OF ANIMA MUNDI – ADVENTURES IN WILDLIFE PHOTOGRAPHY!



Far left, Long-spinnered Bark Spider *Hersilia* sp.; left, a highly cryptic *Cyrtarachne* sp. spider (Araneidae).



Left, a close-up portrait of the large and exceedingly common Golden orb web spider *Nephila pilipes*; right, a macro portrait of a Fulvous Forest Skimmer dragonfly *Neurothemis fulvia* at rest. The Western Ghats environment offers countless opportunities for macrophotography.





■ Left, a colorful Signature spider *Argiope anasuja*; right, a large specimen of Orb-weaving spider *Parawixia dehaani*. An immense variety of arachnids is represented in the Western Ghats.



*Noisy and ungainly
yet the Hornbill is
undeniably beautiful*



A beautiful Malabar Pied
Hornbill *Anthracoceros
coronatus* in the forest canopy
of the Dandeli reserve,
along the Cali river.



■ Top left, *White-rumped Shama*
Copsychus malabaricus;
 top right, *Red-whiskered Bulbul*
Pycnonotus jocosus.
 Bottom left, a male
Scarlet Minivet
Pericrocotus flammeus;
 bottom right, *Crimson-backed sunbird*
Nectarinia minima.





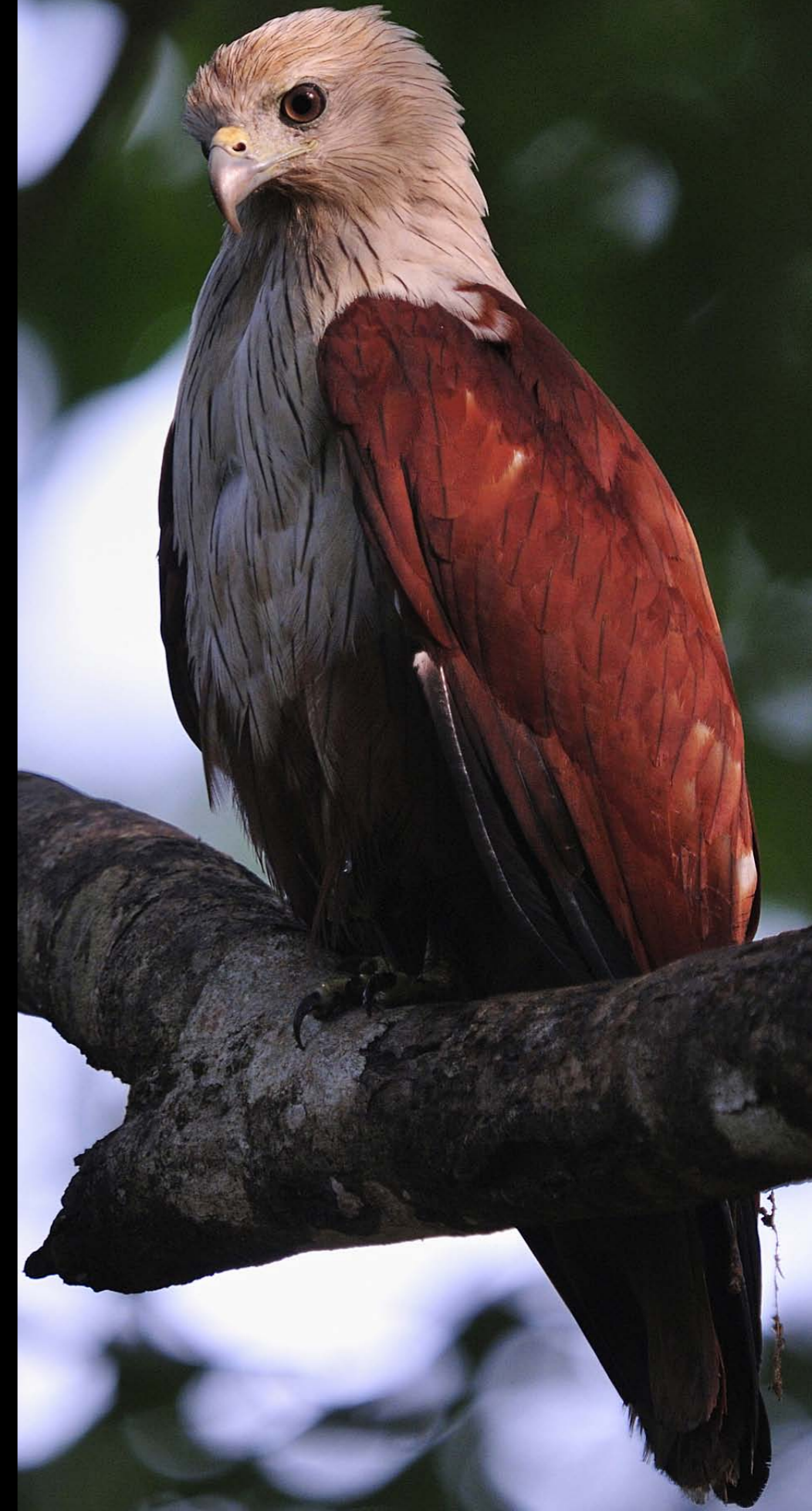
A large Muger or Indian crocodile *Crocodylus palustris* on a rainy day on the shores of the Cali river, in Dandeli. Muggers can be approached relatively close here.



The Surla waterfall roars in the distance, seen from the Tambdi Surla plateau. Chorla Ghat is located on the intersection of the borders of the States of Goa, Karnataka and Maharashtra.



Left, Blue-tailed Bee-eater *Merops philippinus* in the Dr. Salim Ali Bird Sanctuary; center, a pair of Red-whiskered Bulbul *Pycnonotus jocosus* in Bondla; right, a portrait of the ubiquitous Brahminy Kite *Haliastur indus* in the Cotigao forest.



*An elegant necklace of shiny scales
uncoiling in the shade of the forest*



Another lucky encounter ■
in the Cotigao Sanctuary,
this time with a large and
beautiful (but sadly rather
uncooperative) Forsten's Cat
snake *Boiga forsteni*.



■ A truly stunning Malabar pit viper *Trimeresurus malabaricus* in its turquoise-mint green color phase, one of the most beautiful among the many different liveries of this venomous and highly variable endemic species of the Western Ghats. We photographed this individual in Chorla Ghat.





■ Far left, caterpillar of Lime butterfly *Papilio* sp. cf. *P. demoleus*; center, caterpillar of Common Palmfly butterfly *Elymnias hypermnestra*; right, Caterpillar of Common Crow butterfly *Euploea core*.



The highly cryptic Hump-nosed pit viper *Hypnale hypnale* is extremely common in the Western Ghats. This is a small but potentially dangerous species.



Left, a forest landscape in the Cotigao Wildlife Sanctuary - the open nature of the environment is readily apparent. Right, the endemic Malabar pit viper *Trimeresurus malabaricus* shows to advantage its exceptionally cryptic brown-phase livery.





■ Hazy with dust during the winter dry season and foggy or overcast during the summer rainy season, the open, wide-ranging forest landscapes and vistas of the Ghats are nevertheless always beautiful.

■ An extreme close-up portrait of a Bamboo Pit viper *Trimeresurus gramineus*. This beautiful woodland species is not easily observed thanks to its very efficient cryptic coloration. Notice the deep heat-sensing loreal pit between the nostril and the eye.



Left, snake-mimicking caterpillar of Common Mormon butterfly *Papilio polytes*; center, tree bark-mimic caterpillar of a Lasiocampidae moth; right, snake-mimic caterpillar of Malabar Raven *Papilio dravidarum*.



■ Indian fat-tailed gecko
Eublepharis fuscus in the
rocky escarpments of the
Yoor hills in Sanjay Gandhi
National Park. Located
in the Thane district, this
protected area is easily
accessed and visited
from Mumbai.

*A natural paradise within easy
reach from a crowded metropolis*





Left, a large and truly beautiful Indian or Spectacled Cobra *Naja naja* rears up in alarm on the rocky, forested slopes of the Yeoor hills, near Thane.
Right, a Roux's Forest Calotes or Roux's Forest Lizard *Calotes rouxii*, an endemic species, preys on a cicada in the Cotigao forest.

