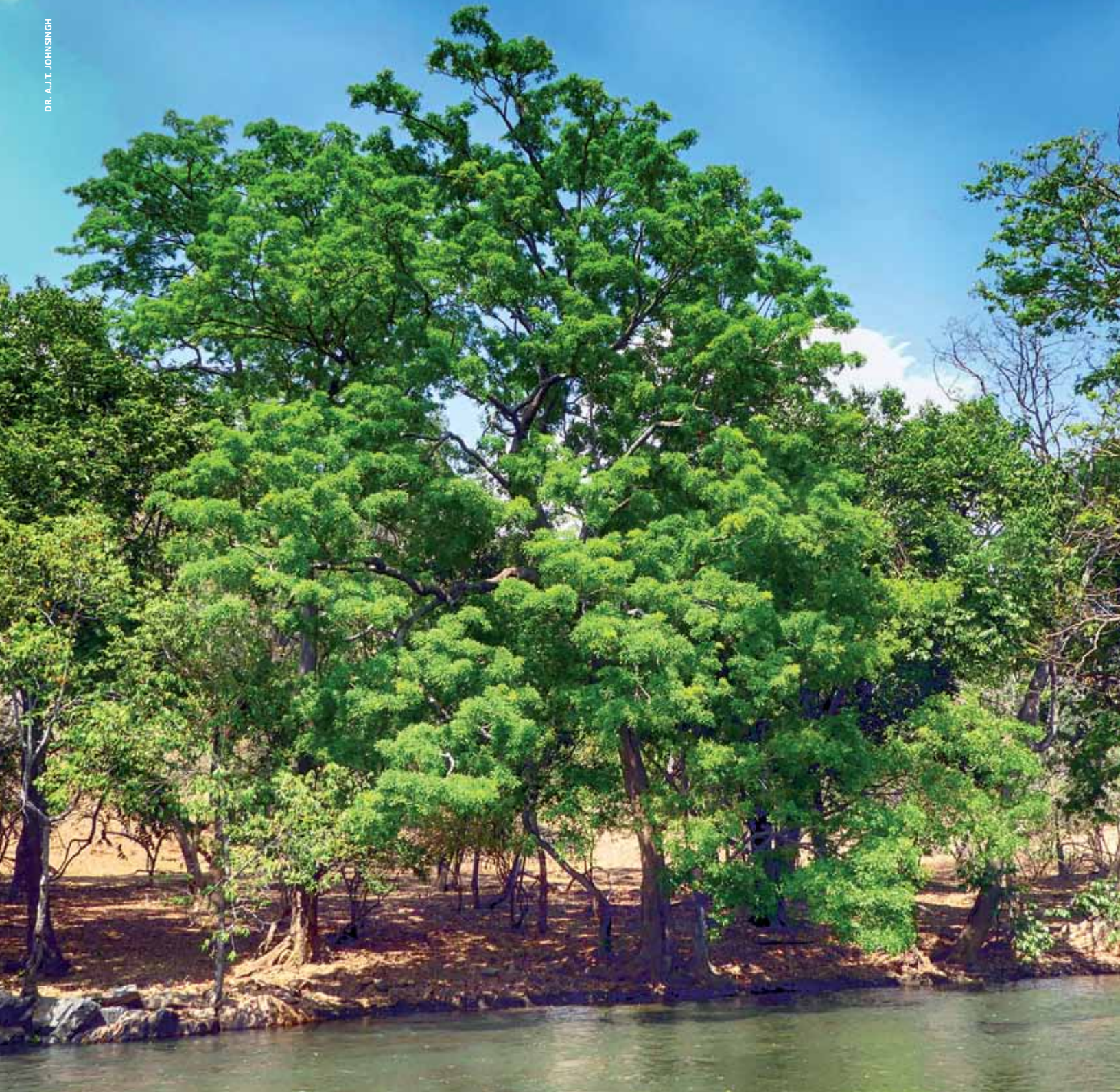


DR. A.J.T. JOHNSINGH



THE MOYAR VALLEY

BEAUTIFUL BUT THREATENED

By Dr. A.J.T. Johnsingh

We found the remains of several gaur along the river banks, evidence that tigers often kill these large wild cattle. During our four-day stay, we saw at least 1,000 chital, 100 blackbuck, several gaur and sambar.

Alarm calls of chital and sambar upstream of the Theppapallam *nullah*, between the Bandipur and Sathyamangalam Tiger Reserves in south India, indicated that either a sloth bear or leopard or perhaps a tiger was approaching the water at the muddy *nullah* mouth, which drains into the Moyar river. By 10 a.m., the temperature was showing a steady increase and would soon beat the 42°C in the shade we had recorded the previous day in front of the tent in which we were staying in Mangalapatti. Our stay had been arranged by the Special Task Force (STF) of Tamil Nadu Police who had a camp there.

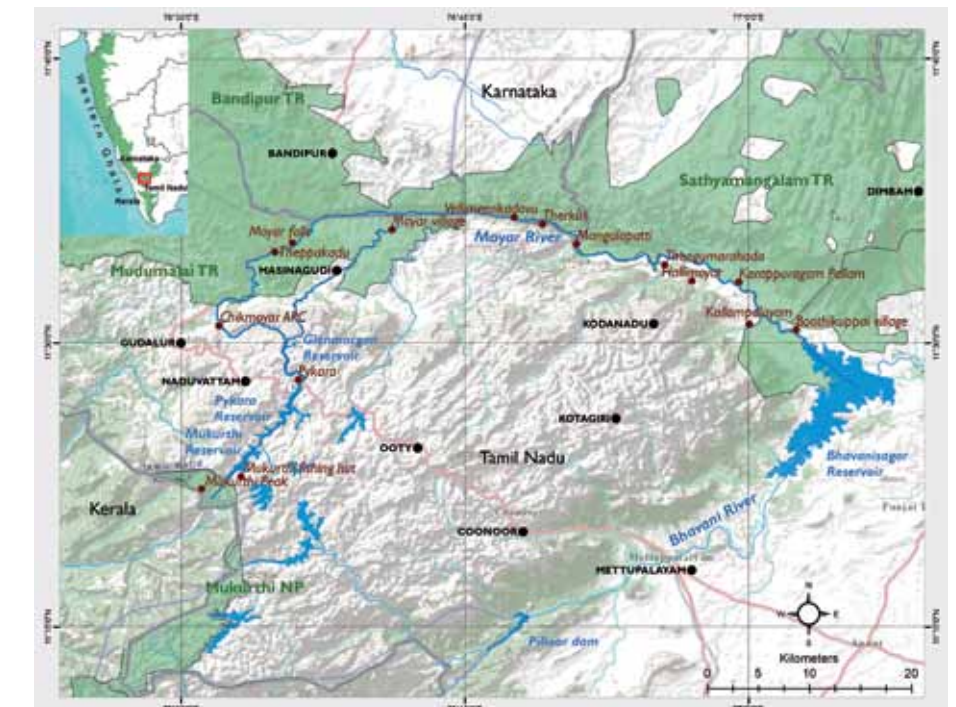
The river, after falling into the deep Moyar gorge, flows along a 30 km.-long valley. The steep hills with scanty vegetation on either side do not provide sufficient shade for large mammals in the summer. Animals instead seek the river for respite from the sun. As the alarm calls echoed in the valley, I hid behind a three-stemmed mesquite tree *Prosopis juliflora*, an exotic to India, and waited for the predator to approach. I have often risked doing this during the last 40 years of my wanderings in the jungle but would not recommend it to anyone. That eventful morning, I saw a tiger walking through the bushes along the *nullah*, around 20 m. in front of me. It was a memorable sight to see the reddish-golden fur of the striped cat shining bright in the morning sun, ambling over the black rocks towards me. I took three photographs as it emerged from the cover and began walking over the boulders. I expected the tiger to reach the water within seconds. There was a little fear in my heart as I was on the ground and if it was a mother followed by young cubs, an aggressive demonstration was possible if I was detected. However, the tiger stopped abruptly, froze for a split second and looked beyond me to my left, where 15 m. away, a colleague sat

on the ground in the open at the edge of the *nullah* taking pictures of the tiger. His movements were seen by the tiger and it immediately turned around and ran away even without a growl.

This incident occurred on March 14, 2016, when I was on a survey of orange-finned mahseer in the Moyar river with colleagues from WASI (Wildlife Association of South India). Beginning in the late 1980s, I had made several visits to the Moyar valley and my March 2016 visit for four nights gave me sufficient time to further explore and understand the glories and problems of the valley. The Moyar valley serves as a vital corridor between the Western and Eastern Ghats. Our campsite on the left bank of the Moyar river was particularly picturesque and we slept to the sound of the rapids steadily thundering downstream. During our stay, we walked up and down the river bank for nearly 30 km. trying to

catch some orange-finned mahseer for genetic studies and compare its characteristics to orange-finned from the Cauvery and Bhavani rivers. This iconic sport fish, also known as the hump-backed mahseer, is endemic to the Cauvery river basin, which includes the Cauvery, Kabini, Moyar, Bhavani and Pambar rivers.

The riverine forest with giant, ancient trees rejoiced in the spring air – sprouting new leaves which in species such as the *iluppai Madhuca longifolia* was yellowish-brown now but would later turn dark green. The giant Arjun *Terminalia arjuna* trees adorned parakeet-green coloured leaves. Langurs fed on the leaf petioles and dropped the rest, which were to be enjoyed by wild ungulates such as chital, sambar and gaur. Some of the Malabar ebony *Diospyros malabarica* trees were in bloom and others had fruits. Langurs were partial to these



ABOVE A map of Moyar valley. The valley acts as a vital corridor between the Western and Eastern Ghats.

FACING PAGE The *Madhuca longifolia* on the bank of the Moyar river sprouting lush green leaves.

T. KARTHIK



flowers and fallen ones in the water were avidly devoured by fishes, especially the common Carnatic carp *Barbodes carnaticus*. Langur also feed on the sprouting leaves of the bidi leaf-tree *Bauhinia racemosa* and pongam *Millettia pinnata*. The dropped leaves of these too added to the diet of wild ungulates. We heard and saw colourful Indian giant squirrels scuttling across the canopy. We had several sightings of crocodiles on the river banks, but none of otters. Riverine forests struggle with regeneration as the vegetation is pre-dominated by large and ancient trees. Regeneration could be impeded by browsing by the high density of ungulates, which through the area during summer months. Nevertheless, this problem needs the immediate attention of managers if this beautiful riverine forest needs to have a secure future.

Spring also ushers in the breeding season and birds such as the Stork-billed and the Grey-headed Fish-eagle emitted mournful calls in the air. Male Grey Francolins called and challenged one another near our campsite. All along the river, there were several groups of Yellow-billed Babblers. Male and female Paradise Flycatchers hunting in the same location indicated this as their breeding area of choice and Blue-eared Kingfishers flew from rock to rock in search of the tiny fishes they were so adept at catching. However, I hardly heard the Grey Junglefowl. Perhaps the lack of sufficient ground cover in the thorn-scrub forest around our camp may be the reason for their near absence.

LAND OF UNGULATES

We found the remains of several gaur along the river banks, evidence that tigers often kill these large wild cattle. During our four-day stay, we saw at least 1,000 chital, 100 blackbuck, several gaur and sambar. Interestingly, chital and blackbuck were often seen together. When flushed out, the blackbucks ran toward the open area, while chital continued to run parallel to the riverine vegetation. Contrary to the belief that blackbucks are animals of flat to undulating open country, once a group of eight blackbucks was seen following a group of sambar along the steep slope of a hill. This capability of the blackbuck in the landscape to climb

IN THE VALLEY OF VULTURES

By S. Chandrasekaran

The Jaguli stream around the camp had dried up completely and not even a small pool was in sight. We were supplied water with a tanker the previous evening, with an advice, nay warning, that this water was meant for a fortnight for those manning the remote Jagulikadavu camp. The water tank had to be hoisted on top of a stone structure, lest parched animals, especially elephants, raided the camp at night. We were here to study vultures and each day we climbed a small hillock opposite the camp, and then followed the shoulder of the slope on the other side. This allowed us an eye-level view of the birds that roosted and nested there. The stream below meandered parallelly to the camp, eventually flowing between two hillocks.

The descent along the hillock opened out at the edge of the ridge, revealing a long strip of the stream below and the slopes of the opposite hillock. Dotted along the stream were *Terminalia arjuna* trees, some bare, others with scanty foliage (this being summer) where the vultures sat in groups! The birds had roosted the previous evening and were waiting for the thermals to set in! We could also see nests on several trees! Some of the nests had a chick (the White-rumped lays only one egg) and an adult bird in attendance! The scene was electrifying as the gorge was abuzz with vulture activity – preening, flying, feeding! I began recording the number of birds and nests along the entire length of the stream, which ran for almost eight kilometres. My companions – local tribals had names for every nook – rattled off names like Manjakuzhi and Kalkadavu. They even had borders or boundaries along the eight kilometre stretch and each portion had a few prominent trees to mark them! I marvelled at their pin-point accuracy in locating nesting points with this remarkable way of mapping, which I can vouch, is better than GPS! Like the dabbawallas of Mumbai who never lose track of tiffin boxes, these tribals offered so much to learn from!

We were almost half way through, when we observed two full-grown tuskers on the opposite slopes of the hill! After observing them awhile, we continued to walk along the stream until lunch time. Post our break, we walked along the stream bed with the nests and trees above us and eventually returned to our campsite at dusk. Our observations for the day had been amazing. About 70 White-rumped Vultures were roosting; some 22 active nests of White-rumped were seen; a few Red-headed (2) and Long-billed Vultures (4) were seen in flight; a lone Bonelli's Eagle; a Black Eagle; and a Rufous-bellied Eagle!

The Mud on Boots initiative of the Sanctuary Nature Foundation has given me a right perspective to work in the last stronghold of the Gyps vultures in southern India, that is, the Moyar valley. There are no recent records in the past few decades to indicate any viable nesting sites in neighbouring states, though sporadic or scanty nesting has been reported. This is traditionally a strong nesting area not only for White-rumped Vultures, but also for Long-billed Vultures, and hence assumes greater significance for protection and research. My study could not have been successful without the support of the Tamil Nadu Forest Department, members of Tamilbirders Group and volunteers from NGOs working in the area – Rangasamy, Jaisankar, Byju, Abhishek, Bhoopathy, Chetan, Gajamohan, Indrajith, Kishore, Parameswaran, Rajeswaran, Raman, Raveendran, Samson, Sashikumar, Shivshankar, Sravankumar, Subhiksha, Thyagarajan and Vinoba.

hills enable them to colonise areas such as Anaikatty and parts of the Mudumalai Tiger Reserve.

One group of chital frequented the STF camp site each night. They presumably assumed the open yard to be safe from the stalking predators, the leopard and the tiger. Yet, the STF staff, informed us that that leopards had been seen near the camp site and the night prior to our arrival, one had been seen running across the camp. However, we braved it outside our tents, sleeping under a star-studded sky. The new moon was just growing and every night we saw the crescent of the moon, descending towards the western horizon, as we sat outside the tent until slumber got the better of us. The nights were not silent as peacocks meowed from the canopies of trees and chital punctuated the silence with their rutting calls. There were also alarm calls of sambar and chital. It seemed that barking deer preferred habitats with lush vegetation unlike those seen

in Moyar valley, which is in the rain shadow area.

The chital and blackbuck seemed to prefer the left bank of the Moyar river as there is an approximately three-kilometre-long and 100 to 300 m. wide flat area, which falls within the Bandipur Tiger Reserve. In open areas, there were many dung piles of blackbuck indicating that the courting adult males displayed in such areas (known as lek) to woo the females, which have the option to move from lek to lek to select the best males. This small stretch of habitat needs the special attention of the Karnataka Forest Department as the area has the potential to support a large number of blackbuck and chital. On an earlier trip (November 2009) with my colleague R. Raghunath from the Nature Conservation Foundation, I had seen nearly 200 blackbuck here. The vegetation on the flat area had species such as Krishna siris *Albizia amara*, east Indian satin wood *Chloroxylon swietenia*, Chinese lantern tree

Dichrostachys cinerea, wavy trumpet flower tree *Dolichandrone atrovirens*, Anjan *Hardwickia binata*, Maytenus *emarginata* and Mysore sumac *Rhus mysorensis*.

The presence of neem *Azadirachta indica* and tamarind *Tamarindus indica* trees suggested that the area was possibly planted in the past. Porcupines had debarked the bottom of most neem trees. However, neem and tamarind do not diminish the habitat quality of the area and the more problematic species that significantly reduced the habitat quality for blackbuck and chital were the mesquite and prickly pear *Opuntia dillenii*. These species make the habitat too dense for the above two ungulates, which need large meadows for feeding and yarding. Often, I wonder how the soft-padded tiger and leopard are able to hunt in the Moyar valley, where the ground has an abundance of thorn as a result of prickly pear, which has needle-like thorns and has the tendency to sprawl on the ground

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TOP The author points to the claw marks of a tiger at a staggering three metres above the ground on an Arjuna tree.

ABOVE Orange-finned mahseer caught and released as part of a mahseer survey.

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"The Mud on Boots initiative of the Sanctuary Nature Foundation has given me a right perspective to work in the last stronghold of the Gyps vultures in southern India, that is, the Moyar valley." – S. Chandrasekaran

and mesquite, which has sharp and strong thorns. There was also copious growth of other inedible species such as bala *Sida cordifolia* and ban tulusi *Croton sparsiflorus*. Meadow-dependent blackbuck and chital will prosper well in this habitat if the mesquite and the prickly pear are controlled. This is vital as it is the only habitat supporting a good population of blackbuck in the Bandipur Tiger Reserve. However, given the tenacity of such problem floral species, only sustained efforts can help control and eradicate them.

PREDATOR OCCUPANCY

We had seen signs – pugmarks, scats and scrapes – of both the tiger and leopard all along the riverine forest. One sign of tiger claw marks, possibly by a large male tiger, on an Arjun tree was remarkable as it was at a height of over three metres. Leopards too seemed to use the area, perhaps due to the abundance of smaller prey such as porcupine, langur, blackbuck and chital, and scalable trees and steep hills needed to escape in an event of an encounter with a tiger. Trees are also important to escape from dholes, which also frequent the area. Leopards are equally at ease in rocky areas with little vegetation, a fact that was proved by our sighting of one basking on a rock hardly 50 m. from the road as we were driving out of the camp in the morning.

While no such plans are afoot, I could not help but think that the Moyar landscape would also be a perfect choice for cheetah reintroduction in south India. However, this would be conditional to the control of the mesquite and prickly pear. Nearly 600 sq. km. habitat is available with an abundant population of chital and other prey including chowsingha. Nilgai and chinkara that were once found in this landscape could be brought back too.

As I left the Moyar valley, my thoughts rambled between the tiger that had been fairly close to me while on foot and the leopard restfully basking in the sun and above all the majestic trees in the riverine forest with its green canopy. 🐅



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TOP The tiger observed and photographed by the author on March 14, 2016, in the Moyar valley. ABOVE Leopards live alongside tigers in these riverine forests rather successfully due to the conducive prey base and terrain.

THE SIGUR PLATEAU

The Sigur plateau, which is an important corridor for elephant migration is situated in the northeastern portion of the Nilgiri district and averages around 1,000 m. above sea level and is an extension of the Mysore Plateau, dissected by the Moyar river. It is bound by the eastern slopes of the upper plateau except for the Gajalhatti Pass, which connects it with Bhavani Sagar and thence to the plains of Coimbatore. The terrain is more or less level with gentle undulating slopes reminiscent of the African (veldt) savannah, characterised by similar wildlife, viz. elephants, ungulates, birds of prey, leopard and gaur, but becomes more rugged and broken in some places. This region can be further divided into four zones namely the Sigur and Anaikatty regions, Masinagudi and its surroundings, the Moyar valley and the Mudumalai Tiger Reserve.

This is the land of vultures, with all the four critically endangered species seen only here in this geographic region, though the occurrence of the *Neophron* or Egyptian Vulture is very rare.