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CONTENTS OF VOLUME 54, No. 3

	PAGE
FURTHER NOTES ON THE BAYA WEAVER BIRD, <i>Ploceus philippinus</i> LINN. By Sálim Ali and Vijaykumar C. Ambedkar. (<i>With a plate</i>) ...	491
ON THE MARINE CRABS (DECAPODA : BRACHYURA) OF BOMBAY STATE, PART II. By B. F. Chhapgar, M.Sc. (<i>With one coloured and five line plates, and one text figure</i>)	503
INDIAN MARSILEAS : THEIR MORPHOLOGY AND SYSTEMATICS. By K. M. Gupta and T. N. Bhardwaja. (<i>With 48 text figures</i>)	550
THE LION OF THE GIR. By Lt.-Col. A. H. Mosse (Deceased) ...	568
NOTES ON THE <i>Brüelia</i> GROUP OF MALLOPHAGA (FEATHER-LICE), WITH DESCRIPTIONS OF FOUR NEW SPECIES. By Wolfdietrich Eichler, D.Sc. (<i>With four text figures</i>)	577
BRIEF NOTES ON CROP PESTS AND THEIR CONTROL IN THE PANJAB (INDIA). By K. N. Trehan, M.Sc., Ph.D. (London), F.E.S.I. (<i>With 34 text figures</i>)	581
NOTES ON THE BIRDS OF A SELECTED AREA OF DEHRA DUN—JUNE 1946 TO JULY 1951. By Mrs. M. D. Wright (Deceased). (<i>With a sketch map</i>)	627
TIMBER BORING MOLLUSCS OF THE INDIAN COAST. 1. REPORT ON A COLLECTION FROM TONDI AND ADIRAMPATNAM, EAST COAST. By N. Balakrishnan Nair and O. N. Gurumani. (<i>With eight text figures</i>)	663
GRASS FLORA OF COIMBATORE DISTRICT (SOUTH INDIA) WITH SPECIAL REFERENCE TO FODDER GRASSES. By J. Sakharam Rao ...	674
ON THE MARINE FAUNA OF GULF OF KUTCH : A PRELIMINARY SURVEY. By P. W. Gideon, P. K. B. Menon, S. R. V. Rao and K. V. Jose. (<i>With a map, one plate and five text figures</i>)	690
THE GENUS <i>Cuscuta</i> IN BOMBAY. By H. Santapau, S.J., and (Miss) V. Patel, B.Sc. (<i>With a plate</i>)	707
OPERATION OF THE <i>Dol</i> NET OFF THE SAURASHTRA COAST. By S. V. Gokhale. (<i>With seven text figures</i>)	714
NOTES ON SPECIFIC IDENTIFICATION IN THE TAWNY PIPIT (<i>Anthus campe- stris</i>), BLYTH'S PIPIT (<i>A. godlewskii</i>), AND RICHARD'S PIPIT (<i>A. novae- seelandiae</i>) IN ASIA. By B. P. Hall. (<i>With a text figure</i>)...	726
A SYSTEMATIC ACCOUNT OF THE EELS OF BOMBAY. By D. V. Bal and K. H. Mohmed. (<i>With fourteen text figures</i>)	732
THE BIOLOGY AND BIONOMICS OF <i>Lestodryinus pyrillae</i> KIEFF. (DRYINI- DAE : HYMENOPTERA) A NYMPHAL PARASITE OF <i>Pyrilla perpusilla</i> Walk., AND A NOTE ON ITS ROLE IN THE CONTROL OF <i>Pyrilla</i> . By B. R. Subba Rao. (<i>With a plate</i>)	741

	PAGE
REVIEWS:—	
1. Animals of the Ruhuna National Park (H. A.)	750
2. Living with Birds (D. E. R.)	750
3. Audubon Western Bird Guide : Land, Water and Game Birds (D. E. R.)	751
4. The Amphibia of Ceylon (E. G. S.)	752
5. British Trees : A Guide for Everyman (D. E. R.)	753
6. No Passport to Tibet (R. E. H.)	754
7. Natural History of Birds : A Guide to Ornithology (S. A.)	756
8. The Ornithologists' Guide : Especially for Overseas (S. A.)	757
9. On the Trail of Vanishing Birds (D. E. R.)	758
ADDITIONS TO THE SOCIETY'S LIBRARY	759
MISCELLANEOUS NOTES:—	
<p>1. The Abominable Snowman. By D. E. Reuben (p. 762). 2. On the status of the Great Indian Rhinoceros (<i>R. unicornis</i>) in Nepal (<i>With a map</i>). By P. D. Stracey (p. 763). 3. The Spiny Babbler in Kathmandu Valley. By R. L. Fleming (p. 766). 4. 'A Dabchick is Born'. By Lt.-Col. R. W. Burton (p. 767). 5. Bird Life of Madhya Pradesh. By H. G. Alexander (p. 768). 6. Reflected glow from the eyes of the Gharial [<i>Gavialis gangeticus</i> (Gmelin)]. By Humayun Abdulali (p. 769). 7. Occurrence of a rare Sting Ray [<i>Taeniura melanospila</i> (Bleeker)] in Bombay Waters (<i>With one plate and one text figure</i>). By H. G. Kewalramani and B. F. Chhapgar (p. 770). 8. The 'Marala'—a sink net used in the backwaters of Ganjam, Orissa (<i>With two text figures</i>). By P. Mohapatra (p. 773). 9. Migration of Insects. By Editors (p. 775). 10. Notes on the Butterflies of Rangoon. By A. E. G. Best (p. 776). 11. An episode from the life history of the Moth <i>Suana concolor</i> Walker. By S. Szafranski (p. 784). 12. Notes on the biology and control of the Lily Moth <i>Brithys crini</i> Fabricius (<i>With a plate</i>). By Nawab H. Khan and Zille Hasan Abedi (p. 785). 13. An undescribed luminous Beetle Larva from South India (<i>With one photograph</i>). By J. Samuel Raj (p. 788). 14. Two new species of <i>Priochirus</i> (Staphylinidae : Coleoptera) from India (<i>With two text figures</i>). By Rudolf Dvorak (p. 790). 15. The Swarming Termites of Delhi. By H. S. Vishnoi (p. 792). 16. On the Harpacticoid Copepod <i>Phyllognathopus viguieri</i> (Maupas) (<i>With one plate</i>). By S. Krishnaswamy (p. 793). 17. A note on the Nematode <i>Mermis indica</i> v. Linstow parasitising insects. By O. S. Bindra and S. U. Kittur (p. 796). 18. A new variety of <i>Gymnosporia falconeri</i> Lawson from northern Oudh, Uttar Pradesh. By M. B. Raizada (p. 796). 19. <i>Dolichos bracteatus</i> Baker : Clarification of nomenclature. By S. I. Ali (p. 797). 20. <i>Ipomoea tropica</i>, new name for a common Bombay plant. By H. Santapau, s.j., and V. Patel (p. 798). 21. A new species of <i>Gleadovia</i> Gamble et Prain from Manipur (<i>With a plate</i>). By D. B. Deb (p. 799). 22. <i>Bougainvillea buttiana</i> Holtum et Standley, and its cultivars in Lalbagh, Bangalore (<i>With a text figure</i>). By M. H. Mari Gowda (p. 801). 23. Some name changes in the Flora of India. By J. K. Maheshwari (p. 804).</p>	
GLEANINGS	806
NOTES AND NEWS	809



Scale 1 inch to 8 Miles or 1:506,880.

RHINO AREA

footprints'. So, apparently, the creature walked mostly on two feet. This tallies with the accounts given to Charles Stonor. The area is one where Lord Curzon went to shoot Brown Bear, and Swami Pranavananda says that Black Bears are common in the neighbouring jungles. Hence the local people must be familiar with the footprints of bears, and at least some weight ought to be attached to their opinion that these footprints are of something which is not a bear.

A fantastic article about the animal appeared recently in a local paper and mentioned among other things the view of Sir Hugh Rankin, 'a noted Mahayana Buddhist and an experienced British mountaineer'. 'According to Sir Hugh, four . . . Bodhisattvas rule over the destinies of the world. One of them, the Abominable Snowman, has his habitat among the high Himalayan peaks. Another, known as Ferlas Mor, the local terror of the Scottish Highlands, lives in Ben Macdhui (in the Cairngorms) . . .'

We may not go as far as Sir Hugh, and we cannot accept without further proof the assertions of the believers in the Abominable Snowman, but we should keep an open mind.

49, PALI HILL,
BANDRA,
BOMBAY 20,
June 30, 1957.

D. E. REUBEN,
I.C.S. (Retd.)

2. ON THE STATUS OF THE GREAT INDIAN RHINOCEROS (*R. UNICORNIS*) IN NEPAL

(*With a map*)

In April 1957 I had the good fortune to be sent by the Government of India to Nepal to assess the raw-material position for the proposed paper and pulp industry in that country, and I took the opportunity of investigating as closely as I could during my stay there the position and present status of *Rhinoceros unicornis*.

In view of the lack of information hitherto from Nepal as regards this rare animal, the guardianship of which that country shares with Assam and Bengal, the chance of making an on-the-spot enquiry was welcomed by me. I paid a short visit to the famous Chitawan area in the Rapti Valley which has for many years been the shooting preserve of the kings and the prime ministers of Nepal. I was accompanied by the local Circle Officer (Conservator), the local Divisional Forest Officer, and the Officer-in-charge of the Rhino Protection Staff, and so I was in a position to obtain first-hand information.

On my return to Kathmandu I re-checked the facts with the Chief Forest Officer and with Capt. Sher Jung Thapa, one of the forest officers who has had considerable experience of the locality and who is a keen shikari. I also discussed the question with Mr. Boris Lisonovitch who is running the Royal Hotel in Kathmandu and who is keenly interested in the question of the rhino and its preservation.

Smythies's book *BIG GAME SHOOTING IN NEPAL* has referred to

this famous game reserve of Nepal as 'glorious Chitawan'. It consists of the valley of the Rapti River west of Hetaura after that river has turned westwards, and it is bounded on the north by the Mahabarata Mountains, on the south by the Churia or Siwalik Ranges, on the west by the Naraini River and on the east by the Ramuli River. The whole area is a big dūn or valley between the outer Siwaliks or Churia range and the inner Mahabarata or Himalayas. The Siwaliks or Churia range on the south consists of a double line of hills with the Reu River, the chief tributary of the Rapti, between them. Smythies describes the famous shooting preserve as being roughly pear-shaped, 4 or 5 miles broad at the eastern end at Hetaura, widening to 25 miles or more at the western end, and covering in all nearly 1,000 square miles. He was writing in 1942. The effective rhino area today is shown within the broken line on the map. It is approximately 200 square miles north of the Churia ranges, with another 200 square miles to the south of these hills—a strip 4 miles wide and 50 miles long—from Bhiknathori on the east to Tribeni, the junction-point of the Rapti and Naraini rivers, on the west. The habitat consists partly of tree-forest both sal and miscellaneous deciduous, and partly of grassland both low-lying and swampy, interspersed with cultivation, the best area being to the north of the Churia ranges from Jhowani to Bharatpur. West of the Naraini, in what is known as the Nawalpur area, there is another 100 square miles which contains rhino. Thus there are some 500 square miles gross, 400 to the east of the Naraini and 100 to the west of that river, which together form the main home of the Nepal rhino. There are said to be a few rhinos scattered in the Kosi area to the east, but to all intents and purposes the Chitawan area is the only one worth considering when the question of preservation of the Nepal rhino on a long-term basis is considered.

The estimated population of rhinoceroses according to the Forest Department of Nepal is some 400-600 in the Chitawan area and some 100 in the Nawalpur area, or say 500 to 600 on the whole. In 1953 their estimate was 1,000 rhinos.

The Rapti Multi-Purpose Scheme is to take in the bulk of the high-land grass area now being cultivated by the Tharus with their primitive ploughs. Tractors are already breaking up the lands and it is planned to settle here a number of people from the hills whose agriculture is in a precarious state. The soil is light and sandy, and unless irrigation and fertilisers are brought to the lands in question, the cultivation will be purely temporary for a few years, in my opinion. Whatever may eventuate, however, the fact is that 80 to 100 of the 400 square miles in the Chitawan area, the main home of the Nepal rhino, is going to be denied to them in a couple of years, and we will have only 300 square miles in the region east of the Naraini to accommodate the 400 to 600 rhinos which are said to be there now. This will work out to almost $1\frac{1}{2}$ rhinos per square mile on an even distribution, which in my opinion is too high.

Mr. Boris Lisonovitch also considers the estimate of 400 to 600 rhinos in the Chitawan area as being an over-estimate and thinks that there are not more than 300 rhinos in that area. I am inclined to agree with him for the following reasons.

The Nepal rhino lives in comparatively drier habitat than the Assam animal to judge from the conditions seen by me. Moreover they are living in closer proximity to habitation and cultivation and wander freely about the country which is sparsely populated by Tharus who cultivate both high-lands and low-lands. The high-land grassy plains are, as it were, shared by the Tharus and the rhinoceros during the rains when the grass is vigorous, while the low-land areas bordering the Rapti are almost exclusively inhabited by the rhinoceros, and are their refuge when the high-land grass is burnt. When I saw the area the grassy lands had been largely burnt and all the animals appeared to be concentrated in the lower swampy and wooded regions near the river, to the south of the main dūn. The concentration of rhinos seemed heavy and near Jhowani we put up, within half a mile of the village, 4 rhinos within an area of a square mile, 3 of which were in tree-forest and only one was wallowing near the river. They were very shy and dashed about snorting and obviously terrified, and no wonder since they are shot to the tune of 6 to 8 in the royal shoots and 20 to 40 by poachers annually.

The high-land grassy areas are the corridors for movement from the Rapti River on the south to the Mahabarata Hills on the north and the Naraini on the west. Apart from the swampy areas near the Rapti and the forests, the only refuge (and that of a temporary nature), which will be left to them will be the large patches of sal forests fringing the plain. Turning to the possible repercussions on the rhino population, it is easy to predict that if one-third of the gross area is denied to them the pressure on the lower lands near the Rapti and the Churia ranges is going to be considerable, particularly in the mating season in March-April. This will have its inevitable effect on the population of rhinos which, in my opinion, will fall drastically, so that at a conservative estimate the numbers to the east of the Naraini River is not likely to be more than 300 at the most in a few years. Whether the population in the Nawalpur area west of the Naraini will remain at the present estimate of 100 is also doubtful since this area is less easy to protect than the Chitawan area. The present plan of the forest department is to demarcate the area shown within the broken line on the map as a permanent sanctuary, leaving the lands of Tharu cultivation within the area, but also demarcated and restricted to existing cultivation of a permanent nature only.

In any case, assuming the figure of rhino population assessed at present as correct, Nepal can claim to have as many rhinoceroses as Assam and Bengal put together, if not more. In other words 50% at least of the estimated population of the Great Indian Rhinoceros in the Indian sub-continent is in Nepal. This is a very great advance on the reports which we have received up to now.

Turning to the question of protection of this valuable and vanishing animal in Nepal, it is encouraging to note that there is a special Rhino Protection Officer with the rank of Captain, and under him a staff of 152 consisting of the following:

- 1 Asstt. (Lieutenant)
- 4 Subehdars
- 24 Havildars
- 122 Forest Guards

There are 60 chowkis, 45 in the Chitawan area and 15 in the Nawalpur area, each manned by 2 Forest Guards and it was encouraging to note that on the only road or track in the area lorries are not permitted to travel at night. But the provision of only one elephant to the Rhino Protection Officer for movement in very difficult country seems totally inadequate. In spite of this comparatively large protection force, poaching is said to be rampant and every year 20 to 30 rhino carcasses are found with their horns missing. (While I was in Nepal a skirmish had taken place between a gang of poachers who had been isolated on a hill and surrounded, but not before 4 rhinos had been killed, one with 12 bullets, though no horns could be removed.) There appears to be a regular trade in rhino horns and the hill-men who are supposed to be the poachers in question come down regularly to slaughter the precious animal under the very noses of the protection staff. The market for rhino horns is China and it is stated that some V.I.Ps. from that country purchased a large quantity of horns at a very high price on their recent visit to Nepal. The fact that permission was sought to export 109 rhino skins from Nepal, as reported by the Secretary-General of the Indian Board for Wild Life recently, is an indication of the rate of destruction.

In the old days under the Rana regime the rhino was so closely guarded that a man could lose his life for having killed one. It was considered the royal prerogative and the only persons who could kill it were the king and the prime minister and the members of their families, and distinguished guests. Today this still holds good, but with the collapse of the Rana rule and the introduction of democratic self-government poaching appears to be on the increase. The only hopeful signs are the interest of the Government of Nepal in the protection of the rhinoceros and the keenness of the forest officers whom I met.

14 NEW FOREST,
DEHRA DUN, U.P.
May 22, 1957.

P. D. STRACEY, I.F.S.

3. THE SPINY BABBLER IN KATHMANDU VALLEY

On March 27th, 1957, I got a Spiny Babbler [*Turdoides nipalensis* (Hodgson)] from Nagarjung at 4,700 ft. It is a male bird and one of a party of three. During the past nine years sixteen other specimens have been collected, all from west Nepal and all found between 3,000 and 4,800 ft. This Kathmandu Valley bird is the first from central Nepal and comes from the upper known altitudinal range.

This babbler—testes slightly enlarged and apparently preparing to breed—called loudly from a bush on the northern slopes of Nagarjung not far above cultivated fields. The steep hillside is thickly covered with scrub and fern (*Gleichenia linearis*) about waist high with here and there a tree or good-sized shrub. The notes sounded like 'gay téeter, téeter, téeter, karéek,' each 'teeter' a note lower than the last, ending with an up-swing on 'kareek' and an emphasis on the last syllable. Following the report of the gun I heard a bird call from