

**ON THE IDENTIFICATION OF THE
ANIMALS AND PLANTS OF INDIA WHICH
WERE KNOWN TO
EARLY GREEK AUTHORS. READ BEFORE
THE ROYAL IRISH ACADEMY, JUNE 9,
1884, PP. 302-346**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649014019

On the Identification of the Animals and Plants of India which Were Known to early greek authors. Read before the royal irish Academy, June 9, 1884, pp. 302-346 by V. Ball

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Cover @ 2017

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BY

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A PAPER

Read before the **ROYAL IRISH ACADEMY**, June 9, 1884;

and

Reprinted from the "PROCEEDINGS," 2nd Ser., Vol. II., No. 6 (Pol. Lit. & Antiq.)

[Fifty copies only, reprinted by the Academy for the Author.]

DUBLIN:

PRINTED AT THE UNIVERSITY PRESS,
BY PONSONBY AND WELDRICK,

PRINTERS TO THE ACADEMY.

1885.

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XLIX.—ON THE IDENTIFICATION OF THE ANIMALS AND PLANTS OF INDIA WHICH WERE KNOWN TO EARLY GREEK AUTHORS. By V. BALL, M.A., F.R.S., Director, Science and Art Museum, Dublin.

[Read, June 9, 1884.]

IN a communication made by me last year to the Royal Geological Society of Ireland, entitled "A Geologist's Contribution to the History of India," I endeavoured to identify many mineral productions which are mentioned by the writers of antiquity. Partly by the recorded characteristics of these minerals, partly by such indications as are given of the localities whence they were derived, I was enabled, by a comparison with our present knowledge of the mode of occurrence and distribution of minerals in India, to arrive at a number of conclusions, the main tendency of which has been to show that many apparently extravagant and fictitious stories by these early writers rest on substantial bases of facts.

While engaged upon that inquiry with reference to minerals, I came upon numerous allusions to animals and plants, for some of which, in spite of their apparently mythical character, I felt sure that equally substantial foundations could be found by subjecting them to the same sort of analytical comparisons with known facts. From time to time, as leisure has been found for the purpose, I have carried on this investigation, and have occasionally published some of the results.¹

Inquiries like these belong, if I may use the expression, to a border land where the student of books and the student of nature may meet and afford one another mutual assistance.

I possess no special philological qualifications for this kind of work, and have only a slight acquaintance with a few of the languages of India; but, on the other hand, I think I may lay claim to the possession of some special knowledge of the animals and plants of India, the ideas about them which are current among the natives, and the uses they put them to. During my travels in the wildest regions of India I have ever taken an interest in the customs and beliefs of the so-called aboriginal tribes, and have had many opportunities for tracing out stories believed by them, and also sometimes by Europeans, to the sources from whence they had originated. This kind of experience enables me now to take up the tale of explanation where it has often been left by linguists and historians, and carry it forward to a satisfactory conclusion.

A want of personal acquaintance with India, or when that was possessed, a want of such information as can only be acquired by a

¹ *The Academy*, April 21, 1883, and April 19, 1884.

field naturalist, using the title in its widest sense, has caused many commentators, both among the early Greeks and Romans and the Continental and English *literati* of the present day, when at a loss to explain the so-called myths, to turn upon their authors and accuse them roundly of mendacity. Thus Strabo states succinctly that, "Generally speaking, the men who have hitherto written on the affairs of India were a set of liars." Again, Lassen has spoken of Ktesias, when referring to a particular statement of his, in much the same way, although I shall be able to demonstrate that the condemnation was in that particular case wholly undeserved.

The Eumeristic treatment of myths, according to which all that is possible may be accepted as historical, while the remainder is to be rejected as fiction, is all very well, provided that the person who conducts the analysis has become competent to do so by the nature and extent of his experience.

Elsewhere² I have recorded numerous reported cases of children having been found living in wolves' dens in India; and these, to say the least, cannot be fairly disposed of in the off-hand manner that the follower of the Eumeristic doctrine would apply to the story of Romulus and Remus, and many others like it.

The well-known Arabian story, related by the author of Sinbad the Sailor, Marco Polo, and Nicolo Conti, of the method of obtaining diamonds by hurling pieces of meat into a valley, had its origin, as I believe, in an Indian custom of sacrificing cattle on the occasion of opening up new mines, and leaving portions of the meat as an offering to the guardian deities, these naturally being speedily carried off by birds of prey. This custom is not yet extinct.

The so-called myth of the gold-digging ants was not cleared up till, by chance, information was received³ as to the customs and habits of the Thibetan gold miners of the present day. Then Sir H. Rawlinson, and, independently, Dr. Schiern, of Copenhagen, were enabled to come forward and state beyond a question of doubt that the *myrmecæ* of Herodotus and Megasthenes were Thibetan miners, and, it may be added, their dogs. The same dogs are now for the first time identified, as will be seen further on, with the *griffins*. The full account of this discovery by the above-named authors would find its proper place in a Paper on races of men, so that I pass from it now, save that I mention a contribution which I have made to it, namely, that the horn of the gold-digging ant, which we are told by Pliny was preserved in the temple of Hercules at Erythræ, and which for centuries has been the subject of much speculation, was probably merely one of the gold-miners' pickaxes. I have been informed by an eyewitness, Mr. R. Lydekker, that the picks in use by agriculturists and miners in Ladak consist of horns of wild sheep mounted on handles.

² *Jungle Life in India, and Journal of the Anthropological Institute, 1880.*

³ From the Reports of the Pundits employed in Trans-Himalayan Exploration by the Indian Government.

I believe it probable that Dr. Schiern would be willing to accept this in preference to his own suggestion, namely, that the horns were taken from the skins which are worn as garments by the Thibetans. Perhaps it is as well to add here further, for the benefit of those who may not be aware of the origin of the connexion between ants and gold, that independently that part of the myth was cleared up some years ago, first by Dr. Wilson,⁴ who pointed out that the Sanskrit name for the small fragments of alluvial gold (gold dust) was *paippitaka*, meaning "ant-gold," in reference to the size and form; but the characteristics of the "ants" were always supposed, up to the year 1867, to have been wholly imaginative. Then, however, it was found, as related above, that these characteristics were in the most minute particulars identical with those of Thibetan miners. The whole is an example of what has occurred in reference to other subjects also, namely, the too literal acceptance by the Greeks of the signification of Oriental words, the merely symbolical meaning not having been understood as such. This is, for instance, notably the case with reference to the "Indian Reed": cf. p. 336.

It may be here noted that in the foot-notes to various editions of Ktesias, Megasthenes, Herodotus, Ælian, and Strabo, *i. e.* the authors who furnish the principal part of the statements with which this Paper deals, commentators have not unfrequently suggested alterations in the accepted text to suit their preconceived notions of what is possible. With regard to several cases of this kind, I believe the explanations offered in the following pages will show that the text would lose the meanings intended were such changes adopted. Again, there are cases where commentators have suggested derivations for Greek words from Sanskrit or Persian names, which will, I think, be shown to be incorrect.

Many of the identifications of animals and plants suggested by commentators exhibit a sublime indifference on their part to the laws which govern and the facts observed with reference to the geographical distribution of animals. Such looseness is akin to the custom common enough among Englishmen in India of talking about animals by names strictly applicable to species not found in the Oriental Region. Thus you will hear, at the present day, sportsmen speaking of panthers, bison, elk, armadillos, alligators, toucans, canvas-back-ducks, and humming-birds as being commonly shot by them in India, though as a matter of fact none of the animals to which these names are correctly applicable are ever found beyond the limits of the American Continent.

As an example of how statements about animals sometimes require strict investigation, I remember on one occasion an Englishman assuring me *very positively* that sulphur-crested cockatoos were to be found in large numbers in a particular jungle in the Central Provinces of India. On my pointing out the impossibility of such being the case,

⁴ Asiatic Researches.

the only evidence he could bring in support of the statement that this essentially Australian bird was to be found so far from its proper limits, was that the Rajah of the district told him so when he had been shown a domesticated specimen. To which I could only reply that a boastful spirit as to the resources of his own territory must have led the Rajah to be guilty of what was a downright falsehood.

I have still another charge to make against the commentators. Up to the very last edition of one of our Greek authors, which was published in the present year, a custom has been in practice of passing very stale comments from one to another, without reference being made to more recent and direct sources of information.

And here I would mention the names of two encyclopædists for whose works I have the greatest respect and admiration: they are Lassen and Ritter, to the researches by both of whom commentators are much beholden. But as may readily be conceived, during the last fifty years there has been a great advance in our scientific and accurate knowledge of the animals and plants of India, nevertheless we find modern editors making use of statements proximately derived from Lassen, but which are often ultimately traceable to that most industrious compiler, Karl Ritter, who wrote nearly fifty years ago. Were he alive he would probably have kept better abreast with modern research than have so many who now use the *data* which he collected from still earlier writers. Surely such a statement as that there is at present a tribe of Khonds in the Dekkan, who eat the bodies of their deceased relatives, is one that ought not to appear, as it does in a recent edition, except it can be substantiated.³ It may be true; but, I must confess, that without modern and undoubted proof of the fact, I am unwilling to believe it.

The original texts of Megasthenes and Ktesias not having been preserved to us, except as fragments which have been incorporated by other authors, we cannot say with certainty what they may or may not have contained; but it is sufficiently apparent that it is precisely the most marvellous and apparently impossible descriptions which have been preserved, sometimes out of mere curiosity, and sometimes for purposes of condemnation; the plain matter-of-fact stories about men, animals, and plants, if they ever existed, have been irretrievably lost.

Though not unaware that I run the risk of some adverse criticism when entering into an arena of controversy like this, I have already received a considerable amount of encouragement from quarters where such work is duly appreciated; but the highest incentive I have had in the elucidation of these myths, apart at least from the interest of the study itself, is, that as a former Indian traveller myself, I derive a sincere pleasure in so far establishing the veracity and relieving the characters of travellers from the aspersions which during twenty centuries, more or less, have been freely cast upon them.

³ Cf. Herodotus, by Prof. Sayce.

I take for my text and for my justification, if need there be, the following passage from De Gubernatis, who, although the author of a zoological mythology, lays no claim to being a zoologist himself. He says: "And if I have sought to compare several physiological laws with the myths, it is not because I attribute to the myth a wisdom greater than that which it contains in reality, but only to indicate that, much better than metaphysics, the science of Nature, with the criteria of positive philosophy can help us to study the original production of myths and their successive development in tradition."

It will be observed in the pages which follow that, besides the simple identifications, there are what may conveniently be called compound identifications of two classes. In the first, two or more animals, as described by the compilers, are shown to owe their origin to accounts by different authors of the same animals or plants, the identity of which was not perceived by compilers like *Ælian* (*cf.* p. 316). In the other class, under one name, characteristics belonging to more than one species are included (*cf.* p. 331). Both these, but especially the latter, have increased the difficulties of identification.⁶

But a few words remain to be said as to the arrangement of the facts contained in the following pages. Originally it was my intention to make use of some of them as illustrations of a Paper on the origin of myths; but, as they multiplied, it seemed to me that they would have an additional value if they were so arranged that they could be easy of reference; and, in order to complete the list, I have included many identifications which have been made by others. This is more particularly the case with the plants yielding drugs: these have for a long time attracted the notice of botanists and other experts; but their determinations have not in all instances been incorporated into the footnotes of commentators.

There still remain a few accounts of animals and plants which have yet to be grappled with; some of these I hope to be able to discuss hereafter, and it may be that I shall see my way to account for some of the so-called mythical tribes of men described by the early Greeks. Some of them, however, appear to be quite beyond the reach of explanation, but others may possibly be identified with particular tribes of what are commonly, but not always correctly, called the aboriginal inhabitants of India.

⁶ Pliny's accounts of minerals furnish a striking example of both: on the one hand, under half a dozen different names, culled from different authors, he has described the same mineral over and over again without recognizing the identity. In several cases, notably in that of the *Adamas*, he describes several distinct minerals under one title.