

enter fully into this matter would at present occupy too much of the Society's time, on which I have already trespassed longer than I originally meant, and as, besides, it will be best that he to whom this unexpected coincidence first occurred should himself explain the subject in detail, I shall leave it to him to lay before the Society the passage in question, and such comments as it may suggest, at a future meeting.

II. *Remarks on the Passage in Herodotus referred to in Mr. SPENCE'S Paper, read at the April Meeting. By W. B. SPENCE, Esq., M.E.S. France, For. Sec. Ent. Soc.*

[Read May 5, 1834.]

I beg leave to lay before the Society a few remarks on the passage of Herodotus referred to in my father's late paper, which was brought to my recollection on hearing him mention that flies were kept out of houses at Florence by merely having a net stretched across the windows.

The passage in question occurs in the second book of Herodotus, in which, after having given a general description of the customs, manners, and religion of the Egyptians, he goes on to describe the natural history of the country, and forms the 95th chapter, which is as follows :

95. Πρὸς δὲ τοὺς κώνωπας ἀφθόνους ἔοντας τάδε σφί ἐστι μεμηχανημένα. τοὺς μὲν τὰ ἄνω τῶν ἐλέων οἰκέοντας οἱ πύργοι ὠφέλειουσι, ἐς οὓς ἀναβαίνοντες κοιμούνται· οἱ γὰρ κώνωπες ὑπὸ τῶν ἀνέμων οὐκ οἶοί τε εἶσι ὑψοῦ πέτεσθαι. τοῖσι δὲ περὶ τὰ ἔλα οἰκέουσι τάδε ἀντὶ τῶν πύργων ἀλλὰ μεμηχάνηται. πᾶς ἀνὴρ αὐτέων ἀμφίβληστρον ἔκτεται, τῷ τῆς μὲν ἡμέρης ἰχθύς ἀγρεύει, τὴν δὲ νύκτα τάδε αὐτῷ χρᾶται ἐν τῇ ἀναπαύεται κοίτῃ· περὶ ταύτην ἴστησι τὸ ἀμφίβληστρον, καὶ ἔπειτα ἐνδὺς, ὑπ' αὐτῷ καθεύδει. οἱ δὲ κώνωπες, ἣν μὲν ἐν ἱματίῳ ἐνελιζάμενος εὖδῃ ἢ σινδόνι, διὰ τούτων δάκνουσι· διὰ δὲ τοῦ δικτύου οὐδὲ πειρῶνται ἀρχήν.

Of the above passage the following is a translation, which I have made as literal as possible ; but that there may be no doubt of its general accuracy I have compared it with the various translations of Schweighæuser, Larcher, and Beloe, with which in substance it exactly agrees :

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“But against the gnats, being in great numbers, these are the means they have invented : the towers are of service to those who inhabit the upper parts of the marshes, and ascending into them, they sleep there, for the gnats, on account of the winds, are not able to fly high. But those who live around the marshes have invented other means instead of towers. Every man of them possesses a casting-net, with which during the day he catches fishes, and at night he makes use of it in the bed where he reposes, round which he places the net, and then, having crept under it, he sleeps. But the gnats, if he sleeps wrapped up in a woollen or linen garment, bite through these, but through the net they do not even attempt to bite.”

From this passage, then, it is clear that Herodotus affirms the same fact with regard to the Egyptian *Conopes* (which, both from what he says of their frequenting marshes and biting by night and the received interpretation of the word, there can be no doubt were one or more species of gnat, musquitoe, or *Culex*), as has been observed of the house-fly, namely, that they will not pass through the meshes of a net although the space is sufficiently large to admit them. If Herodotus had mentioned merely a net, one might have supposed that he meant some very thin gauze or other net-like substance, such as the gnat-curtains are made of at the present day ; but he says it was a casting-net (*ἀμφιέλιστρον*) used by fishermen, and must have had meshes much wider than sufficient to admit a gnat ; nor, I think, can there be even a shadow of doubt on this head, when we consider that he adds that they bite through linen and woollen coverings, and yet do not even attempt to bite through the net ; which circumstance seems to prove that he was struck with this as a curious fact, which he imparts to his readers in his usual concise manner. It will also be seen from the expression used, that the net was not merely laid on the bed as a covering, but sustained by some support, (as a pole or bedstead,) so as to form a kind of tent, into which form the casting-net from its shape could be easily arranged, and under which the fishermen then crept, and thus slept secure from their formidable assailants. This is also the meaning attributed to the passage in Schweighæuser, who says, “lecto circumponit rete, deinde subrepens sub illo dormit.” Thus it would seem that the beds so covered agreed in all essential points with the Florentine rooms, of which the open windows had nets stretched across them, the gnats in the one case being asserted by Herodotus to be kept out under nearly the same circumstances as the flies are known to be excluded in the other.

But here an objection may arise : May not this coincidence be accidental ? Can we be sure that if flies are excluded by nets, gnats

will be so also? In short, can we warrant the conclusion that the assertion of Herodotus is correct? And, until the experiment has been fairly made, we cannot be certain that gnats will be excluded from beds as flies are from rooms. But at the same time, judging from analogy, and the great improbability that so unusual a mode of defence, and one so unlikely *à priori* to be effectual, should have been a mere fiction without a foundation of truth, there seem strong grounds for believing the fact to be as stated by Herodotus; and that though, as is well known to people who live in hot climates, gnats soon find their way through holes in gauze curtains, yet it is very probable that they may be afraid of venturing through a net, just as this last is sufficient to keep out flies, though we know that they will creep through the linen sides of a meat-safe. And thus the father of history may be found to be as correct in this passage as Geoffroy de St. Hilaire has shown him to be in the history of a bird (*Charadrius Egyptianus* of Hasselquist) taking the gnats out of the mouth of the crocodile, which was deemed a mere fable until fully confirmed by the evidence of this naturalist when in Egypt. (Vide 'Description de l'Egypte,' *Histoire Naturelle*, tom. i. p. 198—205.)

If it shall be proved by experiment, as seems not unlikely, that a person in bed may protect himself against the attacks of gnats merely by stretching a wide-meshed net over the place where he lies, it may be regretted that this simple fact related by Herodotus as known to the Egyptian fishermen 2300 years ago, has been so long overlooked, and remained in reality quite unknown. Adopting this simple mode of protection, a traveller in marshy districts would have only to provide himself with a piece of netting three yards long and a yard wide, not taking up, when rolled, more than a few square inches of his trunk, and throwing this over a slight support of a few pieces of cane or whalebone equally portable, he would be secure from attack, though the net were but a few inches above his body, and the width of the meshes would not offer the slightest impediment to respiration and the free circulation of the air; whereas it is almost out of the question to use a piece of muslin or gauze in the same manner at a slight elevation above the body, on account of the suffocating heat that would ensue; and if, in order to obviate this, the traveller were to carry with him common gauze curtains, as now in use, sufficiently spacious to inclose the whole bed, the time and trouble required in arranging and applying them would often be such as even to deter him from making use of them, and to make him prefer taking his chance without any defence.

If there is thus cause for regret that this fact, which appears so important, should have been so long and so completely overlooked, it

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seems not less to be wondered at that the passage in Herodotus which announces it should have been so little noticed by commentators, not one of whom seems to have been struck with the singularity of his statements, which, whether correct or not, equally required observation. One would think that in reading this passage it must have seemed to them rather strange that a casting-net whose meshes must have been wide enough to admit several gnats at a time should yet be asserted by Herodotus to be a sufficient defence from them, though they bit through either linen or woollen; and one may be well surprised that whilst they have spent pages on passages far less curious, they should pass this over with a mere reference to Juvenal or Horace where these authors allude to the *conopeum*, or gnat-curtain.

The fact seems that all these commentators have been led astray by the word *conopeum*, confounding the casting-net of the Egyptian fishermen with the gnat-curtain of the Romans, which both from the definitions given of it, "*linum tenuissimis maculis nectum*," ("thread knitted together in very fine meshes,") and from the use as banners, to which Horace supposed it applied,

"Interque signa (turpe!) militaria
Sol aspicit conopeum," (*Epod.* lib. ix. ode 9.)

was evidently of a texture resembling our muslin or gauze. If, therefore, they had been duly struck by the passage, they ought either to have shown how it was that a casting-net could exclude gnats as effectually as gauze, or else, that in point of fact the texture of both was the same, the casting-net having, notwithstanding the apparent absurdity of the supposition, meshes so small as to prevent gnats from coming through them, or, on the other hand, the *conopeum* though applicable for a banner, having meshes as large as a casting-net. But nothing of this kind has been attempted in the way of explanation by Schweighæuser, Larcher, Baehr, or any of the commentators I have consulted, who all seem to regard the *conopeum*, or gnat-curtain, to be the same as the *amphiblestron* of Herodotus, when in fact, except in the advantages derived from each, they have no more similarity than the paper bags used for covering grapes have with a cherry-tree net†.

In concluding these imperfect remarks, I hope, in order to put beyond question the accuracy, or the contrary, of the statement of He-

† In a curious poetical tract, entitled "An Epistle from the Fens to Mr. *** * * * at Rome," dated May 1, 1727, which my friend the Rev. F. W. Hope, F.R.S., purchased at Mr. Heber's late sale, and which he has had the goodness to show me since the above was written, the author falls into the same error with all the com-

rodotus, that such of the members of the Entomological Society as may have an opportunity will make experiments as to the efficacy of nets in excluding gnats from beds, noticing particularly whether the result be affected by the circumstance of the room being light or dark, or by the colour of the threads or the size of the meshes; and I trust also that such entomologists as may hereafter travel in Egypt will direct their attention both as to the exact species of gnats which may abound there, and as to the fact whether the fishermen still defend themselves from them in the mode pointed out by Herodotus.

III. *Descriptions of some hitherto uncharacterized exotic Coleoptera, chiefly from New Holland. By the Rev. F. W. HOPE, M.A., F.R.S., L.S., &c.*

[Read December 2, 1833.]

Order COLEOPTERA.

Family GYRINIDÆ?

ADELOTOPUS*, *Hope*. (Genus novum.)

Antennæ 11-articulatæ, articulo 1mo maximo, 2do minori rotundato, 3tio parvo, tenui, hoc et reliquis clavam elongatam ovalem, compressam efformantibus.

Caput breve in thoracem ad oculos immersum.

Labrum transversum, margine antico fere recto.

mentators in referring, in the following lines, to the passage of Herodotus in question, which he quotes:

“ See with delight the great relief appears,
Known by the fame of twice a thousand years;
See the close net of size immense and deep
Flows round the bed and guards the dome of sleep.
What though the gnats incessant wave their wings,
Vain their efforts, and harmless are their stings.
Soon as their swarms the adverse bound beset,
Checked they retire, nor pass the impervious net.”

He here, like the commentators, regards the modern gnat-curtain as precisely identical with the *amphiblestron* of Herodotus, without giving himself the trouble to point out how his epithets ‘close’ and ‘impervious’ could be applicable to a casting-net.

* ἀδελος incertus, et τοπος locus.