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THE BOOK-WORM.

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BY

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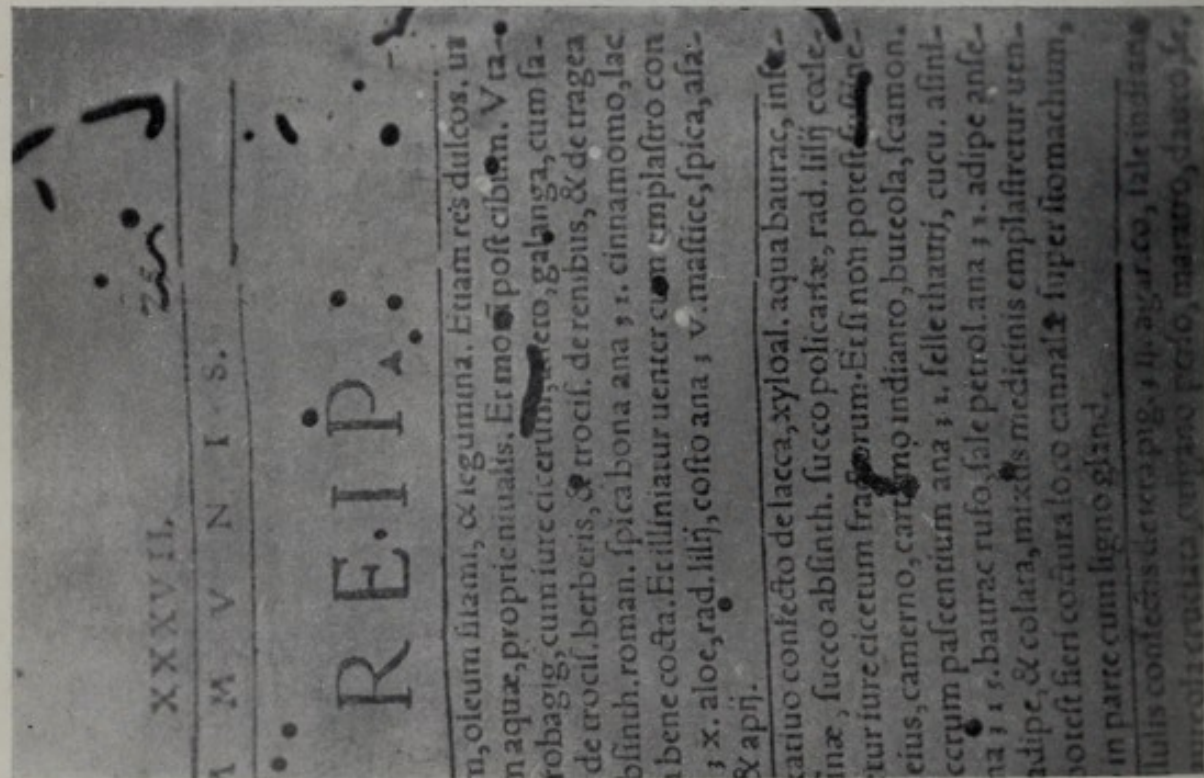


Fig. 1.

Pages from old volumes showing the ravages of the bookworm. Fig. 1 showing the shot-hole perforations made by the insect. (From a sixteenth century book—*Bibliotheca* (Byngelza), Argent., 1532—in the Library of the College of Physicians of Philadelphia.) Fig. 2. Showing the vermiform perforations. (Leaf of a "Caxton." From *Blades' Enemies of Books*.)

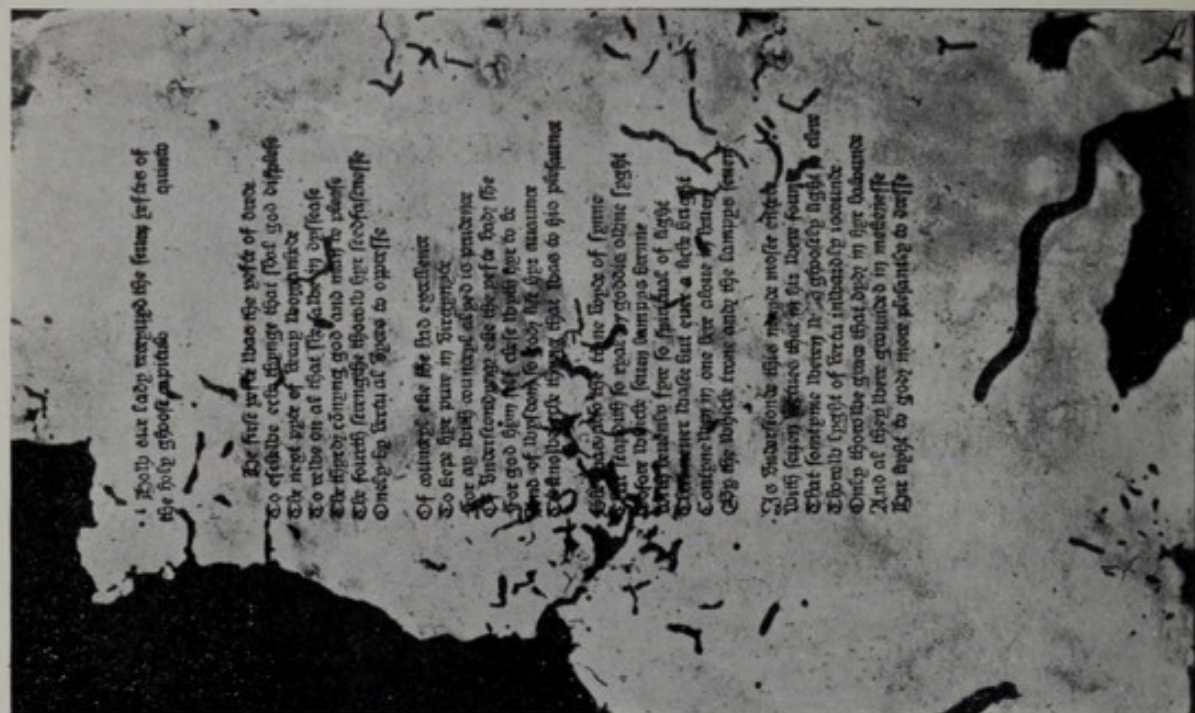


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THE BOOK-WORM.

By FREDERICK P. HENRY, A.M., M.D.,

Honorary Librarian of the College of Physicians of Philadelphia, Philadelphia.

The majority of intelligent people are unaware that the word "book-worm," which conjures up ideas of individuals of whom Dominie Sampson is perhaps the most familiar type, is literally applicable to an animal that is by no means extinct. Its traces are frequently seen in ancient books, especially those of the fifteenth and sixteenth centuries, in the form of perforations as clearly cut as those of a ticket-punch. The holes are not confined to single leaves, but may perforate a book of several hundred pages "from title-page to colophon." Neither are they limited to its interior, for a binding, whether it consists of vellum or of wood a quarter of an inch thick, may be riddled to such an extent as to resemble the shot-pattern of a gunmaker. The holes have just been compared to those made by a ticket-punch, and so far as their clean-cut, circular outline is concerned the comparison is correct. They differ, however, from the holes of a punch in that their course invariably is oblique. This description applies to the traces of the worm as most commonly observed. Sometimes, however, they destroy large portions of a page, and the gaps which they produce may have a vermicular outline. Both of these appearances are represented in the accompanying illustrations. (*See Plate 2.*)

Many a human "book-worm" is familiar with these marks, and is aware that they have been made by his animal prototype, but in the vast majority of cases this is an inference rather than a demonstration. I do not hesitate to assert that very few modern librarians have ever seen a book-worm. I have listened to the expression of doubts concerning its present existence—doubts based upon the fact that its traces are practically limited to ancient books—and at one time I was inclined to share them. The late Dr. Samuel Lewis, that learned and amiable bibliophile who spent a portion of each day in the library he loved and of which he was a munificent patron,¹ had never seen a book-worm, although he was fond of discussing it and was familiar with its scanty and scattered literature. The same is true of his scholarly friend, the late Prof. John Ashhurst, and of my predecessor in

¹Library of the College of Physicians of Philadelphia.

office, the late Dr. James H. Hutchinson. In fact, there is no account of the presence of the book-worm in the Library of the College of Physicians of Philadelphia from the date of its institution in 1787 until the eventful year of 1901, and it is morally certain that such a hostile invasion would not have gone unrecorded. I might even maintain, in the absence of documentary evidence to the contrary, that the book-worm was never seen in this country (in books, at least) until the date last above mentioned. I will content myself, however, with the statement that the only reference to the animal in American literature (apart from works on entomology) with which I am acquainted, is contained in Ringwalt's *Encyclopædia of Printing* (Phila., 1871), and this reference is indirect. After a very incomplete and inaccurate description of the worm which he had probably never seen, Ringwalt remarks: "There is now ⁱⁿ a private library in Philadelphia, a book perforated by this insect." In other words, in the city of Philadelphia in 1871, there was a single book perforated with a worm-hole! Anent this statement, Mr. Blades, in his *Enemies of Books*, opens his jocular vein: "O lucky Philadelphians who can boast of possessing the oldest library in the States, but must ask leave of a private collector if they wish to see the one worm-hole in the city!"

Bibliophiles regard it as their duty to announce to their confrères the discovery, capture and destruction of a single specimen of the worm, and if, in so doing, they display a degree of exultation that appears unseemly, they should be pardoned in view of their rare victories and the skulking character and devastating work of their foe. We have the authority of Mr. A. J. Bowden² to the effect that "instances of the capture alive of a book-worm are so rare that they deserve to be carefully chronicled and recorded." Mr. Cecil Deedes³ reported the capture of two: one in a folio theological book in the Bodleian; the other in his own Venice *Benedictine St. Augustine*. Mr. G. Suckling discovered three at Messrs. Sotheran's Strand house. They were half-way through a bundle of quires, and evidently were on their second or third journey, judging from the number of perforations made in the paper. Mr. Bowden sent one of these destructive insects to the *Publisher's Circular*, and they made engravings from it for their readers, both in its natural size and also in magnified form.⁴

²*Book Lore*, vol. 1, p. 162.

³*Ibid.*, vol. 2, p. 21.

⁴*The Bibliographer*, vol. 6, 1884, p. 117.

The celebrated bibliophile, Mr. Dibdin, "was anxious to secure evidence concerning the insect, and went first to Messrs. Payne & Foss. Mr. Payne said he thought he had seen two. * * * At the British Museum, Dibdin goes on to relate, Mr. Henry Ellis had found only one, but it was alive and in a volume of the *Spectator*. * * * Messrs. Ogle & Co. sent Dibdin two specimens, one alive, the other dead, in a deal box. The live one escaped in transit; the dead one arrived safely and was about one-fourth of an inch long. Mr. Elmsley, the bookseller, detected one not only in the shape of a fly, but in the act of flying!"⁵

These "finds," which include the principal if not all recorded instances of the discovery of the worm *in flagrante delictu* are trivial compared with those at the College of Physicians of Philadelphia in the Spring of 1901. At that time the College purchased the valuable collection of the late Dr. J. Stockton Hough, which was largely composed of rare editions of the fifteenth, sixteenth and seventeenth centuries. The books were packed in thirty-eight white pine boxes, and had remained in them for about eight months before their purchase by the College. They numbered about thirty-five hundred, and every one of them was examined and classified by the librarian, Mr. C. P. Fisher, and myself. In the course of this examination Mr. Fisher discovered the worms literally by the dozen. They were found in all stages of their growth except that of the egg. Beetles, cocoons, and larvæ abounded, but unfortunately the powdery débris resulting from the pestilent activity of the latter was not examined microscopically with a view to the discovery of eggs.

There has been, and doubtless there still is, much confusion in the minds of bibliophiles concerning the natural history of the book-worm. The first description of the animal is to be found in a work entitled *Micrographia, or Some Physiological Descriptions of Minute Bodies Made by Magnifying Glasses*, by R. Hooke, F.R.S. This book was published at the expense of the Royal Society in 1665. The chapter on the book-worm is headed: "Of the small silver-colored book-worm," and contains an illustration which Blades believes to be largely a product of the imagination.⁶ Be this as it may, it certainly bears no resemblance to the genuine book-worm in any stage of the latter's existence. To quote from the words of Mr. A. J. Bowden: "Accounts of the sea-

⁵*Book-Worm*, vol. 1, p. 76.

⁶This illustration is copied in the *Book-Worm* and in Blades' *Enemies of Books*.

serpent have been various and wonderful, but they pale before some which have been given of the book-worm." He also refers to Hooke's original description as well as to a statement of Sylvester, which he apparently discredits, but which is nevertheless true: "Sylvester," writes Bowden, "in the *Laws of Verse*, says it is a creature which, on being approached, stiffens into the resemblance of a streak of dirt—preferring, we suppose, death before the dishonor of being captured." Bowden makes no comment upon this statement of Sylvester, and therefore presumably doubts it, but in so far as it refers to the tendency of the worm to "play possum" it undoubtedly is correct. The writer has often observed that if touched they will become motionless and stiff, as described by Sylvester.

The following scientific description of the book-worm or drug-store beetle, as it is also called, is transcribed literally.⁷ For permission to do so I am indebted to Mr. F. H. Chittenden, the author of the article in question, to whom I herewith tender my sincere thanks.

THE DRUG-STORE BEETLE. (*Sitodrepa panicea*, Linn.)

"One of the commonest of storehouse pests is the little *Sitodrepa panicea*, a frequent visitor in habitations, which it enters at open windows.

This beetle is a member of the family Ptinidæ. It is cylindrical in form, measuring about a tenth of an inch in length, and is of a uniform light-brown color, with very fine, silky pubescence. The elytra are distinctly

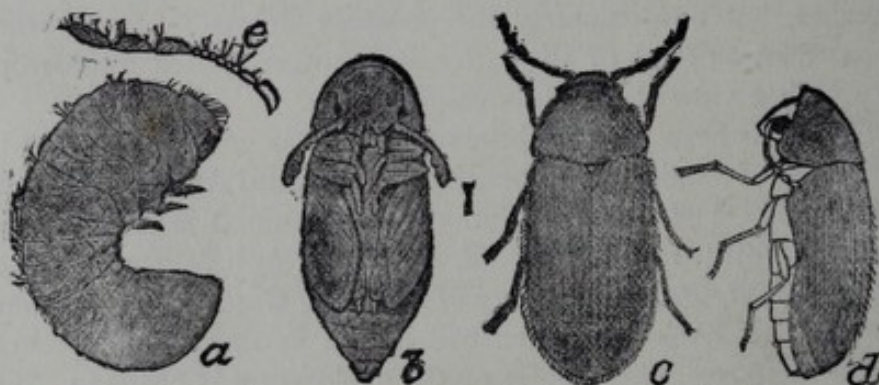


FIG. 61. *Sitodrepa panicea* : a, larva; b, pupa; c, beetle, dorsal view; d, lateral view—all much enlarged; e, antenna—more enlarged. (From Chittenden, U. S. Dept. of Agriculture.)

striated and the antennæ terminate in an elongate three-jointed club. Fig. 61, c, shows the beetle with antennæ extended, e, representing an antenna greatly enlarged. When at rest the head is retracted into the peculiar hood-like thorax, as shown in profile at d, and with the legs and antennæ folded under and tightly appressed to the body, the little creature easily escapes

⁷U. S. Dept. of Agriculture. Division of Entomology. Bulletin No. 4. New Series. Rev. Ed. (Wash., 1896.)

observation. The larva is white, with darker mouth-parts, and of the cylindrical curved form indicated at *a*. The characteristic form of the head and legs is reproduced at fig. 62. The pupa, illustrated at *b*, is white.

The insect received its Latin name from its occurrence in dry bread (*panis*), and in Europe it is still known as the bread beetle, but its chief injuries are to druggists' supplies; hence the name drug-store beetle. Its depredations do not stop here, however, for it invades alike stores of all kinds, mills, granaries, and tobacco warehouses. Of household wares its preference is for flour, meal, breakfast foods, and condiments. It is especially partial to red pepper, and is often found in ginger, rhubarb, chamomile, boneset, and other roots and herbs that were kept in the farmhouse in our grandmothers' day. It also sometimes gets into dried beans and peas, chocolate, black pepper, powdered coffee, licorice, peppermint, almonds, and seeds of every description.

The subject of injuries wrought by this species has formed the text of a considerable literature, going back to the year 1721, when Pastor Frisch found the larva feeding upon rye bread, and including, besides damage of the nature referred to, injury to drawings and paintings, manuscripts and books. Some singular instances are recorded of its injuries as a book-worm. The late Dr. Hagen wrote that he once saw 'a whole shelf of theological books, two hundred years old, traveled through transversely' by the larva of this insect, and still another record is published of injury by this species, or *Ptinus fur*, to twenty-seven folio volumes, which it is said were 'perforated in a straight line by one and the same insect, and so regular was the tunnel that a string could be passed through the whole length of it and the entire set of books lifted up at once.'

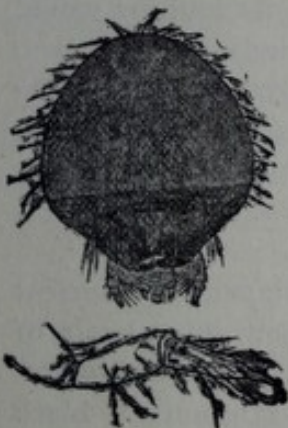


FIG. 62.—*Sitodrepa panicea*: Head of larva, shown above; leg of larva below—much enlarged. (From Chittenden, U. S. Dept. of Agriculture.)

In pharmacies it runs nearly the whole gamut of everything kept in store, from insipid gluten wafers to such acrid substances as wormwood, from the aromatic cardamom and anise to the deadly aconite and belladonna. It is particularly abundant in roots, such as orris and flag, and sometimes infests cantharides.

It is recorded to have established a colony in a human skeleton which had been dried with the ligaments left on, and the writer has seen specimens taken from a mummy. It has even been said to perforate tin foil and sheet lead, and that it will 'eat anything except cast iron.' In short, a whole chapter could be devoted to the food material of this insect, as nothing seems to come amiss to it and its voracious larvæ. The subject may conclude with the statement that this Division has received complaints from four different correspondents of injury to gun wadding, and there are several records of injury to boots and shoes and sheet cork.

The larvæ bore into hard substances like roots, tunneling them in every direction, and feed also upon the powder which soon forms and is cast out of their burrows. In powdery substances the larvæ form little round balls or cells, which become cocoons, in which they undergo transforma-

tion to pupæ and then to the adult insect. I have reared the insect from egg to beetle in two months, and as it habitually lives in artificially heated buildings and breeds out through the winter months, there may be at least four broods in a moderately warm atmosphere."

I must confess to a certain degree of scepticism concerning the story of the string and the worm-hole, contained in Mr. Chittenden's excellent description of the *Sitodrepa panicea*. It seems to justify Mr. Bowden's allusion to the sea-serpent. In the absence of any knowledge to the contrary, and in view of the scientific source from which the statement is derived, I am compelled to admit that the tunnel above described might have been made by *Ptinus fur*, but I am positive that it could never have been achieved by the only book-worm with which I am acquainted, *Sitodrepa panicea*. On the first page of this article I compared the holes of the book-worm to those made by a ticket-punch, but stated that they differed from the latter in one important respect, viz.: that "their course is invariably oblique." This obliquity is so marked that on holding between the eye and the light a few leaves that have been perforated by the worm, it will be found that it is impossible to see through them (I refer exclusively to the perforations of the *Sitodrepa panicea*). It is manifest, therefore, that the animal would have to take many a fresh start before traversing thirty-seven folio volumes, and that its journey would not be in a straight line. There may be other kinds of book-worm than the one with which I am acquainted, but that *Sitodrepa panicea* is the book-worm *par excellence*, I am convinced. I base this statement chiefly upon the fact that the holes made by this animal are identical with those in every worm-eaten book that I have examined.

Mr. Lang, in *The Library*, tells us something of the ancient history of the book-worm: "The ancients knew this plague of which Lucian speaks. Mr. Blades mentions a white book-worm slain by the librarian of the Bodleian. In Byzantium the black sort prevailed. Evenus, the grammarian, wrote an epigram against the black book-worm (Anthol. Pal. IX., 251).

'Pest of the muses, devourer of pages, in crannies that lurkest,

Fruits of the muses to taint, labor of learning to spoil,

Wherefore, oh black-fleshed worm! Wert thou born for the evil thou
workest?

Wherefore thine own foul form shap'st thou with envious toil?"*

Numerous prophylactics of the book-worm, some of them most

**Book-Worm*, vol. 1, p. 80.

elaborate, have been recommended, but it is doubtful whether they possess any value apart from the cleanliness which their use, for the most part, implies. A book that is handled and read will never be attacked. "Neglecting your books is something like neglecting your best friends; the crime will bring its own punishment." Mr. Blades believed that the immunity from the worm enjoyed by modern books is due to the fact that they are not "edible." "One result," he states, "of the extensive adulteration of modern paper is that the worm will not touch it. His instinct forbids him to eat the china clay, the bleaches, the plaster of Paris, the sulphate of barytes, and scores of adulterants now used to mix with the fiber." There can be no doubt that the worm prefers a fifteenth century book to any other, but, as mentioned above, Mr. Dibdin found one in the *Spectator*, and I have been informed that there is a worm-eaten nineteenth century book in the Academy of Natural Sciences.

It is not at all surprising that the book-worm should have served as a theme for the poet. In fact, every writer upon the subject seems to have an inclination as irresistible as that of Silas Wegg, to "drop into poetry." The most celebrated among this class of poems is that of Dr. Thomas Parnell, a contemporary of Swift and Pope. It opens with the following spirited apostrophe:

"Come hither, boy, we'll hunt to-day
The Book-Worm, ravening beast of prey."

Then follows a description of the worm which may well excite doubts as to whether Parnell ever had seen one:

"Dreadful his head with clust'ring eyes,
With horns without and tusks within,
And scales to serve him for a skin.

See where his teeth a passage eat;
We'll rouse him from the deep retreat.
But who the shelter's forced to give?
'Tis sacred Virgil, as I live!
From leaf to leaf, from song to song,
He draws the tadpole form along,
He mounts the gilded edge before,
He's up, he scuds the cover o'er,
He turns, he doubles, there he passed,
And here we have him, caught at last."

There is a good deal more of this amusing and misleading poem (fancy a book-worm "scudding") which, according to Oliver Goldsmith, is an "unacknowledged translation from a Latin poem by Beza."

The following is taken from *Book-Lore* (vol. 4, p. 98), the original being in Dovaston's *Poems* (1825) :

"There is a sort of busy worm
That will the fairest books deform,
By gnawing holes throughout them;
Alike through every leaf they go,
Yet of its merits naught they know,
Nor care they aught about them.

"Their tasteless tooth will tear and taint
The poet, patriot, sage or saint,
Nor sparing wit nor learning;
Now if you'd know the reason why,
The best of reasons I'll supply:—
'Tis bread to the poor vermin.

"Of pepper, snuff or 'bacca smoke,
And Russia-calf they make a joke.
Yet why should sons of science
These puny, rankling reptiles dread?
'Tis but to let their books be read,
And bid the worms defiance."

Mr. James C. Woods is responsible for the following rondeau which appeared in the *Bibliographer* (vol. 6, 1884) :

"The book-worm glides adown the row
Of hoarded tomes from long ago,
With ruthless auger boring on
From title-page to colophon,
Past leaded text and marge of snow :

"Through the fair covers' crimson glow,
Rich with meandering gold, aflow,
Around a Queen's escutcheon,
The book-worm glides.

"Oh, through what tales of lovers' woe,
Of battle-stress and tempest-throe,
High thoughts that o'er the world have shone
And passionate heart-beats dead and gone,
Unknowing, happier not to know,
The book-worm glides."

The greatest of all names associated with the book-worm is that of Robert Burns, who wrote the following quatrain in a copy of Shakespeare which he found "splendidly bound and gilt, but unread and worm-eaten in a noble person's library" :

"Through and through the inspired leaves,
Ye maggots, make your windings;
But oh! respect his lordship's taste,
And spare his golden bindings."

Dr. Parnell has already been quoted in his native tongue at considerable length, but he evidently did not find the vernacular sufficiently expressive for his purpose, as appears from the following quotation which I make from Mr. Blades' *Enemies of Books*: "Pierre Petit, in 1683, devoted a long Latin poem to his" (the book-worm's) "dispraise and Parnell's charming ode is well known. Hear the poet lament:

'Pene tu mihi passerem Catulli
Pene tu mihi Lesbiam abstulisti.'

And then: 'Quid dicam innumeros bene eruditos,
Quorum tu monumenta tu labores
Isti pessimo ventre devorasti.'

While Petit, who was evidently moved by strong personal feeling against the 'invisum pecus,' as he calls him, addresses his little enemy as 'bestia audax' and 'pestis chartarum.'"

I have referred to the tendency displayed by all writers on the book-worm to "drop into poetry," and can only explain it by the hypothesis that the highest degree of consciousness of the most gifted worm is at least on a plane with the lowest degree of human sub-consciousness. It seems not improbable that a book-worm gorged with the choicest literature in prose and verse might be able to communicate in a sub-conscious manner with his human antitype. An objection to this hypothesis is the fact that the poetry thus evoked is minatory or even damnatory to the book-worm himself; but this may be in expiation of his crimes. Whatever may be the correct explanation of the fact, the writer has found it impossible to resist the impulse to contribute his quota to the poetry of the book-worm.

Sitodrepa panicea!
Whether worm thou art, or flea,
Matters not, for, culpa mea!
Thy *existence* is my shame.
Had I not my books neglected,
They had never thee protected;
Now, alas! too late ejected,
I can only curse thy name.

Easy said, but hard as German,
Thou polysyllabic vermin,
Is thy name, so long in learnin',
So obnoxious to my verse.
Shall I call thee Sito, Pani,
Drepa, Cea, Pite or Sani,
Or some word in Hindustani?
Any name will do to curse!

