

I have recently had the opportunity of trying cresol in a small outbreak of the most severe bacillary dysentery I have ever seen, probably a Shiga infection, with most satisfactory results.

As to the brand of cresol used. Cresol is a mixture of meta-, para-, and ortho-cresols derived from crude carbolic acid. This mixture constitutes cresylic acid, but it is probable that various preparations contain varying amounts of the three constituents. These various preparations masquerade under different names, and are emulsified in different ways. Some of these preparations I have seen are highly unsuited for internal use, and seem to me to consist chiefly of crude carbolic acid. It is stated that para-cresol is a powerful poison.

A good variety of cresol for internal use should be thoroughly miscible with cold water, producing an emulsion resembling much watered milk. No globules, however minute, of tarry fluid should remain in suspension, this being generally a characteristic of the inferior brands. The preparation in other words should make a perfect emulsion.

It should have a slight, not unduly pungent, tarry taste, but should not taste at all of carbolic acid.

Preparations forming a thin watery, very slightly milky, fluid, should not be used internally. These are generally of the crude carbolic type.

I have used preparations of phenyl which conformed to these conditions and seemed quite suitable, but the great majority of the cases whose treatment is outlined in this paper have been treated by a brand called "Sanitol" which seems very suitable. I do not know the maker's name.

I expect Cyllin and medical Izal would prove equally suitable.

I hope that this paper will induce others to try a method of treatment which seems to me very promising; and which, if carried out carefully and when experience has been gained, will, I believe, reduce the mortality of cholera to well under twenty per cent., and that with a simplicity of treatment suitable to the conditions under which cholera so frequently occurs amongst Indian labour and villages.

Should the conditions be more favourable, a combination of some such treatment as this with transfusion or some other method of introducing fluid, may hereafter be found to be the ideal one.

*Postscript* (23rd June, 1924).—Since writing the above paper, within the past month or so, 87 cases have been treated by this method, with 23 deaths, a case-mortality rate of 26.2 per cent.

For purposes of classification, these cases may be divided as follows:—

(1) Collapsed cases, with pulse imperceptible when first seen. Of these, there were 24 such cases with 12 deaths; a mortality of 50 per cent.

(2) Semi-collapsed cases, with pulse extremely weak and thready, but perceptible when first seen. Of these, there were 36 cases with 11 deaths; mortality 30.5 per cent.

(3) Cases with no collapse. Of these there were 10 such cases with no death and no mortality.

Increasing experience shows the necessity of persevering with the treatment, even when a weak pulse to begin with is followed by complete collapse after treatment has been begun. It also shows the necessity for not lowering the amount and frequency of cresol administration too quickly; in such cases a transient return of the pulse may be followed by fresh disappearance of a most insidious character, with perhaps no further vomiting or diarrhoea. I now continue administration at two-hourly intervals on the day after the attack, and at three or four-hourly intervals the day following that.—*F. J. P.*

#### ON SPIDER-LICK, A DERMATOZOOSIS.\*

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THE popular notion of the aetiology of the condition called spider-lick stands naked and unashamed in its title and is expressed in the following citation from a letter to the writer,—“for a long time we thought it must be due to some sort of cobweb flying about in the air.” The inoffensive spider, which in India at any rate is man's friend, has been “arraigned” on false evidence and convicted of battery and assault. Nevertheless by the same token the specificity of the condition has been well recognised;† pathologically it is an escharmosis which may proceed to destruction of the dermis.

Clinically it is of some importance, as troublesome and perhaps alarming sores develop, sometimes very severe, and if in the neighbourhood of cellular tissue considerable swelling may result, or serous membranes may be involved, as for instance the conjunctiva (*see* Plates I and II) and great injection ensues. In some parts of India—in Assam for example—the complaint is very common.

But some intuitive minds have revolted against the popular notion of the spider connection. Thus Mr. Duff of Messrs. Bird & Co., Calcutta, and General Manager at Raipur in Gangpur State (Orissa), suspecting a certain insect, “tried two on his arm and after 3 or 4 days both ‘took,’ resulting in very nasty sores which took some time to heal.” Then a lady patient of Dr. Ramsay's at Labac, Cachar, who had suffered herself was convinced, correctly as it turned out, that an ‘insect,’ specimens of which she sent, was the culprit; and similarly some of Dr. Norrie's patients at Naihati have considered that the trouble was caused by an insect well known to them in all but name. Moreover similar lesions have been recognised by officers on duty in the jungles on the Bombay side as being caused by ‘blister-beetles.’

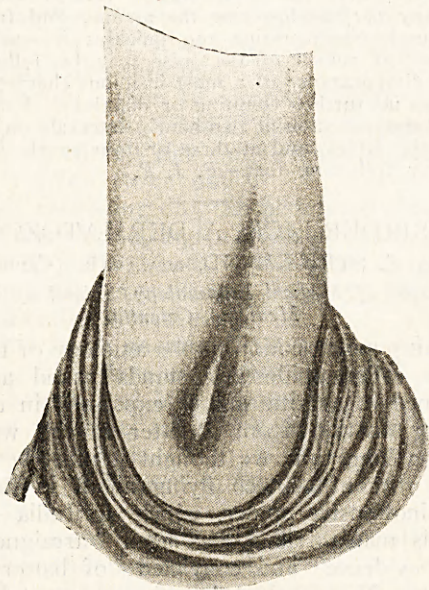
\* Being a paper read at the Medical Research Section of the Indian Science Congress, 1924.

† “One Indian doctor however described it as ‘bad eczema.’” How often when a misdiagnosis is made, is the epithet ‘bad’ attached to it,



Dr. Ramsay himself has reported that the condition conforms to the text-book descriptions of the dermatozoosis caused by 'blister-beetles,' but that he had tried to produce vesication through the agency of many of the numerous beetles prevalent in the locality without success.

PLATE I.



The medical profession has of course been long cognisant of the vesicating power of certain families of beetles, the best known of course being the *Cantharidæ* to which the Cantharid beetles,

PLATE II.



or *Epicauta* species belong; these families being grouped by Physalix (1920) into *Coleopteres vesicants* and *Coleopteres bombardiers*.

The chief families among the bombardiers are the *Staphylinidæ*, *Carabidæ*, and *Dytiscidæ*. Species in the former group secrete a vesicating fluid from a gland in the neighbourhood of the 'knee-joint,' while the *Coleopteres bombardiers* have pouch-like secretory glands opening on the pygidium, or last abdominal segment, and from them a fluid is thrown out *pro re nata*, sometimes with great force (hence 'bombardiers') by the evagination of the secretory pouches. The fluid ap-

pears to be odoriferous and very volatile and is probably asphyxiant, the mechanism being defensive rather than offensive. Mr. Duff describes how an insect behaved when "placed with a flying-ant. A great fight ensued and in a very short space of time the flying-ant was laid out; the beetle showed remarkable footwork and the 'knock out' appeared to be done with its tail"—(N. B. where the glands lie)—"the insect darting in and out with great rapidity."

The Staphylinids in England are commonly known as Devil's coachmen. They are relatively long and narrow, and would probably often be taken for earwigs from which however they can be distinguished by the absence of pincers at the posterior end. They are chiefly characterised by the shortness of the elytra (*see* Plate III) under which the membranous wings are folded in an

PLATE III.



orderly fashion when in repose. The last abdominal segments are very mobile so that the tip of the abdomen can be almost bent over to touch its dorsal surface. In fact the vaginated pygidial pouches can touch the last articular membrane.

In India no species of Staphylinid has previously been connected with 'spider-lick,'\* but Mr. Duff's specimens, sent by Mr. Kirkpatrick of Messrs. Bird & Co. through Major Acton, I.M.S., which the writer first had the opportunity of seeing, were *Pæderus fuscipes* of the family. This species was also sent by Dr. Norrie (through Major Stewart, I.M.S.).

It is a species about 6 mm. long and of a brilliant brown colour except for the elytra, head, and tail, which are azure blue. (*See* Plate III.)

The results of a few experiments carried out by the writer to establish its connection with the dermatitis were as follows:—

1. On several occasions the insect was allowed to crawl freely on the skin of different persons, but nothing ensued.

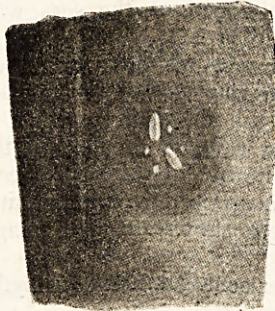
2. On one occasion it was harried without being touched but nothing ensued.

\* However, *Pæderus fuscipes* has been connected with a form of gastro-intestinal irritation (*v.* Castellani and Chalmers, 1919).



3. Experiment of 22-6-23. The same insect was rubbed on the arm of a volunteer. 23-6-23, no lesion visible. 24-6-23, a few small erythematous papules. (See Plate IV.) 25-6-23, some of the papules were vesicular.

PLATE IV.



4. Experiment of 4-7-23. A specimen of *P. fuscipes* was gently rubbed on the forearm of a volunteer with no after-effects. 19-7-23, the same process was repeated with no results.

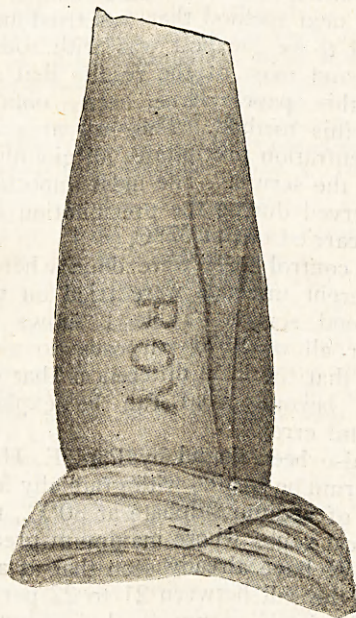
5. Experiment of 4-7-23. The specimen was rubbed on the arm of another volunteer in which case slight erythema resulted which lasted for two days.

19-6-23. The alcoholic extract of about a dozen specimens of *P. fuscipes* which had been kept in the museum was painted on the arm of Dr. Roy, the writer's assistant, in the form of his name.

20-6-23. No reaction observed.

21-6-23. Erythema in the form of Dr. Roy's name visible. (See Plate V.)

PLATE V.



22-6-23. Papular and vesicular.

24-6-23. Eruption started to fade and after ten days normal was reached.

*Treatment.*—The condition should naturally be treated with some emollient, or where much tumefaction has occurred in loose cellular tissue, by hot fomentations.

*Prophylaxis.*—This is a problem of some difficulty and must be based upon the biology of the insect. It would be difficult to prevent the access of the insect to the human subject, for its long thin sinuous body enables it to crawl even through the meshes of a mosquito net, as the writer found to his discomfort recently when travelling by steamer in the Assam Valley. The insect is strongly attracted by light and doubtless, when it is very prevalent, it would be useful to have a decoy lamp in a suitable position. Perhaps an insectifuge of some sort would be effective, but as culicifuges even against worse enemies have not much vogue, it would not do much good to recommend them.

The writer hopes at a later date to be enabled to study the breeding grounds of the species and some more practicable suggestion may thereby emanate. This year, when the clinical observations had been completed, it was impossible to obtain any further supplies of the insect.

*Epidemiology.*—Spider-lick evinces itself in seasonal outbreaks. In Bengal they appear during the hot dry months, and subside on the advent of rains. In Assam it is reported that the season lasts from October to April, and certainly the writer saw swarms of these insects in the Assam Valley early in the month of October, but he saw very few under the same conditions in November.

Coolies on tea gardens never seem to be attacked and this may be due to the fact that they do not have bright lights in their *bustees* at night as do Europeans in their homes. The general evidence goes to show that the insect is not prevalent during the rains or in the coldest months and these seasons separate two periods during which spider-lick may occur.

## SUMMARY.

'Spider-lick,' one of the minor horrors of India, is a common, troublesome affection of the skin occurring at different periods of the year, and is caused by *Pæderus fuscipes*, one of the Staphylinid beetles.

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- Physalix, 1920.—*Animaux Venimeux et Venims*. Masson et Cie, Paris.  
Castellani and Chalmers, 1919.—*Manual of Tropical Medicine*. Baillière, Tindall and Cox.

## THE GLOBULIN CONTENT OF THE SERUM IN KALA-AZAR.

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It is a well-known fact that normal blood is absolutely laked by the addition of distilled water, and the hæmolysis, depending on the disruption of the corpuscular spongioplasm, is so complete