

usually quite willing to give himself a fair chance of recovery. So far as I can judge, the treatment is more efficacious if begun early; if delayed beyond a certain time it is of no use, at any rate in the case of adults. In childhood it has seemed to me that the restorative power is greater. I have seen a few cases of restoration of a damaged heart when no treatment but rest was adopted, and even one or two in the absence of a sufficient amount of rest, but my experience tells me these cases are few. Among children rheumatism is not infrequently devoid of pain. A sore throat, a little fever, some aching in limbs, perhaps a few largish spots on the skin, may be all that indicates an attack of rheumatism which, if unobserved, may leave the heart crippled. I advise you to examine the heart carefully in all such cases. Lastly, two brief cautions: If your patient's heart after rheumatic endocarditis appears to have become normal under treatment, warn him to avoid active or violent exertion for two or three months, and also to take every precaution against another attack of rheumatism. If that recurs within three months, the heart is almost certain to be again involved.

### ON THE RESTING POSITION OF ANOPHELES.

BY  
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MAJOR RONALD ROSS AND MR. E. E. AUSTEN, in the report of their expedition to Sierra Leone in August, 1899, laid great stress on the position taken by mosquitos when resting. They considered the attitude taken to be a character of easy recognition and of great importance in distinguishing the malaria-bearing mosquitos of the genus *Anopheles* from those of the genus *Culex*, which so far seem foreign to the spread of human malaria.

Mr. Austen, in the natural history report of the expedition, says:

It was noted that they always choose the darkest spots in which to rest, and sit in a highly characteristic attitude, their bodies being maintained at an angle of at least 45° to the surface..... It frequently happens that the tips of the palpi are in contact with the wall on which the insect is resting, and the body is elevated so much that it is practically at right angles to the surface, so that the insect appears as if standing on its head. Owing to this extremely characteristic resting attitude of *Anopheles*, it would be impossible for anyone who had once seen a specimen at rest to mistake it for a *Culex*; for the latter, when at rest, allows its body to hang down vertically. Since, as already stated, so far as we know at present, *Anopheles* alone (and not *Culex*) carries the malaria parasite, the practical importance of this distinction is evident.

The statement that the relative positions assumed by *Culex* and *Anopheles* are so strikingly different is erroneous, and it is to be regretted that it has been incorporated in all recent literature on malaria, because it is likely to linger long in the writings of copyists.

When we first came to the Roman Campagna this year we observed thousands of *Anopheles* in the houses and stables of Ostia, Maccarese, Fiumicino, and other intensely malarial places, but none of them ever assumed the position described by the members of the Liverpool Malarial Mission. These *Anopheles* belonged to the species *claviger* (Fabr.), which is by far the most common in Italy. They were usually found in the darkest corners, not infrequently beneath tables and chairs or behind pictures. On painted ceilings they were generally found on the darker colours, which protected them best. A very favourite haunt were the cobwebs, especially in the stables, the ceilings of which were always heavily curtained. But wherever found the *Anopheles* never stood on their heads, but rested on their feet with the posterior part of their body slightly inclined away from the support on which they were resting. The inclination of the body was less when the insect rested on its three pairs of legs and formed a maximum angle of about 45 degrees when it poised on the two first pairs and stretched out the last pair free. Both *Culex* and *Anopheles* frequently sit with the last pair of legs lifted away from the support. But whilst the legs of *Anopheles claviger* stretch out with the tarsi pointing downwards, those of the various species of *Culex* which came under our observation presented the tarsi curled upwards in a very characteristic manner.

Professor Grassi, in his admirable memoir on malaria, published on June 4th, 1900, reproached Ross with inaccuracy and

described very differently the position assumed by *Anopheles*. His description answered exactly to what we had observed ourselves in *Anopheles claviger*.

Lately, having brought up a number of *Anopheles pseudo-pictus* from larvæ collected in the neighbourhood of Castel Fusano, we observed that in this species of *Anopheles* the body forms a much wider angle with the surface of support. The angle is so wide at times that one might almost be justified in saying that the insect holds its body perpendicular to the wall. It is evident, therefore, that the observations made by Ross and Austen in Sierra Leone were quite correct, but that unfortunately these two authors erred in extending to the whole genus a character which is peculiar to a few species which they had observed only in *Anopheles costalis*.

We have also studied the position assumed by *Anopheles superpictus* in specimens which Professor Grassi kindly brought to us from Southern Italy and we have found that they take a position similar to that of *Anopheles claviger*.

Although the resting attitude of mosquitos loses all the importance attributed to it as a diagnostic character between the *Culex* and *Anopheles* genera, it will always be of value in the differentiation of species, and it is to be hoped that scientific observers in different parts of the world will likewise study the attitudes assumed by other species.

### ANTISTREPTOCOCCUS SERUM IN PULMONARY TUBERCULOSIS.

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SOME authorities assert that, if the evening rectal temperature in a patient suffering from pulmonary tuberculosis exceeds 100.4° F., the case is one of mixed infection, that is to say, streptococci and other pyogenic organisms are taking part, along with the tubercle bacilli, in the destructive process in the lungs. In that case one might expect that antitoxin treatment, aimed at the destruction of these accessory micro-organisms, would prove beneficial, and as the following case records a trial of this method, it may be worthy of being put on record.

To summarise the case which is under treatment at the present time, it may be stated that there is extensive softening of both lungs, though no cavity formation has yet taken place; the duration of the disease is apparently only a few months; the average evening temperature—when no antipyretic remedy is administered—reaches 102° to 103°, the pulse-rate has ranged from 84 to 112 per minute, and the respirations from 24 to 30 per minute.

The following is the extended history:

B.S., aged 18, dressmaker, admitted to the Consumption Sanatorium, Bridge-of-Weir, on June 28th, 1900, complaining of cough, debility, night sweating, and loss of flesh, of only a few months' duration to patient's knowledge.

*Family History.*—An aunt, a sister of her father, died of consumption; but no other relative suffered from tuberculous disease as far as patient is aware.

*Personal History.*—She considers that she was always regarded as delicate, though she had no serious ailment until the onset of the present one. Menstruation commenced in her 15th year, and was regular until two months ago, but has been in abeyance since. Patient dates her first symptom of ill-health from three months ago, when she began to feel her strength failing, and found she was easily fatigued. A month later cough first became a troublesome feature attended with a yellowish expectoration; this led her to consult her medical attendant, who pronounced her to be suffering from consumption. Coincidentally night-sweating was complained of, and though somewhat profuse at first, was latterly less so. There has also been a gradual loss of flesh and diminution of vital power, with progressive loss of colour. For a month at the onset she was entirely confined to bed, but of late was in the habit of rising for an hour or two each day. There has not been any severe hæmoptysis, and only occasionally a streaking of the expectoration with blood has been noticed; otherwise sputum has been yellow and fairly abundant according to patient's own statement. Breathlessness has been present on exertion, and at times a severe pain is experienced in the left side of the chest. About a year ago patient got employment as a dressmaker, but her work was light and was given up shortly before the onset of the present complaint owing to domestic circumstances. Eight of a family occupied a room and kitchen dwelling, and three sisters shared patient's sleeping apartment.

*Present Condition.*—She is considerably emaciated; face pale, with an expression of marked enfeeblement; fingers tapering but not distinctly clubbed; skin is warm and moist; voice indicative of debility; pupils dilated but react to light and on accommodation. Pulse small, soft, and compressible, numbers 112 per minute. Respirations shallow, number