MALARIA IN SURINAM

By Dr. A. E. Wolff (Paramaribo)

In Surinam malaria is moderately endemic in the coast region and severely endemic in the interior. In the coast region tertian and quartan types prevail, although the estivo-autumnal form is also found there. In the interior, however, estivo-autumnal malaria definitely predominates.

In Surinam the principal vectors of the malaria are: Anopheles tarsimaculatus, especially in the coast region and in the outskirts of the capital city; A. darlingi in the interior, in the Wayambo and at the coast near the estuary of the Marowijne.

Morbidity curves show regularly a small peak about the end of the short rainy season (which is from the middle of November to the middle of February) and a sharp peak after the beginning of the long rainy season (from middle of May to the middle of August).

A. The capital city of Surinam, Paramaribo (population 1941: 56,233) is practically free from malaria. In the rural outskirts that are gradually being linked to the city, malaria does occur. Malaria is being brought into and preserved in these outskirts by farmers coming from elsewhere to settle near the city. Near Paramaribo estivo-autumnal malaria prevails, though tertian and quartan types are not unknown in these outskirts. Coronie, a district at the seaside, is also almost free from malaria, and this is also the case with the vicinity of Republick, a village along the railway leading inland.

B. Among the regions with very low malaria incidence must be mentioned: the Nickerie district a large area along the Saramacca river up to Croningen, and some parts along the Cottica river the immediate environment of the Joden savannah by the Surinam river, though the Anopheles tarsimaculatus is found in these parts of the Colony.

C. Moderately low malaria incidence occurs: in the lower part of the Saramacca river from Croningen, in the neighborhood of the capital; along the railway up to Lelydorp; along the lower course of the Surinam river; along the Commewyne river and, in the environment of Moengó, the bauxite settlement by the Cottica river.

D. Regions with high malaria incidence are: near Wayombo and Coopena river area; the region near the Marowijne river estuary and furthermore mostly the whole of the interior, along the railway from Kwakoeogron, along the upper-course of the Surinam river from Berg en Dal.

Malaria mostly prevails among the bush negroes and the natives in the interior (jungle), as shown by: the easily acquired infection in their surroundings and the spleen, and parasite indexes determined by various physicians who have visited those tribes. Spleen rates were found varying between 100 and 20. Actual morbidity and mortality data about
these groups of population, that are not registered at the registrar's office, are not known exactly.

If the number of malaria cases from rural districts for various years and the number of malaria patients treated in the large Government Hospital in the capital, are compared with the deaths in the Government Hospital, in the city of Paramaribo and in the rural districts. A certain correlation will be evident showing that some value may be attached to these data.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of cases in the rural districts</th>
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</thead>
<tbody>
<tr>
<td>1932</td>
<td>8902</td>
</tr>
<tr>
<td>1933</td>
<td>9656</td>
</tr>
<tr>
<td>1934</td>
<td>6574</td>
</tr>
<tr>
<td>1935</td>
<td>5861</td>
</tr>
<tr>
<td>1936</td>
<td>7635</td>
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<td>1937</td>
<td>6911</td>
</tr>
<tr>
<td>1938</td>
<td>8489</td>
</tr>
<tr>
<td>1939</td>
<td>5200</td>
</tr>
<tr>
<td>1940</td>
<td>5266</td>
</tr>
<tr>
<td>1941</td>
<td>7054</td>
</tr>
</tbody>
</table>

(population):
- Europeans: 419
- Others: 1,146
- Natives: 26,168
- British Indians: 39,062
- Neth. East Indians: 31,086

Total: 97,881
Treated in the Government City Hospital........ 67 106 88 53 101 78 67 54 52 56
Deaths from malaria in the Government Hospital 4 4 4 2 7 8 1 8 3 5
Deaths from malaria in Paramaribo........... 11 14 13 7 13 9 7 11 12 15
Deaths from malaria in rural districts........... 67 59 31 19 31 39 44 51 48 43

In Surinam general mortality is registered by the Public Health Service according to the real population of Paramaribo and of the rural districts. Most of the deaths from malaria in Paramaribo, however, still occur in people, who, although officially residing in the city, became infected in the rural districts or in the jungle and not in the city.

Studies of malaria in Surinam have been made by P. C. Flu in 1912 and C. Bonne in 1924. More recently (1940) there has been published a report of the research work by Prof. Dr. N. H. Swellengrebel and E. Van der Kuyp during 1938-1939. (Not available in Surinam owing to the war.)

Besides the natural factor i.e. rainfall other conditions which may have promoted the spread of malaria a few years ago, may be considered here.

It may be accepted that the medical inspection and treatment of the plantation laborers during the years of economical crises (about 1932 and 1933) were not so intensive as in former years when these were working more regularly and in larger numbers as contract workers.

On many plantations the supplying of quinine to the free laborers and members of their families may be far from ideal. These Netherlands East Indian laborers who do not work under contract, who generally do not appreciate the regular and official medical treatment, may have wandered from one place to another in the country more frequently during bad times so that the carriers among them may have spread the malaria parasites very easily over various regions. The spread of the estivo-autumnal type may have been promoted even by some city inhabitants, who tried to find employment in the jungle but who returned ill to the outskirts of the city or other districts. It is not too much to assume that in this way the economical crisis has, to some extent, influenced the spread of malaria.

PALUDISMO EN SURINAM (Sumario)

En Surinam el paludismo es moderadamente endémico en el litoral e intensamente endémico en el interior. En la costa predominan las formas terciana y cuartana, aunque no falta la estivo-autumnal, en tanto que en el interior la estivo-autumnal es la preponderante. En Surinam los principales vectores son: el
Anopheles tarsimaculatus sobre todo en la costa y cercanías de la capital de la colonia (Paramaribo), y el An. darlingi en el interior, en la región de Wayombo y en la costa cerca del estuario del Marowijne. La morbilidad revela periódicamente una pequeña cúspide hacia el final de la estación lluviosa corta (de mediados de abril a mediados de febrero) y un pico agudo después de entrar la estación lluviosa larga (de mediados de mayo a mediados de agosto). Paramaribo se encuentra casi exenta de malaria, pero en los distritos rurales que se van uniendo gradualmente a la ciudad, sí existe la dolencia.

NOMENCLATURA CIENTÍFICA DE LOS MEDICAMENTOS

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En la medicina todas las enfermedades tienen sus nombres científicos, dejándose para los curanderos y personas indociles las denominaciones vulgares. En cuanto a la designación de los medicamentos no se ha llegado a tanto, aunque todos los nombres científicos, tanto para las enfermedades como para los medicamentos, son derivados del griego antiguo y del latín.

A fin de contar con una nomenclatura científica para los medicamentos sería conveniente:

(1) Suprimir todos los nombres vulgares y sustituirlos por los científicos: Por ej, en vez de Albayalde, Carbonato de Plomo; Litargirio, Oxido de Plomo; Calomel, Cloruro de Mercurio; Magnesia Calcinada, Oxido de Magnesia; Sublimado, Bicloruro de Mercurio; Aguardiente alemán, Tintura de Jalapa Compuesta; Sal Inglesa, Sulfato de Magnesia.

(2) Utilizar las denominaciones que correspondan a los elementos y al latín: Natrio (Natrium—Na) en lugar de Soda o Sodio (Soda ha sido el nombre antiguo para el Carbonato de Natrio en general); Kalio (Kalium—K) en lugar de Potasa o Potasio (El nombre Potasa es derivado del alemán Pottasche (Pott = Olla; Asche = Ceniza) y quiere decir el residuo en la olla de la solución de ceniza en agua después de la evaporación del agua); Argento (Argentum—Ag) en vez de Plata; Hidrargiro (Hydrargyrum—Hg) en vez de Mercurio; nombre derivado del dios del mismo nombre; Estibio (Stibium—Sb) en vez de Antimonio; Ferro (Ferrum—Fe) en vez de Hierro; Sulfuro (Sulfur—S) en vez de Azufre.

En muchos vocablos castellanos ya aparece la raíz latina, por ejemplo: Natrio en Natriómetro; Argento en Argenticero; Hidrargiro en Hidragiria, Hidràrgiro; Estibio en Estibiato; Ferro en Ferroso; Sulfuro en Sulfato, Sulfúrico.

(3) Como en los medicamentos formados de un metal, metaloide o alcaloide con un ácido, los primeros, como Calcio, Magnesia, Quinina, son los más importantes por su valor terapéutico, así como en su reacción