

ANOPHELES ARABIENSIS IN THE CAPE VERDE ARCHIPELAGO

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A new seventh member of the *Anopheles gambiae* complex endemic to the Cape Verde archipelago has been described by Ribeiro *et al.* (1979) with the name *Anopheles (Cellia) quadriannulatus* ssp. *davidsoni*. The proposal of the new taxon is based on biometrical comparison with materials of the six known species of the *gambiae* complex. According to the results of these comparisons the specimens from Cape Verde Islands are characterized by partially diagnostic differences and are morphologically nearer to *An. quadriannulatus* and species D than to the other four members of the complex. The paper does not include comparisons with material of the *gambiae* complex from the nearest localities in the West African coast, such as Dakar in Senegal. No genetical data are provided on the new taxon. *An. quadriannulatus davidsoni* appears to be the only member of the *gambiae* complex occurring in the archipelago and it is described as highly antropophilic and endophilic (Ribeiro *et al.*, 1979, 1980).

As stressed by various authors (Coluzzi, 1964; White, 1974), morphological characters are of limited value in the taxonomy of the six sibling species of the *gambiae* complex, which were recognized by crossing experiments and chromosomal studies (see Coluzzi *et al.*, 1979, for references and for details on chromosomal differences).

Genetical studies and particularly polytene chromosome investigations are still essential for a reliable identification of the members of the *gambiae* complex and they should be also considered essential for a reliable description of a new taxon in this group of mosquitoes, at least in absence of fully diagnostic morphological differences. In the attempt to provide genetical data on the new taxon of the *gambiae* complex, samples from different localities of

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the Cape Verde archipelago were obtained by the senior author and utilized for the chromosomal observations reported in the present paper.

The material consists of fourth stage larvae and of adult females which were fixed in ethanol/acetic acid (3:1) and processed for polytene chromosome examination following the technique of Hunt (1973). Localities and dates of the collections are listed in Table 1 with the results of the chromosomal observations.

All the specimens identified were *Anopheles arabiensis* with the following chromosomal constitution: Xbcd, 2Rab, 2La, 3Ra/+, 3L. This chromosomal constitution is the most common in the samples of *An. arabiensis* from the Dakar area (Pikine) kindly provided by Dr. J. Vercruysse. Moreover, the inversion polymorphism 3Ra/+ (the only one recorded) is also very common in the Dakar material.

TABLE 1

RESULTS OF CHROMOSOMAL EXAMINATIONS OF *Anopheles gambiae* S.L. FROM CAPE VERDE ARCHIPELAGO

Island and locality	Date	Material	Number examined	Number identified	Species
Ilha de Santiago	20/7/81	adults	5	5	<i>An. arabiensis</i>
Ilha de Boa Vista-Rabil	13/10/81	larvae	8	3	<i>An. arabiensis</i>
Ilha de Fogo-Mosteiros	21/10/81	larvae	3	3	<i>An. arabiensis</i>
Ilha de Fogo-Mosteiros	29/10/81	larvae	5	4	<i>An. arabiensis</i>
Ilha Maio-Morro	31/10/81	larvae	3	none	

The results of the chromosomal investigations do not support the naming of a new taxon of the *gambiae* complex in the Cape Verde archipelago. On the contrary these data indicate that the Cape Verde material belong to *An. arabiensis* and suggest that this malaria vector has been introduced in the islands from the nearest continental area (Dakar). Even taking into account the possibility of a subspecific differentiation of the Cape Verde population, due to genetic drift and isolation, such population should be treated as a subspecies of *An. arabiensis* and its differentiation should be primarily demonstrated by comparisons with material of *An. arabiensis* from the Senegal.

The identification of *An. arabiensis* in the Cape Verde archipelago is in

agreement with the bionomical data available for *An. gambiae* s.l. from these islands and this identification was already suggested by Cambournac *et al.* (Relatorio do Grupo de Estudos do Instituto de Higiene e Medicina Tropical em Colaboração com a Brigada de Luta Contra o Paludismo em Cabo Verde, 1979, unpublished document).

RIASSUNTO

Larve e alate del complesso *Anopheles gambiae*, raccolte in diverse località delle Isole di Capo Verde, sono state esaminate per mezzo dello studio dei cromosomi politenici. Tutti gli esemplari esaminati sono risultati *Anopheles arabiensis* con una costituzione cromosomica corrispondente a quella comunemente osservata in campioni della stessa specie provenienti dalla zona continentale più vicina (Dakar, Senegal). Non è stata ottenuta alcuna identificazione in favore della presenza nelle Isole di Capo Verde di una nuova entità del complesso *An. gambiae* (*An. quadriannulatus davidsoni*).

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