large and a small target is in the size or extent of the convention currents emanating from it.

A 300-ml. round-bottom flask was set neck-downwards in the floor of a still-air observation chamber[3], containing female malaria mosquitoes of demonstrated avidity. When the flask was covered with moistened black cloth and filled with warm water, and the insects were activated by breathing momentarily into the chamber, they flew about and congregated just below the roof about 75 cm above the bulb; but none of them made its way down to it and no alightments were observed on it. When a circle of black paper was placed on top of the flask so as to break up the narrow column of ascending air, several of the insects flew down and alighted on the bulb.

In a separate experiment, the physical form of the convection currents was made visible by moistening the surface of the bulb with concentrated hydrochloric acid and placing a small dish of ammonia nearby. This generated an ammonium chloride smoke which was photographed as shown in Fig 1 (left and right).

The fact that *A. aegypti* can utilize a current like that in Fig. 1 (left) while the anophelines required the pattern of Fig. 1 (right) would be explicable even if both species had similar sensory apparatus, provided the 'time constant' of the sensor was considerably longer in *Anopheles* than in *Aedes*. We are attempting to verify this.

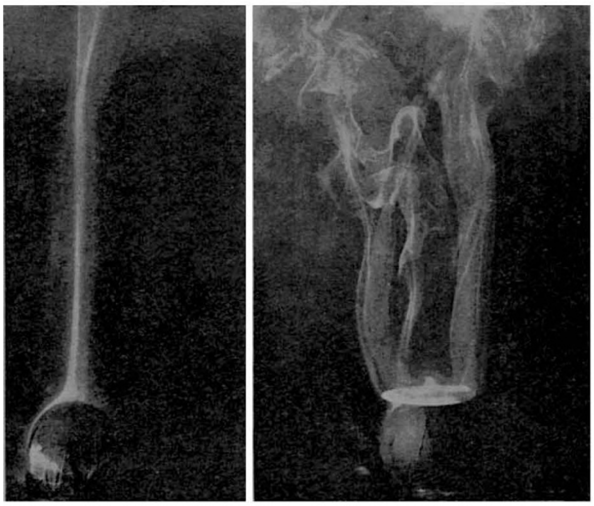

Fig. 1

The specificity with which certain species of mosquito confine their attack to particular hosts has probably been exaggerated, and there is good evidence that opportunity as determined by life history and habits is more important than chemistry in determining the prey[4]. At the same time, there is considerable evidence for a size effect in deciding the choice between alternative hosts when both are present[5].

Evidently the actual physical manner in which olfactory or other air-borne cues are presented to a flying insect cannot be neglected.

This work was supported by an extra-mural grant from the Research Branch of the Canada Department of Agriculture.

R. H. Wright
F. E. Kellogg

British Columbia Research Council,
Vancouver 8, Canada.

[1] Wright, R. H., and Kellogg, F. E., *Nature*, **194**, 402 (1962).
[2] Wright, R. H., and Kellogg, F. E., *Nature*, **195**, 404 (1962).
[3] Kellogg, F. E., and Wright, R. H., *Canad. Entomologist*, **94**, 486 (1962).
[4] Muirhead-Thomson, R. C., *Mosquito Behaviour in Relation to Malaria Transmission and Control in the Tropics* (E. Arnold and Co., London, 1951).
[5] Muirhead-Thomson, R. C., *Brit Med. J.*, i, 1114 (1951).

CYTOLOGY

Chromosome Numbers in the Genus *Glycine* L.

During the course of our breeding programme with the introduced forage legume *Glycine javanica* L., a species with great potential over large areas of Queensland[1,2], it was found that certain crosses between some of the most promising varieties failed to set seed. A cytological study showed that this was due to the presence of both diploid and tetraploid forms within the species, with chromosome numbers of $2n = 22$ and $2n = 44$ respectively (Table 1). The previously recorded number of $2n = 20$ (ref. 3) is probably incorrect.

Table 1. Chromosome Numbers in Some Species in the Genus *Glycine* L.

Species	Identification No. *	Seed source	Diploid chromosome No.
Sub-genus : *Glycine*			
G. javanica L.	*CPI* 12600	India	22
,,	*CPI* 18103	Brazil	22
,,	*CPI* 18419	N. Rhodesia	22
,,	*CPI* 24520	India	44
,,	*CPI* 25422	N. Rhodesia	22
,,	*CPI* 25423	N. Rhodesia	44
,,	*CPI* 25702	Tanganyika	22
,,	*CPI* 25918	N. Rhodesia	22
,,	*Q* 2056	Kenya	22
,,	*Q* 3278	S. Rhodesia	44
Sub-genus : *Leptocyamus*			
G. clandestina Wendl.	*CQ* 528	Queensland	40
G. falcata Benth.	*CQ* 537	Queensland	40
G. tabacina (Labill.) Benth.	*SCS* 2132	New S. Wales	80
,,	*SCS* 2139	New S. Wales	80
G. tomentella Hayata	*SCS* 2105	New S. Wales	40
,,	*SCS* 1708	New S. Wales	40
G. sp.		New S. Wales	40
Sub-genus : *Soja*			
G. max (L.) Merr.	*CPI* 17192	Nigeria	40

* Voucher specimens have been lodged at the herbarium of the University of Queensland.

Chromosome numbers were checked in *G. max* (L.) Merr. (soya bean), and some of the indigenous Australian members of the genus. All the species examined had chromosome numbers of either $2n = 40$ or $2n = 80$ (Table 1). The chromosomes of these species are much smaller than those of *G. javanica*, even allowing for the possible effects of polyploidy on chromosome size.

In his recent revision, Hermann[4] has recognized three sub-genera and ten species in *Glycine* (*sensu stricta*). The sub-genera *Leptocyamus* and *Soja* occur in Australia and Eastern Asia and probably have a basic chromosome number of $x = 10$, while the sub-genus *Glycine* occurs mainly in Africa and has a basic chromosome number of $x = 11$. Although these basic numbers agree with Hermann's division of the genus, the basic numbers within most of the other genera of Phaseoleae appear to be constant[5], and it may therefore be desirable to treat *Leptocyamus* and *Soja* as a distinct genus.

A. J. Pritchard

C.S.I.R.O. Division of Tropical Pastures,
Cunningham Laboratory,
St. Lucia,
Brisbane.

J. G. Wutch

Department of Agriculture,
University of Queensland,
St. Lucia,
Brisbane.

[1] Allan, G. H., *Queensland Agric. J.*, **86**, 273 (1960).
[2] Kyneur, G. W., *Queensland Agric. J.*, **86**, 506 (1960).
[3] Ramanathan, K., *Curr. Sci.*, **19**, 155 (1950).
[4] Hermann, F. J., *U.S. Dep. Agric. Tech. Bull.*, No. 1268 (1962).
[5] Darlington, C. D., and Wylie, A. P., *Chromosome Atlas of Flowering Plants* (Allen and Unwin, London, 1955).