defective plumbing, and daisy drains. These and the information on DDT will be of special value
to persons who may have individual control prob-
lems in areas where there are no publicly sup-
ported mosquito control programs, as well as in
areas where the intelligent co-operation of indi-
viduals can be of great assistance to officially
constituted control agencies.

The other information on specific control
measures is classified under the headings “Fresh
Water Mosquito Control” and “Salt Marsh Mos-
quito Control.” There are also sections headed
“Malaria and Other Diseases Transmitted by
Mosquitoes,” “The Control of Malaria,” “The
Mosquitoes of California,” “Finding Mosquito
Breeding Places,” “Control of Mosquitoes,” “Mos-
quito Control Agencies,” and “Insects Sometimes
Mistaken for Mosquitoes.”

D. L. COLLINS

EXPERIMENTS TO DETERMINE POTENTIAL MOS-
QUITO VECTORS OF Wuchereria bancrofti IN
THE CONTINENTAL UNITED STATES—Walter L.
Newton, Willard H. Wright, and Ivan Pratt.
Amer. Jour. Trop. Med., May 1945.—It is
apparent from the number of dissections made
and the care exercised in evaluating the develop-
ment of the larvae recovered that the authors
have made an intensive study of this problem.
In view of the limited and fragmentary informa-
tion available in the literature: prior to this study,
the results reported upon give the first conclusive
data on the potentiality of some of our more
common species of mosquitoes as vectors of
Wuchereria bancrofti.

While the likelihood of the filarial’s becoming
established in this country is a subject for con-
siderable discussion, the fact remains that a focus
of infection presumably brought from Africa by
slaves persisted in Charleston, South Carolina, for
several years, only recently dying out. In addi-
tion, it is a well-known fact that many of our
armed and civilian personnel have been and
will be stationed abroad in Filaricous foci.
Although the chances of their reintroducing the
parasite in sufficient concentration in one area
to establish a focus are admittedly slight, never-
theless, past experience has proven the existence
of such a possibility.

The data presented by the authors support the
following conclusions:

1. Culex quinquensicatus, C. tarsalis, Psora-
phora congoensis, and Anopheles albimanus
could become excellent vectors of Wucher-
eria bancrofti should the proper conditions
for its spread prevail.

2. Culex nigripalpus, Aedes aegypti, and A.
triseriatus might spread the filaria, although
their low infectivity rates preclude their
becoming major vectors.

3. Aedes pollicatus, A. taeniorhynchus, A.
venatus, Anopheles punctipennis, and A.
quadrimaculatus apparently could not serve
as vectors.

Extra significance may be attached to this in-
formation when it is realized that at the present
time there is no effective treatment known for the
parasite and that the only recourse is, therefore,
the control of the mosquito vectors.

A. D. HESS

HOUSE SPRAYING WITH D.D.T. AND WITH
PYRETHRUM EXTRACT COMPARED: First Results.
R. Senior White 1945: Malaria Inst. India,

Comparative tests of house spraying with
DDT and pyrethrum in highly malarious villages
in the Jessop Hills region in India were con-
ducted by the author, December 1944 to April
1945. This is a preliminary report on work
which is being continued. The village Jumiliguda
with about 50 houses and a spleen rate of 87.8
percent was sprayed with DDT while the village
of Chatikona (spleen rate 98.0 percent) and
adjacent railway colony were sprayed with
pyrethrum extract. The village of Bariguda
(spleen rate of 92.7 percent) was used as a
check.

The Anopheles present were fluviatilis, coroma,
minimus, culicifacies, aequus and jesperrum,
the first three being the local malaria vectors.

In 1942, expensive antlarval measures carried
out with indifferent results for several years
in the railway colony, were entirely abandoned
in favor of pyrethrum spraying 6 days a week.
Pyrethrum supplies were too short to permit
daily spraying of the houses in the larger
program. Therefore the applications were made
twice a week, first skipping two and then three
two days between sprayings and employing 50 per-
cent more of the pyrethrum extract.

In the earlier work ½ ounce of pyrethrum extract
(strength not given) was applied per 1000
cubic feet. Results of the earlier work indicated
that mosquitoes might be coming into the rail-
road colony from the village of Chatikona,
½ mile away, and it was therefore thought
necessary to extend the spraying operations to
that village.

The 48 houses in the village of Jumiliguda
were sprayed with a 5 percent solution of DDT
in grade III kerosene by means of a De Vilbiss
paint gun, set to give as coarse a spray as
possible. About 3 quarts of solution was applied
per 1000 square feet. The wall surface, out-
door verandas, roofs as far as accessible from
below, but not the floors, were sprayed till
wet. Two spray guns served by hand pressure
sprayers covered the 48 houses in 3 days on
the first round and one spray outfit took ½
weeks to spray 50 houses on the second treatment,
including the spraying of the string outs which,
with their Cimes, were removed by the natives
at the first treatment. The houses apparently
have muddied and whitewashed walls and many
have bamboo floored lofts.

Each week mosquito catches and dissections
were made. These showed that the DDT
residual spraying prevented infection in the
important vector species for 8 weeks and materi-
ally reduced their density. Pyrethrum spraying
6 days each week reduced density and longevity.
sufficiently to inhibit gland infection. Density reduction was much less than where DDT was used. Pyrethrum spraying twice a week was ineffective in reducing density and infectivity.

It was found that the cost of the DDT treatment, figuring the DDT at $1.00 per pound, was 20 to 25 times cheaper per capita per week than pyrethrum. This was during December to February, a period of heavy though not maximal transmission.—Fred C. Bishop, Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, U. S. Department of Agriculture.

Details of the Procedure Adopted in Maintaining a Laboratory Colony of Anopheles fluviatilis

By Badri Nath Mohan. Journal Malaria Institute of India, Vol. VI, No. 1, June, 1945, pages 75-76.

A vigorous colony of Anopheles fluviatilis has been maintained for more than a year and the author previously kept a colony for twenty-one months and then allowed it to die. Start was made with wild-caught females confined individually in 4 x 2 cm. tubes plugged with moist cotton covered with filter paper and inserted in a petri dish. The eggs were laid on the filter paper. The eggs were floated in cork rings in enamel basins. Hay infusion and small quantities of litmus milk, two parts, and dehydrated blood serum, one part, or dried brewer's yeast were used as food. The water was aerated daily with a rubber syringe. Lining the basins with mud, dried in the sun reduced mortality.

The pupae were put in a bowl of clear water and kept in the colony stage. This cage was 2 x 2 x 2 feet with a bottom of sheet tin and sides and top of fiber-board except for a sleeve and a 2 x 2 inch screened hole in the top. This was kept in a larger wooden cage and high humidity maintained. Ten per cent glucose water was supplied, and a rabbit with shaved back was introduced nightly into the colony cage. Females took blood reluctantly from rabbits, guinea pigs and fowls but more freely from monkeys. They fed on rabbits more readily after their first oviposition. Bowls of water were supplied for egg laying. The females preferred earth lined vessels for oviposition.

Mating took place only in the presence of blue light. It was felt necessary to have a large number of females in the colony to insure the presence of multiparous individuals and therefore satisfactory feeding and oviposition.—Fred C. Bishop, Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, U. S. Department of Agriculture.