Anopheles gambiae Patton (Cellia)

Strain Name: ZAN/U, MRA-594

Place of Origin: Mwera, Zanzibar

Colonization date: 1982

Established by: Dr. C.F. Curtis

Deposited by: Dr. Frank Collins, Dr. Hilary Ranson

Genotype: 2La/+, 2Rj +/+, TEP1 r/s

Phenotype: polymorphic for c+ (*collarless*); increased Glutathione-S-transferase activity

Karyotype: undefined

Ribosomal DNA form: Savanna

Insecticide Resistance: DDT

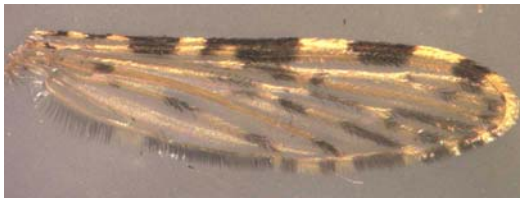
Larval Morphological Traits

Collarless (c+) is caused by a uric acid build-up in the larvae. Expression is often variable but best seen in L4 larvae. ZAN/U is polymorphic for c+

Red stripe-if present, individuals expressing red stripe are female

When reared in a dark pan, larvae with wild-type eye color will melanize when compared to a cohort reared in a white pan.

Adult Morphological Traits



Morphological characteristics of *An. gambiae s.l.* adults.

Authentication Methods used to confirm stock identity

1. Examined immatures for the *collarless* (c+) trait: L4 larvae are polymorphic for c+.
2. Examined the color of the larvae when cultured in a black pan: larvae are melanized when compared to a cohort reared in a white pan.
3. Examined adults microscopically for morphological characters: all individuals had standard features of *An. gambiae* and wild-type eye.
4. Exposed L4 larvae to .4ppm DDT for 24 hours to confirm resistant status. ~100% survival expected.
5. At least 40 mixed ♂&♀ molecularly tested for *An. gambiae* identification and rDNA type. *An. gambiae s.s.* and savanna type expected.

6. At least 40 mixed ♂&♀ molecularly tested for ZAN/U specific SNPs in the white gene.

References referring to this stock:

Hemingway, J. (1983). Biochemical studies on malathion resistance in *Anopheles arabiensis* from Sudan. Trans R Soc Trop Med Hyg 77:477-480

Lines JD, Nassor NS (1991) DDT resistance in *Anopheles gambiae* declines with mosquito age. Med Vet Entomol 5:261-265

Prapanthadara, L.A., Kuttastep, S., Hemingway J, Ketterman AJ (1995) Characterization of the major form of glutathione transferase in the mosquito *Anopheles dirus* A. Biochem Soc Trans 23:81S

Walker, E., A. Thibault, et al. (2007). "Identification of field caught *Anopheles gambiae s.s*. and *Anopheles arabiensis* by TaqMan single nucleotide polymorphism genotyping." Malaria Journal 6(1): 23.

Wilkins, E., P. Howell, et al. (2007). "X and Y chromosome inheritance and mixtures of rDNA intergenic spacer regions in Anopheles gambiae." Insect Molecular Biology 16(6): 735-741.