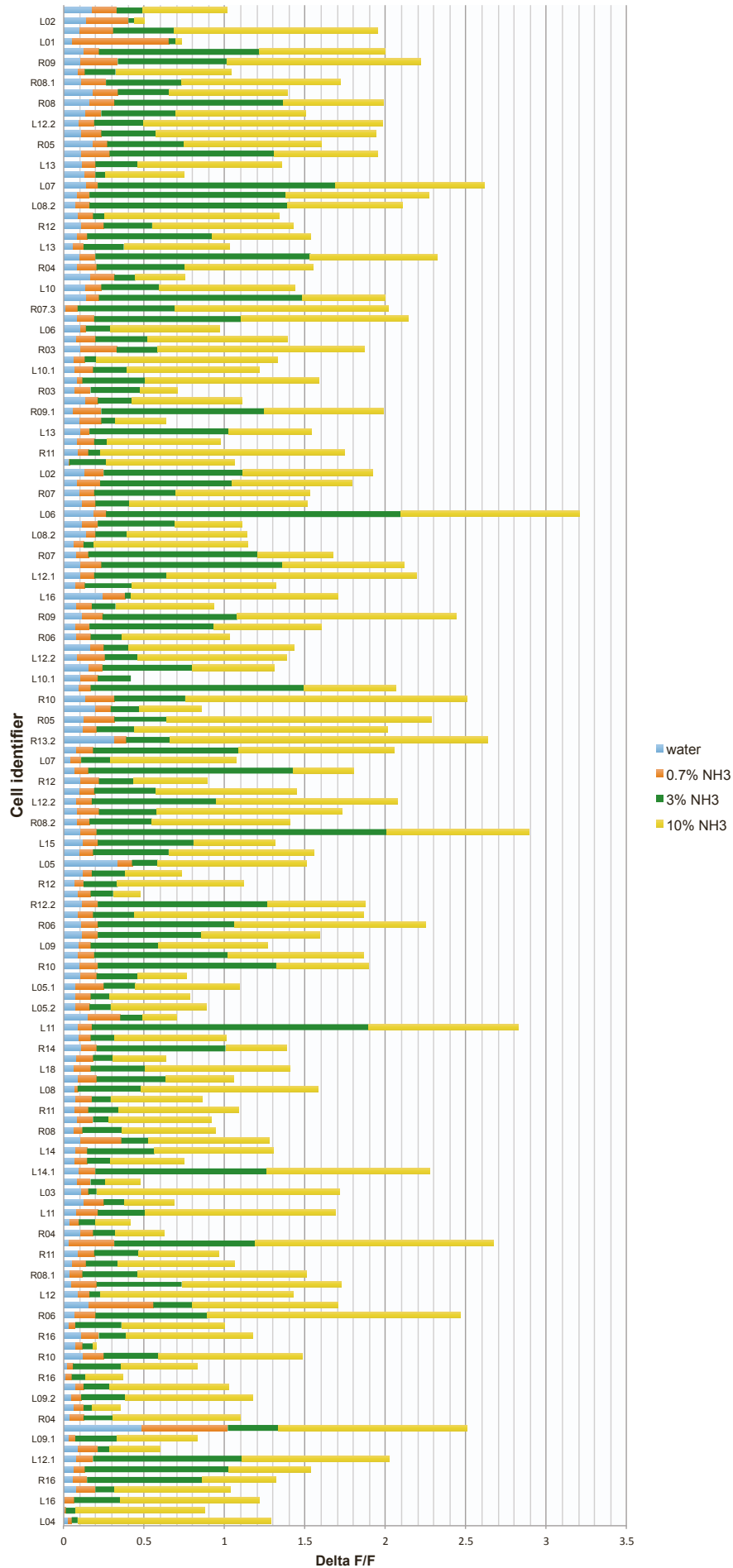


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## **Supplemental information**

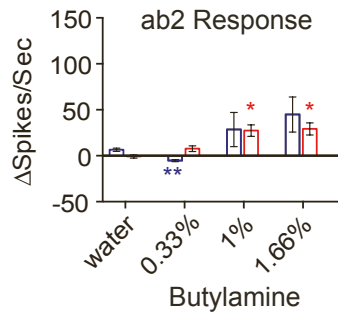
### **Chemosensory detection of aversive concentrations of ammonia and basic volatile amines in insects**

**Jonathan Trevorrow Clark, Anindya Ganguly, Jadrian Ejercito, Matthew Luy, Anupama Dahanukar, and Anandasankar Ray**

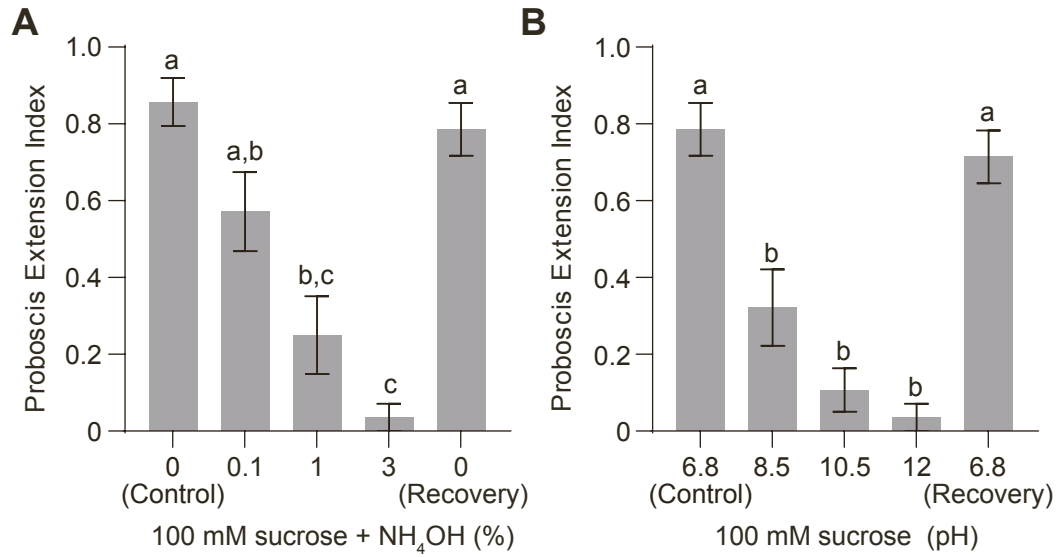


Percentage change in fluorescence intensity of several individual cells from a large number of PUb-GCaMP female *Aedes aegypti* antennae to indicated stimulus (0.5 seconds). Each bar represents response of a single cell. Cells were measured from multiple mosquitoes and all cells measured are shown.

**Supplementary Figure 1, related to Fig 2C , Ca-imaging in *Aedes* antenna**

**A****Figure S2, related to Fig 4, recordings from *Drosophila* ab2 sensillum**

(A) Mean responses (bottom) for a 1-sec period of stimulation from indicated concentrations of butylamine. Blue and red bars indicate responses from A and B neurons respectively. Red asterisk indicates statistically significant differences from the response obtained from the B neuron with water. All recordings were obtained from 3-5 days old wild-type (CS) flies. n=6 sensilla from 6 flies. For each neuron type, 1-way ANOVA with Geisser Greenhouse correction was followed by Tukey's test for multiple comparisons. \*p<0.05.



**Figure S3, related to Fig 5, PER responses suppressed**

(A) PER indices (mean PER response) obtained from wild type (CS) flies upon stimulation of the labellum with 100 mM sucrose alone or mixed with a range of NH<sub>4</sub>OH concentrations. n= 14 flies. Friedman test followed by Dunn's test for pairwise comparison. Error bars indicate s.e.m. Lower case alphabets indicate statistically different groups.

(B) PER indices (mean PER response) obtained from wild type (CS) flies upon stimulation of the labellum with 100 mM sucrose alone (pH 6.8) or mixed with a range of NaOH concentrations to attain the indicated pH values. n= 14 flies. Friedman test followed by Dunn's test for pairwise comparison. Error bars indicate s.e.m. Lower case alphabets indicate statistically different groups.