Measurements made on high-speed videos (250 fps) at 100x of *Salpingoeca rosetta* "slow swimmers"

Length of flagellum

2 Amplitude

2 Amplitude

Legnth of Body

Width of Body

1/2 Wavelegnth

1/2 Wavelegnth

Close to Body

Far from Body

Legnth of Microvilli
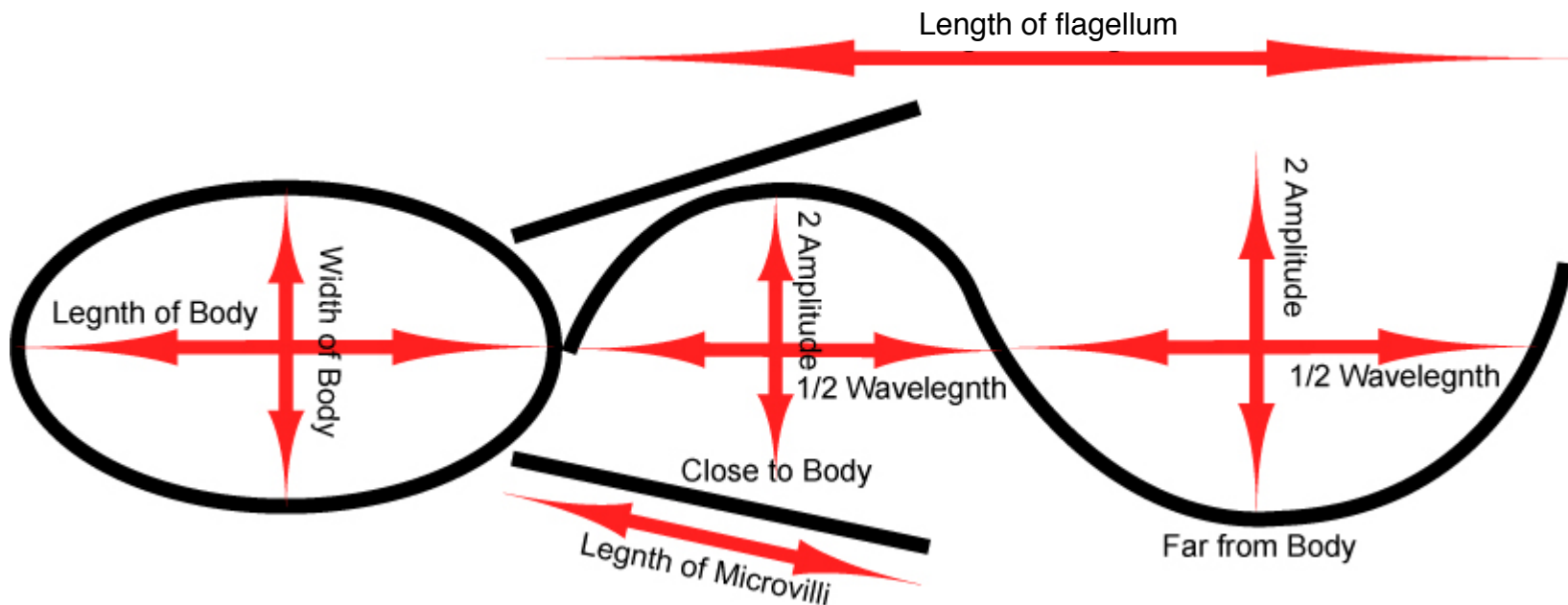
Zeiss Axiovert S100 inverted microscope, phase-contrast illumination
100x 1.3 N.A. DIC objective, 1.4 N.A. DIC condenser
Images from camera port further magnified onto NTSC CCD Watec camera
Videos analyzed using custom software

"Slow swimmers"
Salpingoeca rosetta

Movie	Flagella near body 1/2 Wavelegnth (um)	far from body 1/2 Wavelegnth (um)	near body 2 Amplitude (um)	far from body 2 Amplitude (um)	Speed (Hz)	Legnth (um)	Body Legnth (um)	Width (um)	Collar Legnth (um)
4.9.08 stuck1	4.0	6.2	2.1	3.8	38	12.4	5.1	4.8	7.6
4.9.08 stuck2	2.9	5.9	1.6	4.1	26	14.8	4.4	3.3	n/a
4.9.08 stuck3	4.4	5.7	2.1	2.5	36	11.6	4.9	3.5	4.9
4.9.08 stuck4	4.0	7.9	4.1	7.0	34	16.0	6.0	4.1	8.7
4.4.08 2 are stuck	3.7	4.8	1.9	3.2	20	9.8	4.3	3.7	n/a
"	3.5	4.6	n/a	n/a	22	7.1	5.4	3.7	6.8
4.4.08 1stuck4	3.2	5.2	1.7	2.7	23	8.1	4.9	4.3	4.1
4.4.08 1stuck5	2.9	4.8	1.7	3.0	18	6.7	3.3	3.7	4.0
4.4.08 1stuck6	3.5	5.7	n/a	n/a	25	10.8	5.6	4.6	7.6
4.4.08 1stuck7	3.2	5.2	2.5	4.1	22	9.2	4.9	3.8	4.8
"	4.4	n/a	3.3	n/a	20	n/a	4.0	4.0	4.1
4.4.08 2stuck2	3.2	6.2	2.5	4.0	24	10.6	4.0	2.4	5.4
4.4.08 2stuck3	4.6	5.2	4.0	4.8	24	10.5	5.2	4.8	5.1
"	4.9	3.8	3.0	3.8	16	6.2	3.8	2.7	4.6
4.4.08 stuck1	3.7	6.8	3.5	5.7	26	11.3	4.8	3.5	7.0
4.4.08 stuck2	3.8	4.8	3.5	4.1	23	7.6	3.7	3.7	5.4
4.4.08 stuck3	3.5	4.9	2.2	n/a	10	9.2	3.7	3.0	4.8
4.4.08 stuck8	3.5	7.0	2.9	6.0	25	12.5	5.1	3.7	6.8
4.4.08 stuck9	4.3	6.0	n/a	n/a	28	13.2	5.1	4.0	7.1
4.4.08 stuck10	4.0	5.7	2.9	3.8	26	9.8	5.2	3.5	5.6
Average	3.7	5.6	2.7	4.2	24.3	10.4	4.7	3.7	5.8
StDev	0.6	1.0	0.8	1.2	6.5	2.7	0.7	0.6	1.4

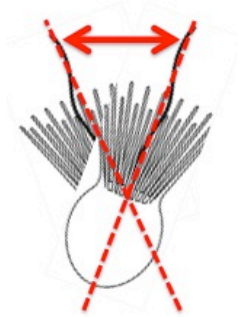Peck, S., Koehl, M.A.R., Fletcher, D.
(unpublished data)

Measurements made on videos (32 fps) at 20x of *Salpingoeca rosetta*

(each mean ± SD is for a different culture, # cells or colonies in each culture ranged from 14 to 61)

Colonies are rosettes. Unicellular "slow" swimmers are ovoid and have a long collar of microvilli.
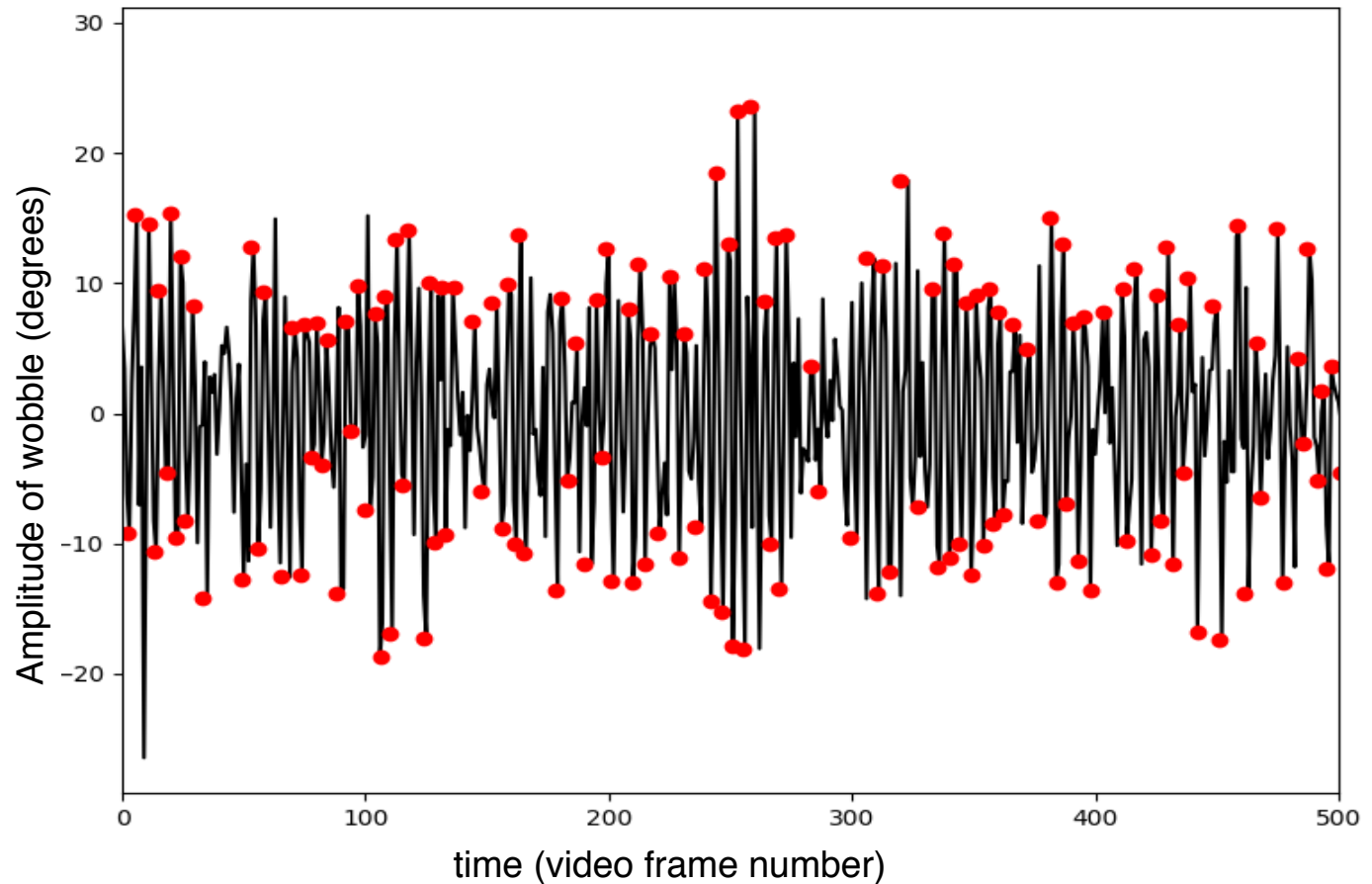Unicellular "fast" swimmers are bullet-shaped and have a tiny collar.
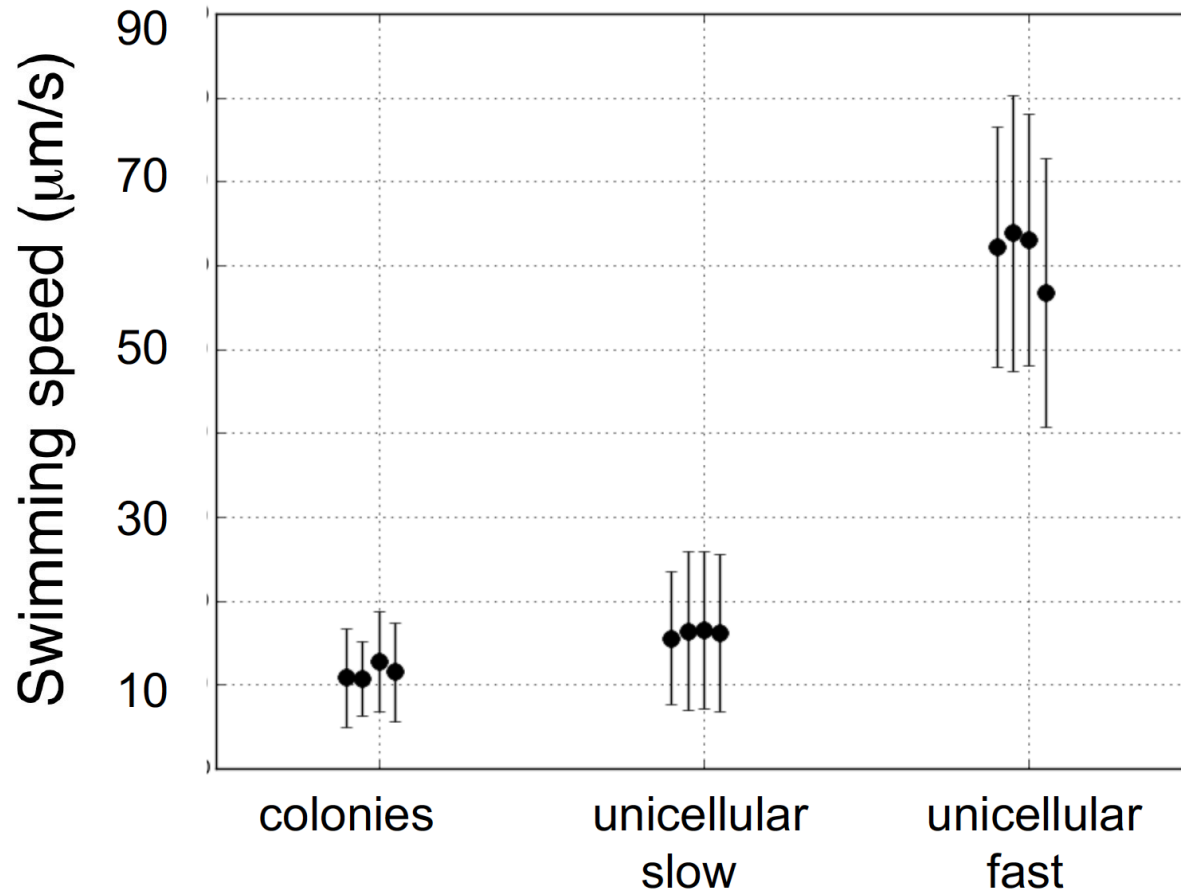
Nikon TE2000e inverted microscope, phase-contrast illumination
CCD camera PCO 1600
Videos analyzed using custom software

Measurements made on high-speed videos (100 fps) at 100x of *Salpingoeca rosetta* of the angular amplitude of the side-to-side wobble of a "slow" swimmer with each beat of the flagellum

mean = 20.4°

SD = 9.2

n = 217 cycles
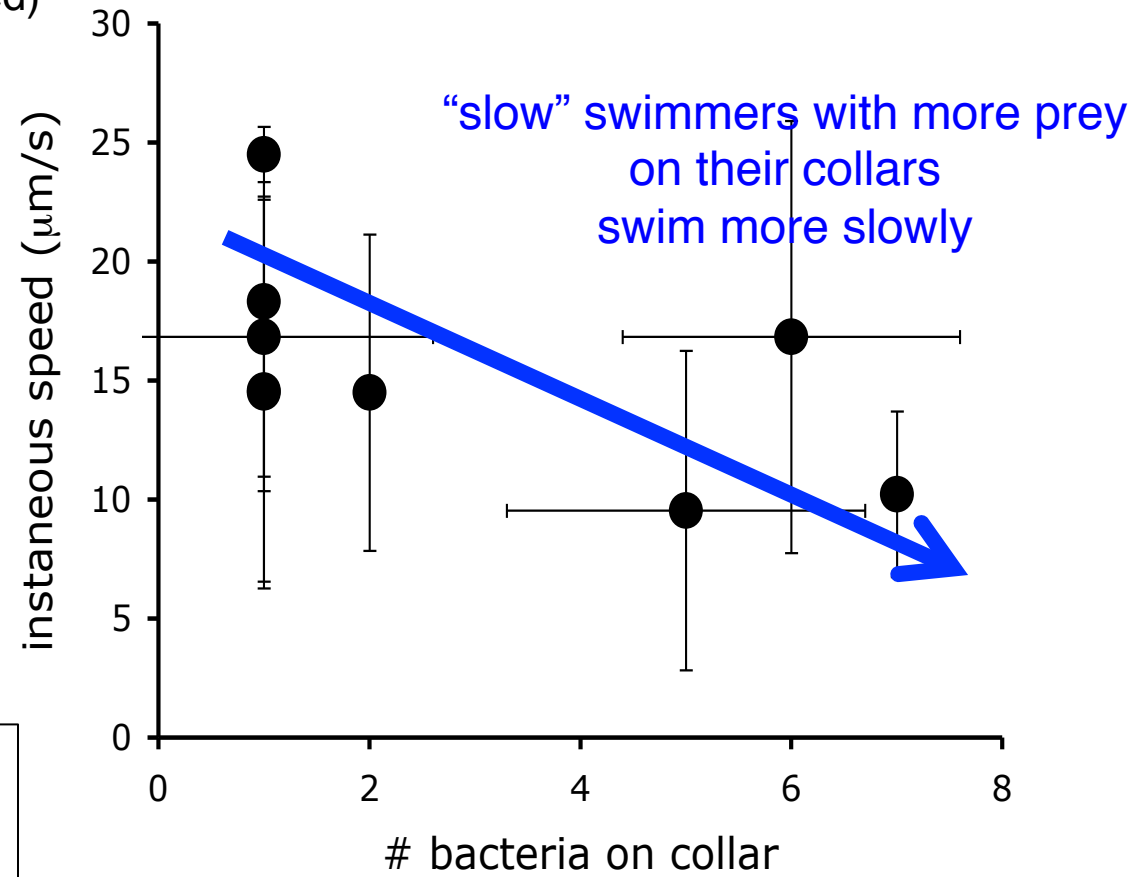
Amplitude of wobble (degrees)

time (video frame number)

Leica DM2500 microscope, phase-contrast illumination
Fastek Hi-Spec 1 camera
Videos analyzed using custom software

Wong,K. Cummings, B, Cooper, T.
and Koehl, M. A. R.
(unpublished data)

Measurements made on videos (32 fps) at 40x of *Salpingoeca rosetta*

(each mean ± SD is for a different individual followed over time, hence the range in prey number & speed)

"slow" swimmers with more prey
on their collars
swim more slowly

instaneous speed (μm/s)

bacteria on collar

Nikon TE2000e
   inverted microscope,
phase-contrast illumination
CCD camera PCO 1600
Videos analyzed
   using Image J
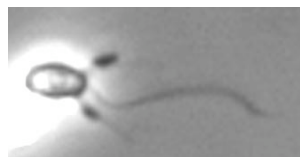
Kendall rank correlation, p = 0.059, n = 8 choanoflagellates
Koehl, M.A.R. and Winoto, E. (unpublished data)