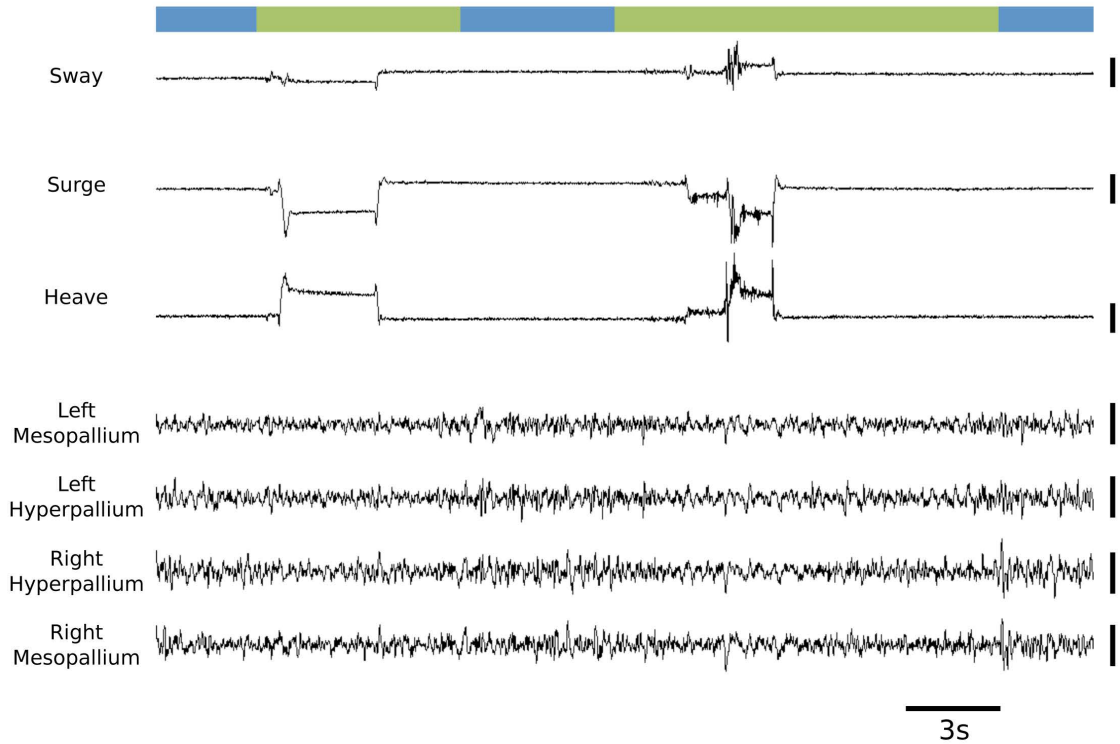


(A)



(B)

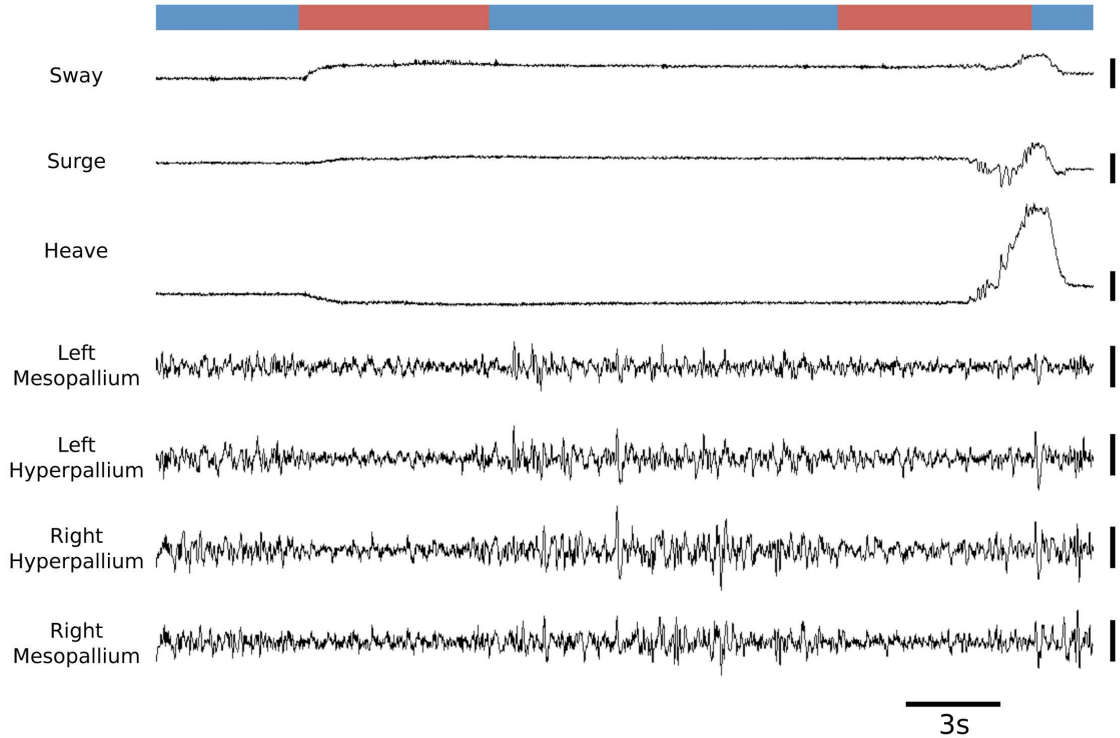


Figure S1. Recordings showing EEG and accelerometry patterns typical of wakefulness (green bar), slow wave sleep (SWS) (blue bar), and rapid-eye movement (REM) sleep (red bar). (A) A period of SWS interrupted by short awakenings. This example starts with a period of SWS characterized by high amplitude slow waves and the absence of movements as reflected in the accelerometer recordings. The waking events are characterized by abrupt head movements indicated by the large deflections in the accelerometry recordings occurring in conjunction with a reduction of EEG amplitude. Between the two waking events the bird returns to SWS, characterized by the return of high amplitude slow waves and absence of movement. The example also ends with a return to SWS after the second waking event. (B) A period of SWS interrupted by two bouts of REM sleep. The example starts with a period of SWS characterized by high amplitude slow waves and the absence of movements as reflected in the accelerometer recordings. The bird then switches to REM sleep characterized by EEG activation and a gradual small backward fall of the head as indicated in the accelerometer recordings. Following the bout of REM sleep the bird returns to SWS and then enters REM sleep again. Toward the end of the second bout of REM sleep the head falls forward and down; the faster components in the accelerometer signal reflect phasic bill movements occurring during the head fall. The bird then lifts its head and resumes SWS. These two examples of REM sleep are representative of the range of head movements observed during REM sleep in pigeons. Each example lasts 30 s. EEG channels are all filtered (high-pass filter set at 1 Hz; low-pass filter at 35 Hz) and scaled similarly across examples. The accelerometry channels are also scaled similarly in both examples. Vertical bars on the right of the EEG denote 100 μ V. Bars on the right of accelerometry channels denote 500 milli g-forces.