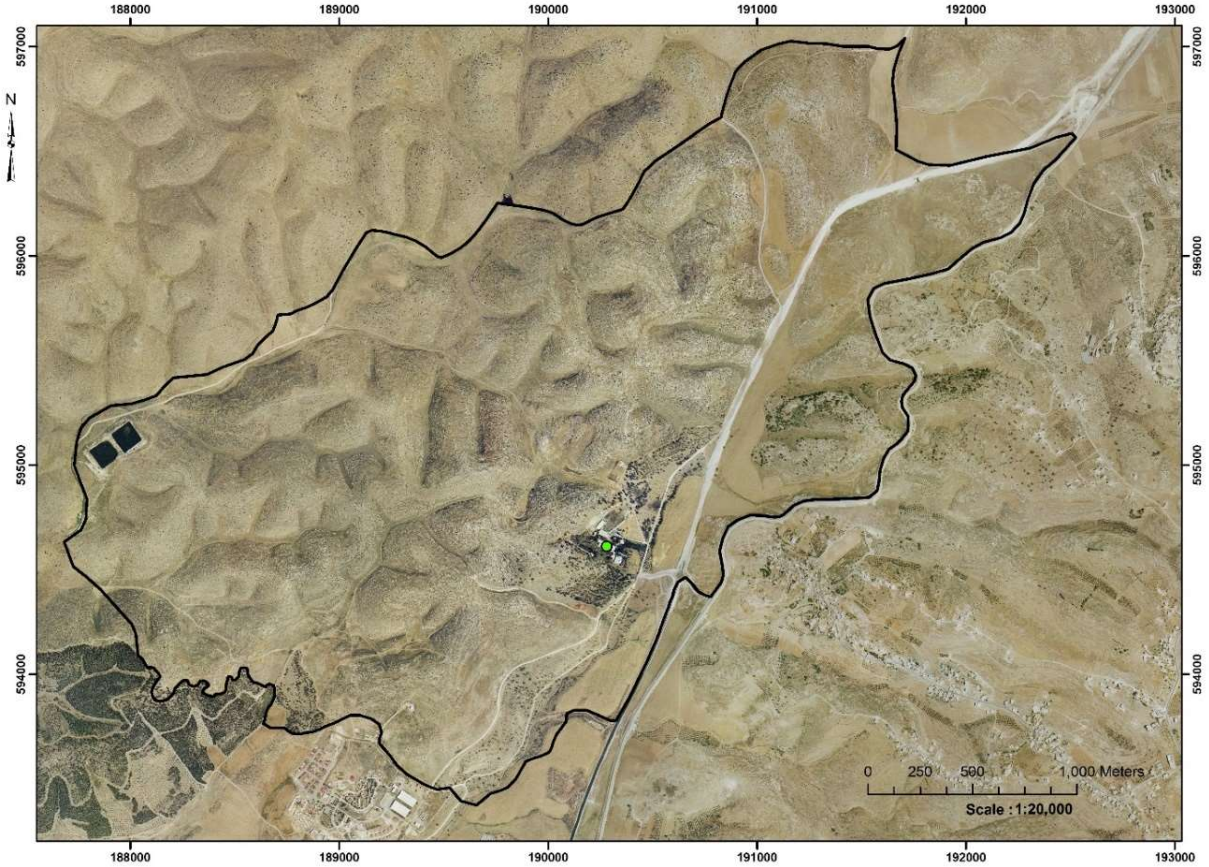
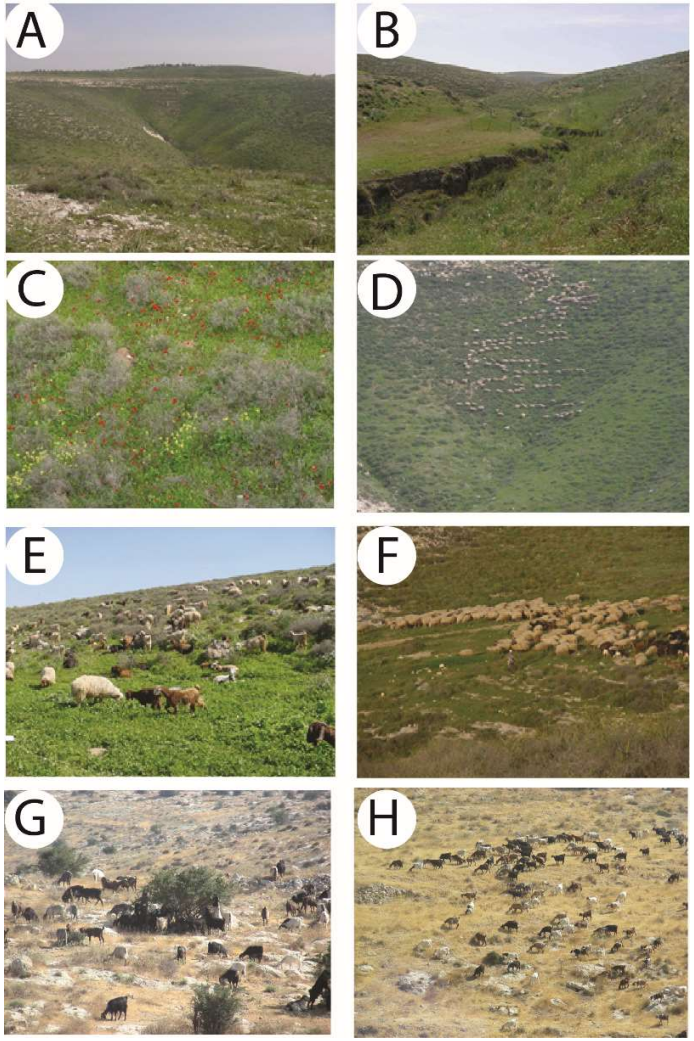
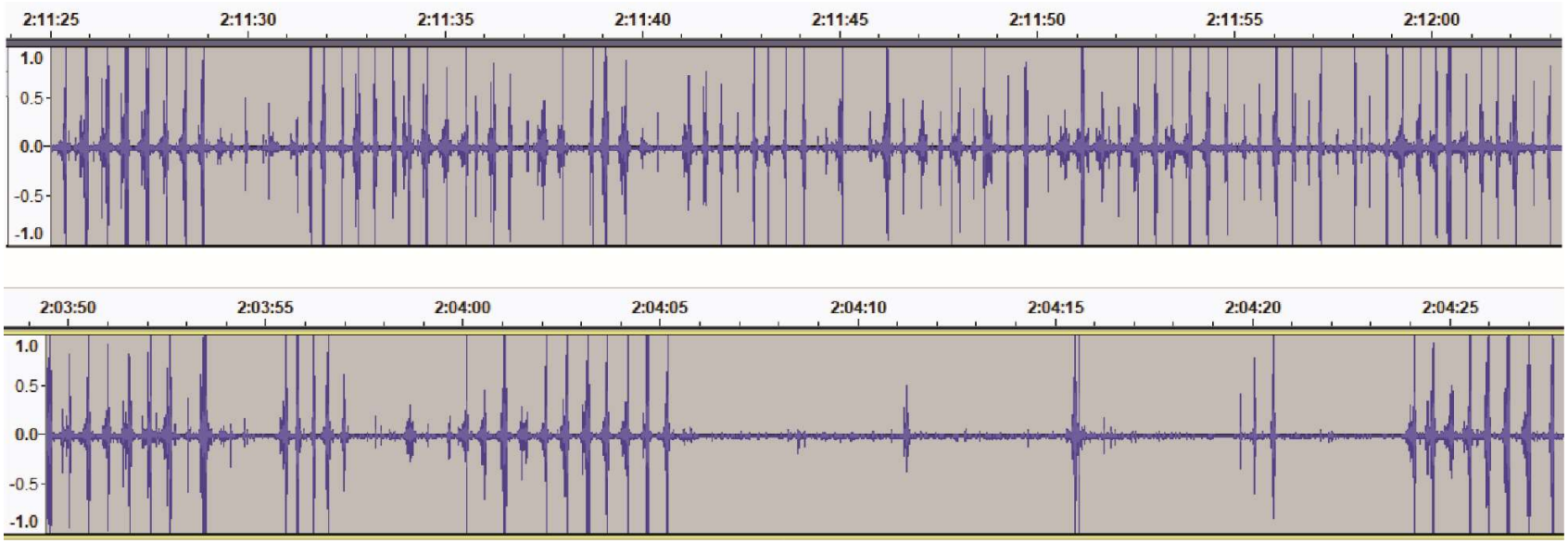
Supplementary figures 1 to 8



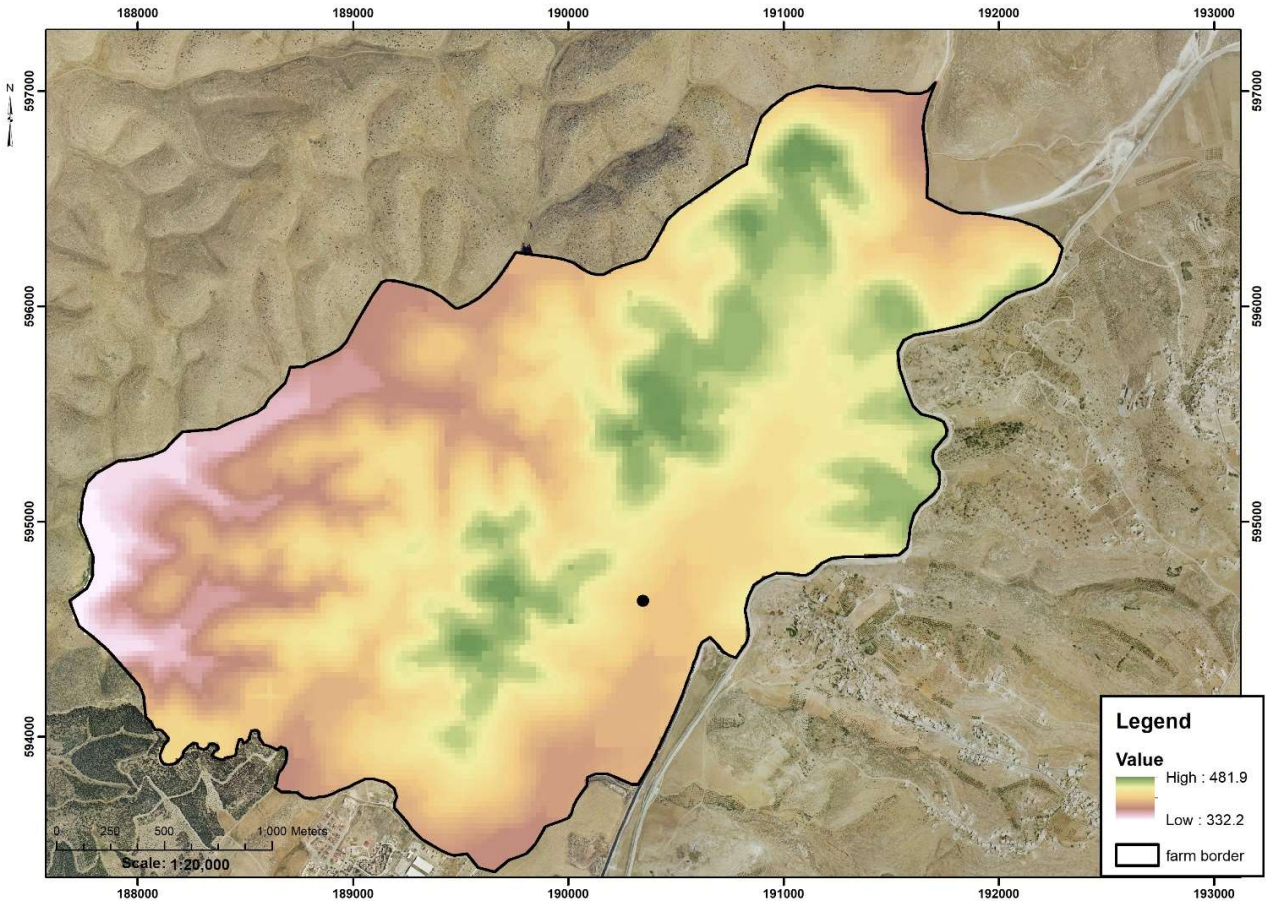
Supplementary Figure S1. Aerial orthophoto of the study site showing the natural topography (Israel TM coordinate system in meters). The black line indicates the homestead perimeter. The green dot indicates the location of the night shed and yard. Distance between tick marks = 1 km. The aerial orthophoto was obtained from the Survey of Israel and is publicly accessible at: https://www.govmap.gov.il/?c=191150.36,595176.88&b=1&sb=7&z=7 (accessed 2 February 2026). The figure was generated using ArcMap version 10.8.2 (Esri, Redlands, CA, USA; https://desktop.arcgis.com/en/arcmap/latest/get-started/main/get-started-with-arcmap.htm (accessed 2 February 2026).



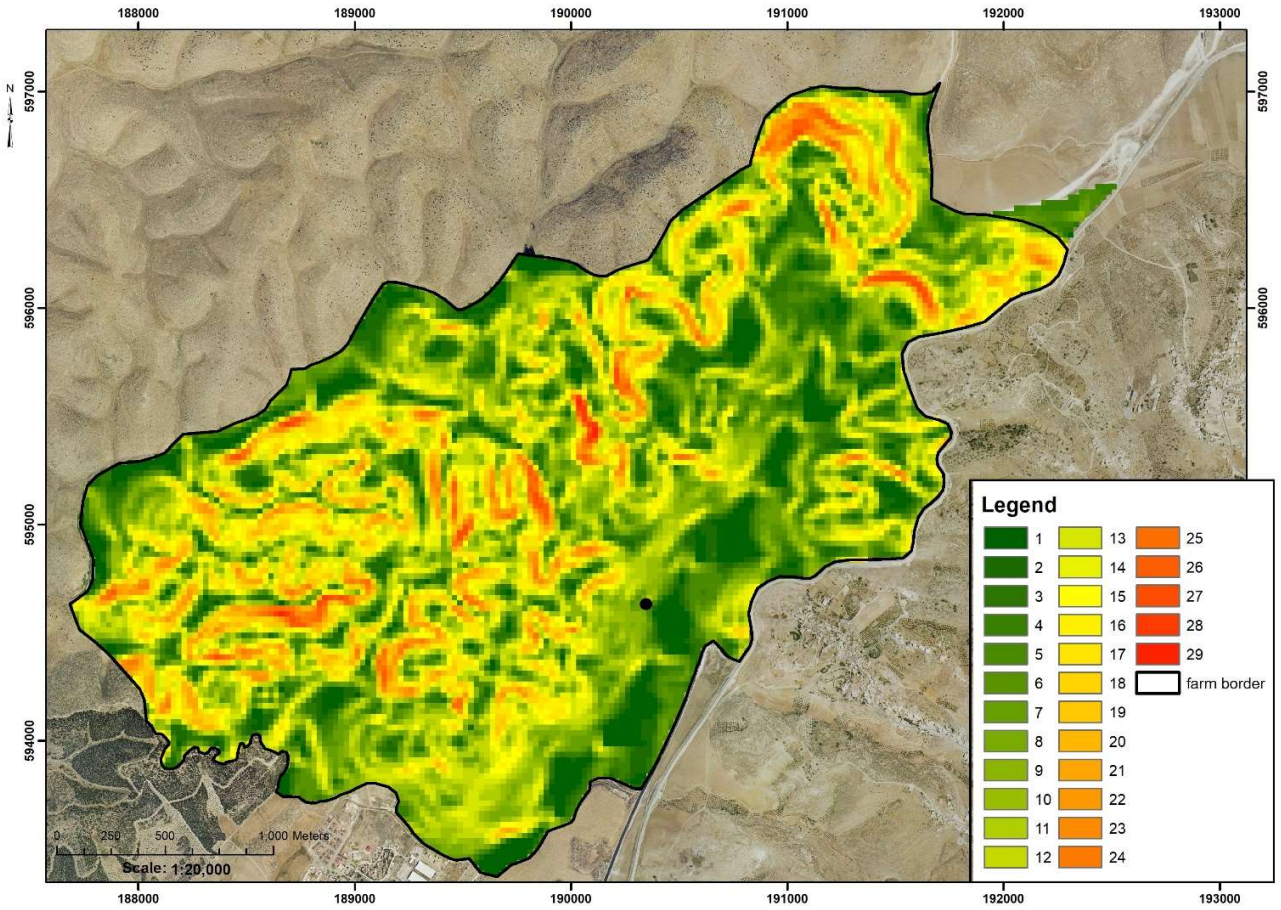
Supplementary Figure S2. Typical landscapes of the study region in the green (growth, wet) season (A—F) and in the dry (senescent) season (G,H).



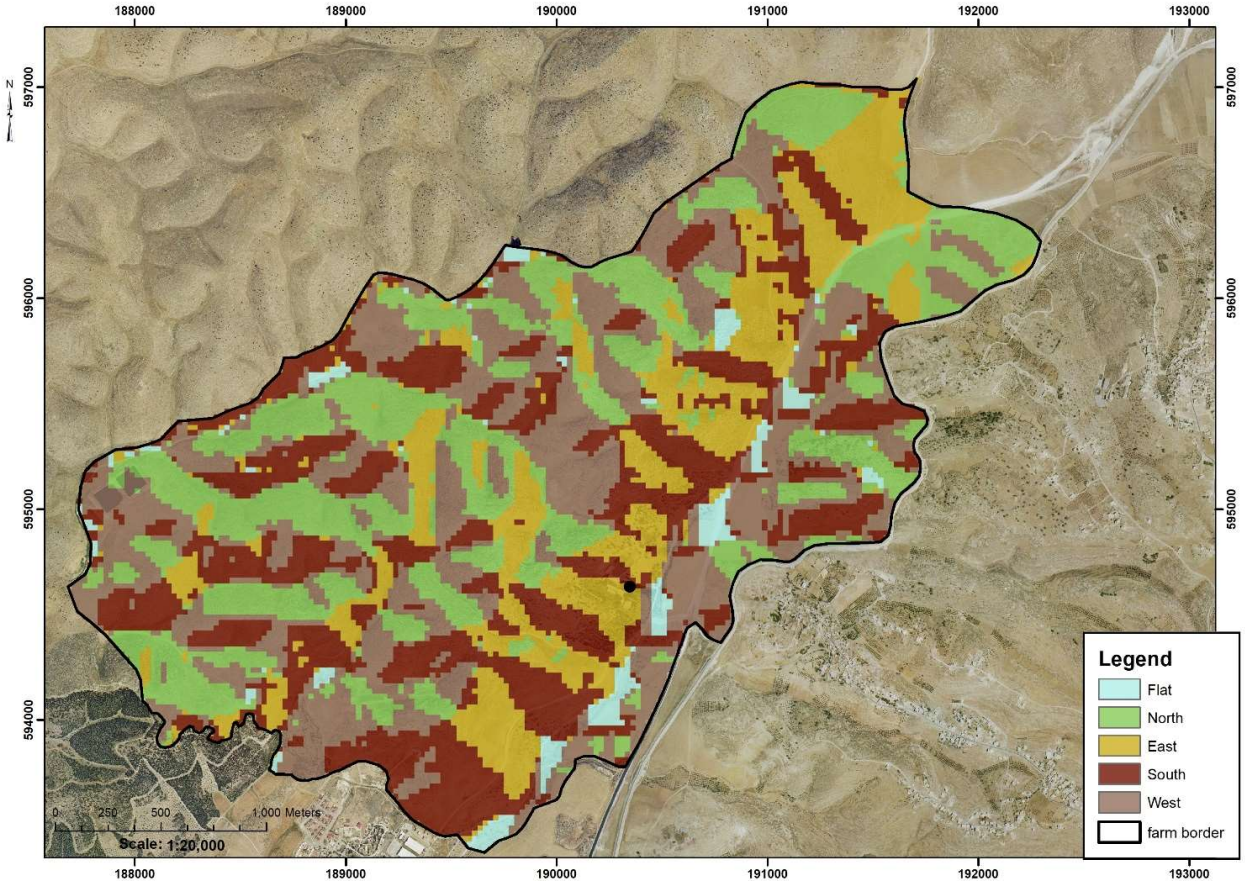
Supplementary Figure S3. Sample waveforms obtained by acoustic monitoring, each of 38 s duration, for uninterrupted, rhythmic jaw activity (top) and for a period with significant interruptions in jaw activity (bottom).



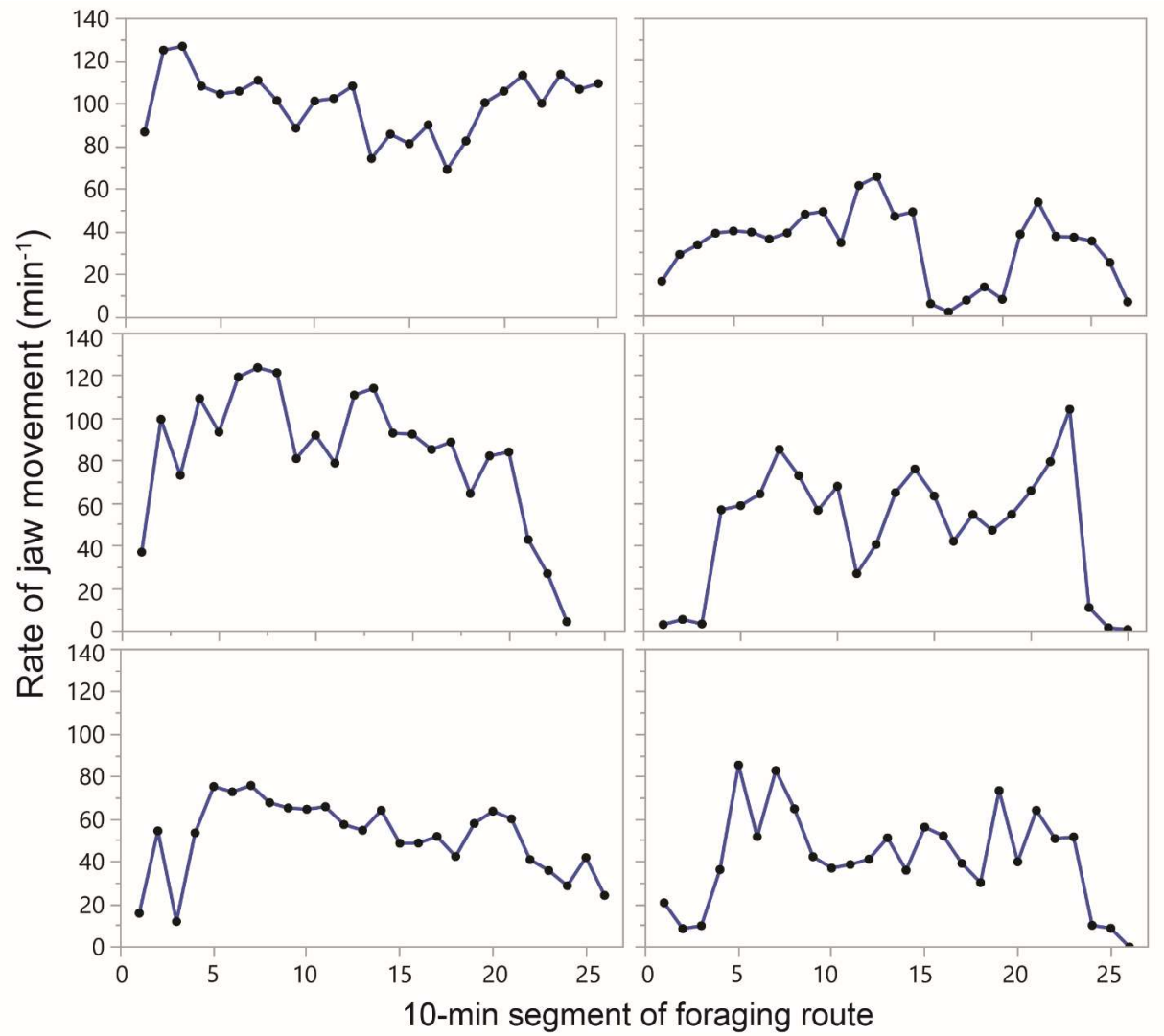
Supplementary Figure S4. Digital elevation map (DEM) of the study site. The DEM was obtained from the Survey of Israel. White is lowest altitude, green is highest altitude. The black dot indicates the location of the night shed and yard (elevation 420 m a.s.l.). Distance between tick marks = 1 km. The aerial orthophoto was obtained from the Survey of Israel and is publicly accessible at: https://www.govmap.gov.il/?c=191150.36,595176.88&b=1&sb=7&z=7 (accessed 2 February 2026). The figure was generated using ArcMap version 10.8.2 (Esri, Redlands, CA, USA; https://desktop.arcgis.com/en/arcmap/latest/get-started/main/get-started-with-arcmap.htm (accessed 2 February 2026).



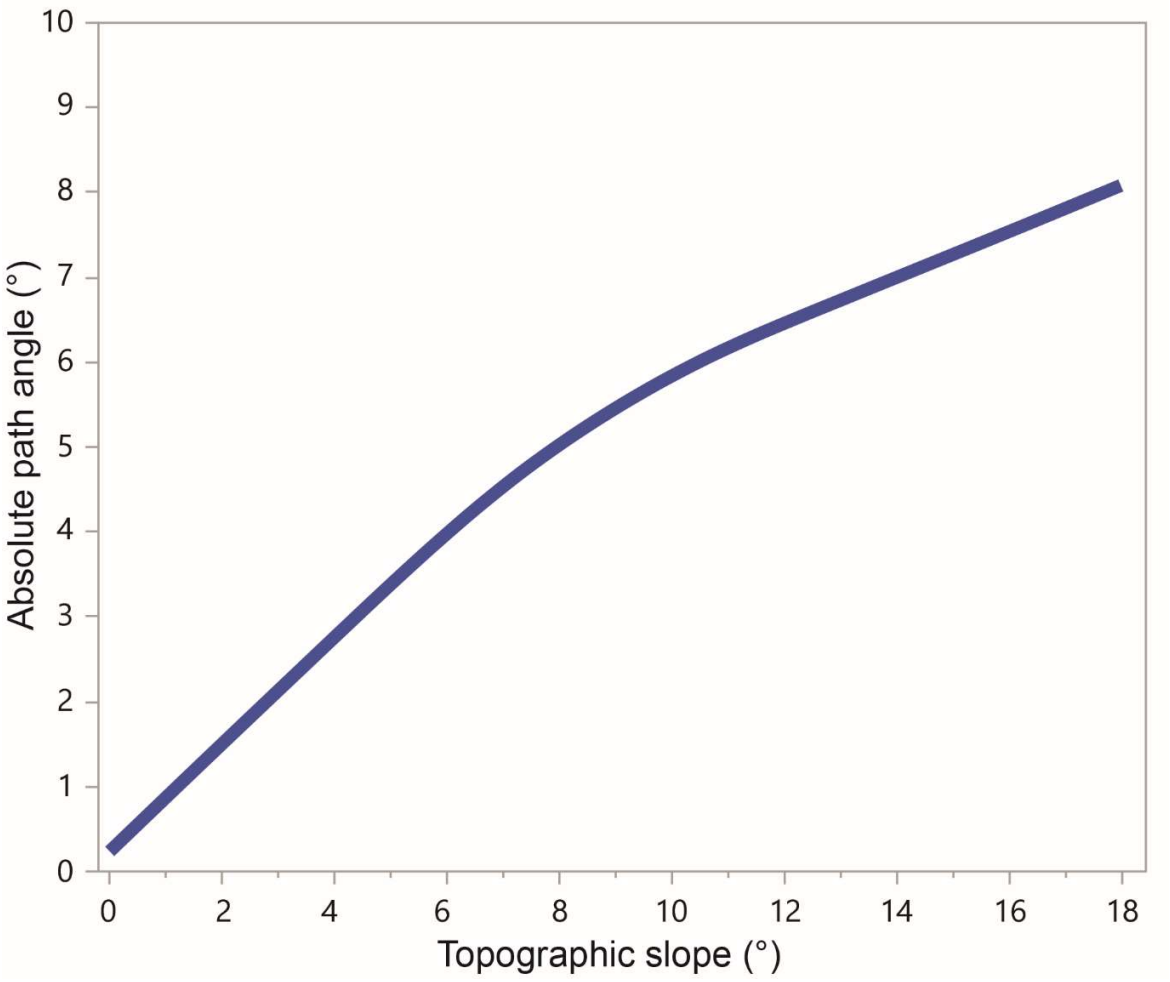
Supplementary Figure S5. Topographic slope (°) across the study site. Distance between tick marks = 1 km. The aerial orthophoto was obtained from the Survey of Israel and is publicly accessible at: https://www.govmap.gov.il/?c=191150.36,595176.88&b=1&sb=7&z=7 (accessed 2 February 2026). The figure was generated using ArcMap version 10.8.2 (Esri, Redlands, CA, USA; https://desktop.arcgis.com/en/arcmap/latest/get-started/main/get-started-with-arcmap.htm (accessed 2 February 2026).



Supplementary Figure S6. Aspect map of the study site following categorization of the continuous-variable aspect used in the analysis. Slopes were categorized as north- (315°–45°), east- (45°–135°), south- (135°–225°) and west-facing (225°–315°). Distance between tick marks = 1 km. The aerial orthophoto was obtained from the Survey of Israel and is publicly accessible at: https://www.govmap.gov.il/?c=191150.36,595176.88&b=1&sb=7&z=7 (accessed 2 February 2026). The figure was generated using ArcMap version 10.8.2 (Esri, Redlands, CA, USA; https://desktop.arcgis.com/en/arcmap/latest/get-started/main/get-started-with-arcmap.htm (accessed 2 February 2026).



Supplementary Figure S7. Contrasting patterns of jaw movement activity along different foraging routes. Based on 10-min segments.



Supplementary Figure S8. Cubic spline curve of the relationship between absolute path angle and topographic slope, based on one-minute-level means, truncated at slope of 18° (*n* = 16,681) due to low density of values. The largest value was taken for the lambda coefficient of the spline function which had the minimal curvature that fit the trend in the data points.