Metadata *HomeRange*

Each heading below describes a column of the *HomeRange* database.

Species

Scientific name of the species according to the taxonomy of the IUCN Red List (Version 2021-3). Hybrid species are indicated as e.g. *Eulemur rufus* x *collaris*. We used the following scientific name for domesticated species: cat – *Felis catus*, goat – *Capra hircus*, cattle – *Bos taurus*, sheep – *Ovis aries*, and dromedary - *Camelus dromedarius*. In one study, only the genus name of the species was reported in the study, which is reported in our dataset as *Mystacina* sp.

Subspecies

Subspecies name of the species when reported by the study.

Ind_ID

Unique identifier of the individual, population, or group of individuals. We either reported the ID value given by the study, or used numeric values (e.g. 1, 2, etc.) when no ID value was reported by the study.

Home_Range_km2

Area of home range in km^2.

HR_Spread_km2

Variation in home range values in km^2 when the reported home range value is the mean or median value of multiple home range values. The column *Spread_Units* reports which measure of variation is reported in this column.

Spread_Units

The measure of variation in home range values that the *HR_Spread_km2* column reports. We distinguish the following categories:

- SD: standard deviation
- SE: standard error
- 2 SE: two times the standard error
- CoV: coefficient of variation, the standard deviation divided by the mean
- IQR – range: values of the 0.25 and 0.75 quantiles
- IQR – distance: distance between the 0.75 and 0.25 quantiles
- 80% CI – range: values of the 10% and 90% percentiles
- 90% CI – range: values of the 5% and 95% percentiles
- 90% CI – distance: distance between the 5% and 95% percentiles
- 95% CI – range: values of the 2.5% and 97.5% percentiles
- 95% CI – distance: distance between the 2.5% and 97.5% percentiles
- CI – range: values of the lower and upper percentiles. Which percentiles were used was not specified by the study.
- Total range: minimum and maximum value

HR_level

Categorical value indicating whether the reported home range value is the home range of a single individual, a group of individuals, or the mean/median home range value of multiple individuals. We distinguish the following categories:

- Individual: home range of a single individual. This is either a single home range value or a mean value of multiple home ranges of the same individual (e.g. mean of daily, monthly, etc. home ranges).
- Group: home range of individuals that live in groups, where the locations of all individuals of this group were used to estimate the home range value. This is either a single home range value, a mean value of multiple home ranges of the same group (e.g. mean of daily, monthly, etc. home ranges), or a mean value of home range from multiple groups. The latter case is distinguished by adding *mean* between parentheses.
- Population: mean or median home range of multiple individual home ranges. Whether the mean or median is used is indicated between parentheses.

HR_Source

Categorical value indicating whether the home range value was given in the text (HR_Source = Text) or derived from a figure using WebPlotDigitizer Version 4.5 (HR_Source = Plot). In the latter case, home range values may have a lower accuracy.

HR_Span

Period over which home range was calculated. The following categories are distinguished:

- Daily
- 2 days
- 3 days
- Weekly
- Biweekly
- Monthly
- Bimonthly
- Seasonal
- Annual
- Other: any period which does not fall in any of the above categories or for which the exact period was not specified in the paper.

Any text within parentheses that is reported after the above category specifies the specific month(s) or season during which the home range was calculated (when this information was reported in the paper). Information on the specific dates that define a season might be found in the *Comments* column. In addition, text within parentheses in the *HR_Span* column might specify whether only diurnal or nocturnal locations were used for home range estimation.

No_Individuals

Number of individuals that were included in the home range estimation. For group-level home ranges, the number of individuals might indicate the minimum or mean group size (when the group size varies during the study period or when the reported home range represents a mean across multiple groups). The *No_individuals* column might contain non-integer values when mean group size (e.g. mean size of multiple groups or mean size of the same group, when group size changes over time) is reported.

No_HR

Number of home range values included in the calculation of the reported mean or median home range value. The number of home range values is 1 when the reported home range value is not a mean or median value of multiple home range values. The number of home range values may differ from the number of individuals when multiple home range values of the same individual are included in the calculation of the mean or median home range value (e.g., multiple years or seasons). The number of home range values may also differ from the number of individuals for group-level home ranges where the number of individuals indicates group size.

Sex

The sex of the individuals for which home ranges were estimated. Either males (M), females (F) or both males and females (B).

Life_Stage

Life-stage of the individual(s) for which the home range was calculated. The following categories are distinguished:

- Adult: individuals specified as adults by the study or individuals for which the reported age was higher than the time needed to reach sexual maturity for the species, as given by the COMBINE dataset (Soria *et al.*, 2021).
- Subadult: individuals specified by the study as subadult, young adult, or adolescent.
- Juvenile: individuals specified by the study as juvenile, newborn, young, calf, pub, cub, or fawn.
- Immature: individuals specified by the study as immature, non-adult, or yearling, or individuals for which the reported age was lower than the time needed to reach sexual maturity for the species, as given by the COMBINE dataset (Soria *et al.*, 2021).
- Mixed: individuals from two or more of the above categories.

Reproductive_Status

Reproductive status of the individual(s) for which the home range was calculated. The following categories are distinguished:

- Reproductive: reproductive individuals, including individuals specified by the study as mating, pregnant, or giving birth.
- Pre-reproductive: individuals showing signs or behaviour typically observed before reproductive events, e.g. developing mammaries or pair formation.
- Post-reproductive: individuals that are in the post-reproductive phase, e.g. individuals specified by the study as post-calving.
- Lactating
- Non-lactating
- Mixed—reproductive: individuals from various stages of the reproductive cycle, i.e. individuals from two or more of the above reproductive categories.
- Non-reproductive: non-reproducing individuals
- With-juveniles: individuals accompanied by dependent offspring.

- Without-juveniles: individuals not accompanied by dependent offspring. This includes individuals that are accompanied by independent offspring (e.g. subadults).
- Castrated: individuals that were surgically or chemically treated to prevent reproduction.
- Non-castrated: individuals that were not surgically or chemically treated to prevent reproduction.
- Mixed: a combination of reproducing and non-reproducing individuals.

Note that individuals can belong to multiple categories. For example, a reproductive individual may also be accompanied by juveniles and is not castrated. For each individual we reported the reproductive status that was emphasized by the study. We distinguished lactating and non-lactating as separate categories, because this reproductive status was reported by a relatively large number of studies.

Body_mass_kg

Body mass of the individual(s) as reported by the study in kg.

Context

Categorical variable indicating whether the home range was calculated under conditions deliberately changed by the researchers:

- Wild: home range was calculated under conditions that were not deliberately changed by the researchers. This includes home ranges of species that occur in areas highly affected by humans (e.g. urban areas, agricultural land) as long as this condition was not deliberately changed by the researcher.
- Experiment: home range was calculated under conditions that were deliberately changed by the researches, e.g. removal/addition of food/predators.

Context_details

More detailed information on the context of the study, such as which conditions were changed in experimental studies, or information on the environmental conditions in the area where the study took place (e.g. national park, urban).

Locomotion

Locomotion habit of the species based on COMBINE (Soria *et al.*, 2021) and (Santini *et al.*, 2022):

- Terrestrial
- Arboreal
- Semi-arboreal
- Fossorial
- Semi-aquatic
- Aquatic
- Aerial

Latitude

Latitude of the study area in decimal degrees.

Longitude

Longitude of the study area in decimal degrees.

LatLong_Source

Categorical variable indicating from which source the longitude and latitude were derived. We distinguished the following categories:

- Study: longitude and latitude were reported by the study or in a study cited by the specified study.
- Google: longitude and latitude were not reported by the study or the reported longitude and latitude were very inaccurate. In these cases, descriptions of the study area given in the text were used to find the approximate location of the study area using Google maps. More detailed information on how this location was determined for each study can be found in the *Comments* column.

Country

Name of the country in which the study area was located.

Locality

More detailed information on the location of the study area, such as the name of the national park or a nearby village.

dayStart/monthStart/yearStart

The first day, month, and year from which data were collected for home range calculation (starting date). The level of detail depends on the study. The start date might also indicate the first day of the study, instead of the first day from which data are included in the home range calculation, when the latter was not specified by the study.

dayEnd/monthEnd/yearEnd

The last day, month, and year from which data were collected for home range calculation (end date). The level of detail depends on the study. Please note that in some cases the last day that data was collected for home range calculation was not clearly specified, so we used the end date of the entire study. Therefore, the difference between the start and end date does not necessarily indicate the period over which each home range was calculated.

Tracking_Method

Method used to track the animal. The following methods are distinguished:

- Camera trapping: camera traps take a picture of an animal when it moves in front of the camera. For each individual the locations are determined by the trap location where it was photographed.
- Direct observations: locations of each individual are determined by visual sightings of the individual.
- Indirect observations: locations of each individual are determined by looking for signs of its presence, such as footprints, faeces, scent marking, etc.
- Isotope tracing: radioactive isotopes are attached to animals. The location of animals was then determined by detecting the radioactive signals.

- Live trapping: traps are used to capture individuals. The locations where individuals were trapped is then determined.
- PIT tags: passive integrated transponders are tags that are attached to animals and transmits a signal to a receiver when the animal passes close by this receiver. The receiver then records the time and the identity of the tag. Multiple fixed receivers are placed within the study area that can detect the passage of a tagged animal.
- Powder tracking: ultraviolet/fluorescent powder is put on individuals, which reveals the track of the individual as this powder falls of the individual when it moves.
- Radio tracking: individuals are fitted with radio-collars that continuously transmits a radio signal, which can be received by a radio-receiver when the receiver is close to the radio collar.
- Satellite tracking: individuals are fitted with a tag that transmits and/or receives signals to and from satellites, based on which the coordinates of the location are estimated. Contrary to radio tracking or PIT tags, it is not necessary to have a receiver close to the individual to pick up a signal. In this study we further distinguish between three different types of satellite tracking:
    - Satellite tracking (ARGOS): individuals are fitted with tags called platform transmitter terminals (PTT) that transmit their signal through the ARGOS satellite system, consisting of polar-orbiting satellites. The location of the PTT is calculated from the Doppler shift of the transmitted signal and requires a minimum of three successive transmissions during a single satellite pass. Locations derived from ARGOS are generally less accurate than locations from GPS collars and location errors might be up to hundreds of kilometres. Because the satellites from the ARGOS system are polar-orbiting, accuracy of locations is generally better at high than low altitudes (Costa *et al.*, 2010; Douglas *et al.*, 2012).
    - Satellite tracking (GPS): individuals are fitted with GPS tags that receive signals from satellites in several different orbits around the earth (not just polar-orbiting satellites). Based on the travelling time of signals from four different satellites to the GPS tag, the location of the GPS tag is calculated. Accuracy of locations from GPS tags is often much higher than the accuracy of locations from the ARGOS system (Tomkiewicz *et al.*, 2010; Bridge *et al.*, 2011).
    - Satellite tracking (SLTDR): individuals are fitted with Satellite Linked Time Depth Recorders. Besides location information, these tags transmit information to satellites on the time and depth of dives for marine animals.

  Which method is used, is specified between parentheses (when reported by the study).
- Spool-and-line devices: a spool of thread is attached to an animal and the end of the thread is attached to a surface at the place where the animal is released. When the animal moves, it leaves behind a thread from the spool that is attached to the animal. The movement of an animal can thus be tracked by following the trail of thread left behind (Boonstra & Craine, 1986).
- Some specific other methods, used in only one study, like e.g. beagle chases, excavating burrow system.

HR_Method

Method used to calculate the home range. The following categories are distinguished:

- MCP: the minimum convex polygon is the smallest polygon around locations with all interior angles less than 180 degrees.
- MCP (adjusted): MCP from which large areas containing no locations were removed, or areas that contain habitat that is not used (e.g. lakes for terrestrial animals or land areas for marine animals).
- MCP (buffered): Home range consists of the MCP and a buffer area around the MCP.
- Restricted polygon: Polygon around the outermost locations (not necessarily convex) in which there is maximum length of the line connecting two peripheral points (Wolton, 1985). This method is also called modified minimum area method (Habvey & Barbour, 1965). Detailed information about the restricted polygon method may be given between parentheses.
- OREP (object restricted-edge polygon): Peripheral neighbours are linked when the distance is less than an outlier exclusion distance, which is computed from the distribution of density estimates for all locations. By including a boundary zone, based on the accuracy of tracking, locations outside this restriction have circular buffers around them (https://www.anatrack.com/ranges_analyses_and_features/orep_home_ranges).
- Polygon: Methods in which a polygon is fitted around the outermost locations and when it is not specified whether it is one of the above polygon methods.
- Polygon (adjusted): Methods in which a polygon is fitted around the outermost locations and when it is not specified whether it is one of the above polygon methods. In addition, large areas containing no locations were removed from the polygon
- KDE: Kernel density estimation. A bivariate kernel function is placed over each location. These kernel functions are then averaged together to obtain a probability density function, indicating the probability that an animal is found at a certain location. A key component of KDE is adjusting the width of the kernels placed over each location, i.e. the smoothing parameter or bandwidth (h). Two common choices for the bandwidth are the "reference bandwidth" (href) or estimating the bandwidth using Least Squares Cross-Validation (LSCV) (Worton 1989, Calenge 2019, Börger *et al.* 2020). Information about the bandwidth choice may be given between parentheses. In addition, two specific KDE methods might be specified as well:
    - Fixed KDE: KDE with a constant (fixed) bandwidth across locations (Worton, 1989).
    - Adaptive KDE: KDE in which the bandwidth is allowed to vary across locations, such that areas with a low concentration of points have higher *h* values than areas with a high concentration of points, and are thus smoothed more (Worton, 1989).
- Product KDE: similar method as KDE, but instead of a two-dimensional kernel function, a three-dimensional kernel function is placed over each location, representing x and y coordinates, and time. A four dimensional kernel may also be used, in which the extra dimension indicates elevation (Keating & Cherry, 2009; Calenge, 2019).
- Movement-based KDE: New locations (interpolated locations) are added at regular intervals on a straight line connecting two successive locations. A KDE is then fitted on both the original and interpolated locations, with a variable smoothing parameter. The smoothing parameter is small at the original locations and larger when the interpolated time between the interpolated location and the original location increases (Calenge, 2019).

- Brownian Bridge: A kernel function is placed over each step (straight line) between two locations. This kernel function is a combination of two bivariate normal probability density functions and a Brownian bridge probability density function (Horne *et al.*, 2007; Calenge, 2019). More detailed information on the specific Brownian Bridge method might be given between parentheses.
- BRB (Biased random bridge): Similar method as the Brownian Bridge, but the probability density function of the angles is not a uniform distribution. Contrary to the Brownian bridge model, this model does not assume diffusive moments, but takes into account an advection component in the trajectory (Calenge, 2019).
- TK: time kernel. KDE method that accounts for both spatial and temporal aggregation of locations by giving less weight to temporally close observations when calculating the kernel density (Katajisto & Moilanen, 2006).
- AKDE: Autocorrelated KDE. KDE that accounts for autocorrelation between the locations when estimating the bandwidth of the kernels. The autocorrelation structure in the data is estimated by fitting continuous time movement models and selecting the best fit model (Noonan *et al.*, 2019). When available, information on the method used to fit continuous time movement models are given between parentheses. Some specific AKDE methods are also distinguished (when specified by the study):
    - AKDEc: AKDE in which the reference function approximation bias is corrected a posteriori (Noonan *et al.*, 2019; Péron, 2019).
    - SE-AKDEc: AKDE in which environmental interactions (e.g. barriers that cannot be crossed, selection of land cover types) within the kernel functions, but not when estimating the bandwidth (Péron, 2019).
    - E-AKDE: AKDE that also takes into account environmental interactions (e.g. barriers that cannot be crossed, selection of land cover types) when estimating the bandwidth and within the kernel functions (Péron, 2019).
- Grid cell: The home range area is calculated by summing the area of grid cells in which an animal has been located and possible the grid cells connecting these occupied grid cells. The resolution of the grid cells (when reported by the study) are given between parentheses.
- Harmonic mean: Contours for a utility distribution are developed from the harmonic mean distance of each point on a grid to each animal location (Dixon & Chapman, 1980; Powell, 2000).
- Cluster: Three locations with the minimum sum of nearest-neighbour joining distances form a first cluster. Next, either a second cluster of three locations is formed, consisting of the three locations that now have the minimum sum of nearest-neighbour joining distances, or a fourth locations is added to the first cluster if the distance between this location and the first cluster is smaller than the mean nearest-neighbour distance of the (potential) second cluster. This clustering process continues until a given proportion of the locations is included in a cluster. The outlines of the clusters are either convex or concave polygons. Instead of nearest-neighbour joining rule, also other rules might be used for clustering (Kenward *et al.*, 2001; Calenge, 2019).
- LoCoH: Small convex hulls are constructed for each location and its neighbours. The convex hulls are than incrementally merged together from smallest to largest (Calenge, 2019). The following specific LoCoH methods are distinguished (when specified by the study):
    - k-LoCoH: For each point a convex hull is constructed with the *k*-1 nearest neighbours to that point. Hulls are then merged together from smallest to largest based on the area of the hull (Getz *et al.*, 2007; Calenge, 2019).

- r-LoCoH: For each point a convex hull is constructed with all the points that are within a distance *r* for that point. The convex hulls are then merged together based on first the number of points in a hull, and secondly the area of the hulls (Getz *et al.*, 2007; Calenge, 2019).
- a-LoCoH: Convex hulls are constructed with the maximum number of nearest neighbours, such that the sum of the distances from the nearest neighbours is less than or equal to *a*. The convex hulls are then merged together based on first the number of points in a hull, and secondly the area of the hulls (Getz *et al.*, 2007; Calenge, 2019).
- T-LoCoH**:** Convex hulls are constructed between nearest neighbours, in which nearest neighbours are selected based on time-scaled distance, i.e. the distance between two points, scaled by the maximum distance an individual could have travelled within the time between the two points. Convex hulls are then merged based on one of the T-LoCoH metrics, e.g. area, number of points, time span between points, etc. (Lyons *et al.*, 2013).

- Characteristic hull**:** Delaunay triangulation is calculated for the locations. The resulting triangles are ordered based on their area and merged together until a given percentage (isopleth size) of the locations are included in the resulting polygon). Characteristic hull polygons can have non-convex edges, can have empty holes within their interiors and could consist of multiple disjoint polygons (Downs & Horner, 2009; Calenge, 2019).
- Boundary strip: The external points of capture are considered centres of rectangles, the sides of which equal the distances between traps. The home range is the area that is enclosed by connecting the corners of these rectangles (Stickel, 1954; Ambrose III, 1969). We distinguish between two different boundary strip methods (when specified by the study):
  - Exclusive boundary strip: The corners of the rectangles are connected such that as small an area as possible is included (Stickel, 1954; Ambrose III, 1969).
  - Inclusive boundary strip: The corners of the rectangles are connected such that as much area as possible is included (i.e. by connecting the outer corners of these rectangles) (Stickel, 1954; Ambrose III, 1969).
- Ellipse method: the home range is represented by an ellipse. Different specific ellipse methods might be distinguished:
  - Jennrich and Turner (1969) Ellipse: A bivariate normal distribution is fitted to all location data, based on the determinant of the covariance matrix of the distances of each point from the arithmetic mean centre of all locations (Jennrich & Turner, 1969).
  - Mazurkiewicz (1971) Ellipse: A bivariate normal distribution is fitted to all location data, using trigonometric transformations (Mazurkiewicz, 1971; Koeppl *et al.*, 1975).
  - Gipson and Sealander (1972) Ellipse: The arithmetic mean of all locations is determined. The long axis of the ellipse then runs from the location most distant from the mean location and the location farthest from the mean on the opposite side of the most distance location. The short axis runs perpendicular to this long axis between the most distant locations from the long axis. One-half of each of these axes were then considered as radii of an ellipse centered at the arithmetic mean (Gipson & Sealander, 1972).
  - Koeppl et al. (1975) Ellipse: A bivariate normal distribution is fitted to all location data (Koeppl *et al.*, 1975)

- Samuel and Garton (1985) Ellipse: A weighted bivariate normal distribution is fitted to all location data, more weight is given to the locations closer to the mean of the ellipse (Samuel & Garton, 1985).
- Salsbury and Armitage (1994) Ellipse: Area of the ellipse generated by the long axis (distance between the two most distant locations within the home range) and short axis (represented by the sum of the two most distant locations, one on each side of the long axis, that connected, perpendicularly, to the long axis) (Salsbury & Armitage, 1994).
- Ellipse (based on SD of coordinates): the ellipse is calculated by obtaining the geometric centre of all capture points, and using the standard deviation around the x (S_x) and y (S_y) co-ordinates of the grid to obtain the area (A) of the ellipse given by A = $\pi S_x S_y$ (Quin *et al.*, 1992).
- Ellipse method (based on the the asymptotic distribution of the fitted Ornstein-Uhlenbeck model): The asymptotic distribution of a fitted Ornstein-Uhlenbeck movement model is used to draw the ellipses that most closely approximated the home range and core area (Péron, 2019).

* Circle method: Home range is represented by a circle. Different specific circle methods might be distinguished:
  - Hayne (1949) Circle: First, the arithmetic mean of locations is calculated. Next, a frequency distribution of distances of locations to the mean location is used to calculate relative use of the home range in different concentric circles (Hayne, 1949; Worton, 1987).
  - Calhoun and Casby (1958) Circle: A bivariate normal distribution is fitted to the data with arithmetic mean of locations as the centre and in which the standard deviation of the distances between the locations and the arithmetic mean is the standard deviation of the multivariate normal distribution in both the x and y direction (Calhoun & Casby, 1958).
  - Circle (distribution based on SECR model): A spatially explicit capture-recapture model is used to fit a circular probability density distribution (Ringler *et al.*, 2014). 2014).
* Minimum area probability: A very tall cylinder of infinitesimal diameter is placed on each location. The resulting sharp peaks are smoothed out using a Fourier transformation, resulting in probability density function, indicating the probability that an animal is found at a certain location (Anderson, 1982).
* Dirichlet tessellations: Polygons are drawn around each location, such that all parts of the polygon are closer to the enclosed location than any other location. Delaunay triangles are also constructed between the locations. Bisections of the polygons by the Delaunay triangles lead to more polygons. The home range is then calculated as the combination of polygons that produces the smallest possible area that includes a given percentage of polygons (Rogers & White, 2007).
* Some very specific methods used in only one or a few papers, such as digitized polygons or multiplying the length and the width of a river.

HR_Method_Simple

Method used to calculate the home range, leaving out some of the detailed information in the *HR_method* column and using broader categories of the home range methods. We distinguish the following categories:

- Boundary strip: including inclusive and exclusive boundary strip methods
- Brownian Bridge: including Brownian Bridge methods, Biased Random Bridge methods, and movement-based KDE
- Circle: including all circle methods
- Cluster
- Ellipse: including all ellipse methods
- Grid cell: including grid cell methods with all the different resolutions of the grid cells
- Harmonic mean
- KDE: including adaptive KDE, fixed KDE, product KDE, TK and AKDE
- LoCoH: including all LoCoH methods
- MCP: including adjusted and buffered MCP methods
- Minimum area probability
- Polygon: all polygon methods that are not MCP, or for which the study did not specify whether the home range was an MCP. This includes Restricted Polygons and OREP.
- Other: all methods which cannot be classified in one of the above categories
- Mixed: a combination of the above methods was used, for example when the reported home range is a mean value of multiple home range values calculated using different methods.

Isopleth_Size

The percentage of locations used to estimate the home range. This is a numeric value when the exact percentage was reported by the study. However, in some cases the exact percentage is not reported and we could only derive that the home range represents a core area (Isopleth_Size = Core area) or an area larger than the core area (Isopleth_Size = Home Range).

HR_Software

Software used to estimate the home range values. The following categories are distinguished:

- analySiS
- Anderson (1982) program
- Animal Space Use
- Antelope
- ArcGIS
- Atlas GIS
- Atrack
- AUTO-CAD
- AutoSketch
- Biotas
- BRB/MKDE
- CALHOME
- CAPTURE
- DC80

- DIXON
- Dovidep
- DRAP
- EstimateS
- Fortran
- GPS Trackmaker
- HACB
- HOM2
- Home
- Home Ranger
- Homer
- HomeRange
- HOMERANGE
- IDL
- IDRISI
- JAVA
- KernelHR
- Koeppl et al. (1975) program
- MapInfo
- Matlab
- McPaal
- Miramon
- OpenJUMP
- OzTrack
- Pathfinder
- Program 2
- ProStat
- QGIS
- R
- RANGE
- Ranges
- SEAS
- SigmaScan
- Surface
- SYSTAT
- TELDAY
- TELEM
- TELEMPC
- TrackAsc
- Tracker
- Ulysses
- ViaTRACK
- Wildtrak

Mean_No_Locations_Used

Mean number of locations to estimate home range values. For individual home ranges, either the number of locations for the specific individual might be reported or the mean number of locations for all studied individuals, when this information is available. When only information is reported about the minimum number of locations to estimate a home range, we report this as e.g. >= 30.

SE_No_Locations_Used

Standard error of the mean number of locations used to estimate a home range. A standard error of the mean number of locations might be reported for a single home range value when the reported mean number of locations represents the mean across multiple individuals, including the specified individual.

Comments

Any other information about the study or home range value that might be relevant.

Literature cited

Ambrose III, H.W. (1969) A comparison of *Microtus pennsylvanicus* home ranges as determined by isotope and live trap methods. *American midland naturalist*, 535–555.

Anderson, D.J. (1982) The home range: a new nonparametric estimation technique. *Ecology*, **63**, 103–112.

Boonstra, R. & Craine, I.T.M. (1986) Natal nest location and small mammal tracking with a spool and line technique. *Canadian Journal of Zoology*, **64**, 1034–1036.

Börger, L., Fieberg, J., Horne, J.S., Rachlow, J., Calabrese, J.M. and Fleming, C.H., 2020. Animal home ranges: Concepts, uses, and estimation. *Population ecology in practice*, pp.315-332.

Bridge, E.S., Thorup, K., Bowlin, M.S., Chilson, P.B., Diehl, R.H., Fléron, R.W., Hartl, P., Kays, R., Kelly, J.F. & Robinson, W.D. (2011) Technology on the move: recent and forthcoming innovations for tracking migratory birds. *BioScience*, **61**, 689–698.

Calenge, C. (2019) Home Range Estimation in R: the adehabitatHR Package. *R vignette.* https://cran.r-project.org/web/packages/adehabitatHR/vignettes/adehabitatHR.pdf

Calhoun, J.B. & Casby, J.U. (1958) *Calculation of home range and density of small mammals*, US Government Printing Office.

Costa, D.P., Robinson, P.W., Arnould, J.P.Y., Harrison, A., Simmons, S.E., Hassrick, J.L., Hoskins, A.J., Kirkman, S.P., Oosthuizen, H., Villegas-Amtmann, S. & Crocker, D.E. (2010) Accurcy of ARGOS locations of pinniped at-sea eastimated using Fastloc GPS. *PLos One*, **5**, e8677.

Dixon, K.R. & Chapman, J.A. (1980) Harmonic mean measure of animal activity areas. *Ecology*, **61**, 1040–1044.

Douglas, D.C., Weinzierl, R., C. Davidson, S., Kays, R., Wikelski, M. & Bohrer, G. (2012) Moderating Argos location errors in animal tracking data. *Methods in Ecology and Evolution*, **3**, 999–1007.

Downs, J.A. & Horner, M.W. (2009) A characteristic-hull based method for home range estimation. *Transactions in GIS*, **13**, 527–537.

Getz, W.M., Fortmann-Roe, S., Cross, P.C., Lyons, A.J., Ryan, S.J. & Wilmers, C.C. (2007) LoCoH: nonparameteric kernel methods for constructing home ranges and utilization distributions. *PloS one*, **2**, e207.

Gipson, P.S. & Sealander, J.A. (1972) Home range and activity of the coyote *(Canis latrans frustror)* in Arkansas. *Proceedings of the Annual Conference of the Southeastern Association of Game and Fish*, pp. 82–95.

Habvey, M.J. & Barbour, R.W. (1965) Home range of Microtus ochrogaster as determined by a modified minimum area method. *Journal of Mammalogy*, **46**, 398–402.

Hayne, D.W. (1949) Calculation of size of home range. *Journal of mammalogy*, **30**, 1–18.

Horne, J.S., Garton, E.O., Krone, S.M. & Lewis, J.S. (2007) Analyzing animal movements using brownian bridges. *Ecology*, **88**, 2354–2363.

Jennrich, R.I. & Turner, F.B. (1969) Measurement of non-circular home range. *Journal of Theoretical Biology*, **22**.

Katajisto, J. & Moilanen, A. (2006) Kernel-based home range method for data with irregular sampling intervals. *Ecological Modelling*, **194**, 405–413.

Keating, K.A. & Cherry, S. (2009) Modeling utilization distributions in space and time. *Ecology*, **90**, 1971–1980.

Kenward, R.E., Clarke, R.T., Hodder, K.H. & Walls, S.S. (2001) Density and linkage estimators of home range: nearest-neighbor clustering defines multinuclear cores. *Ecology*, **82**, 1905–1920.

Koeppl, J.W., Slade, N.A. & Hoffmann, R.S. (1975) A bivariate home range model with possible application to ethological data analysis. *Journal of Mammalogy*, **56**, 81–90.

Lyons, A.J., Turner, W.C. & Getz, W.M. (2013) Home range plus: A space-time characterization of movement over real landscapes. *Movement Ecology*, **1**, 1–14.

Mazurkiewicz, M. (1971) Shape, size and distribution of home ranges of *Clethrionomys glareolus* (Schreber, 1780). *Acta Theriologica*, **16**, 23–60.

Noonan, M.J., Tucker, M.A., Fleming, C.H., Akre, T.S., Alberts, S.C., Ali, A.H., Altmann, J., Antunes, P.C., Belant, J.L. & Beyer, D. (2019) A comprehensive analysis of autocorrelation and bias in home range estimation. *Ecological Monographs*, **89**, e01344.

Péron, G. (2019) Modified home range kernel density estimators that take environmental interactions into account. *Movement ecology*, **7**, 1–8.

Powell, R.A. (2000) Animal home ranges and territories and home range estimators in *Research techniques in animal ecology: controversies ad consequences* (ed. by L. Boitani and T. Fuller), Columbia University Press, New Your, USA.

Quin, D.G., Smith, A.P., Green, S.W. & Hines, H.B. (1992) Estimating the home ranges of sugar gliders (*Petaurus breviceps*)(Marsupialia: Petauridae), from grid-trapping and radiotelemetry. *Wildlife Research*, **19**, 471–487.

Ringler, D., Russell, J., Jaeger, A., Pinet, P., Bastien, M. & Le Corre, M. (2014) Invasive rat space use on tropical islands: implications for bait broadcast. *Basic and Applied Ecology*, **15**, 179–186.

Rogers, K.B. & White, G.C. (2007) Analysis of movement and habitat use from telemetry data. *Analysis and interpretation of freshwater fisheries data. American Fisheries Society, Bethesda, Maryland*, 625–676.

Salsbury, C.M. & Armitage, K.B. (1994) Home-range size and exploratory excursions of adult, male yellow-bellied marmots. *Journal of Mammalogy*, **75**, 648–656.

Samuel, M.D. & Garton, E.O. (1985) Home range: a weighted normal estimate and tests of underlying assumptions. *The Journal of wildlife management*, 513–519.

Santini, L., Benítez-López, A., Dormann, C.F. & Huijbregts, M.A.J. (2022) Population density estimates for terrestrial mammal species. *Global Ecology and Biogeography*, **31**, 978-994.

Soria, C.D., Pacifici, M., Di Marco, M., Stephen, S.M. & Rondinini, C. (2021) COMBINE: a coalesced mammal database of intrinsic and extrinsic traits. *Ecology,* **102,** e03344.

Stickel, L.F. (1954) A comparison of certain methods of measuring ranges of small mammals. *Journal of Mammalogy*, **35**, 1–15.

Tomkiewicz, S.M., Fuller, M.R., Kie, J.G. & Bates, K.K. (2010) Global positioning system and associated technologies in animal behaviour and ecological research. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **365**, 2163–2176.

Wolton, R.J. (1985) The ranging and nesting behaviour of Wood mice, *Apodemus sylvaticus* (Rodentia: Muridae), as revealed by radio-tracking. *Journal of Zoology*, **206**, 203–222.

Worton, B.J. (1987) A review of models of home range for animal movement. *Ecological Modelling*, **38**, 277–298.

Worton, B.J. (1989) Kernel Methods for Estimating the Utilization Distribution in Home-Range Studies. *Ecology*, **70**, 164–168.