

SUPPORTING INFORMATION

Deep barriers, shallow divergences: reduced phylogeographical structure in the collared pika (Mammalia: Lagomorpha: *Ochotona collaris*)

Hayley C. Lanier and Link E. Olson

Journal of Biogeography

Appendix S2 Point localities used in the ecological niche (ENM) models.

Coordinates (longitude, latitude) used in construction of ENM models – acquired from MaNIS (the Mammal Networked Information System – <http://manisnet.org/>; last accessed 31 May 2010) and through georeferencing specimen localities (Appendix S1) using the BIOGEOMANCER guidelines (http://www.gbif.org/orc/?doc_id=1288; last accessed 30 March 2012).

Collared pika – *Ochotona collaris*

-135.1666667, 59.6; -145.7507778, 61.153; -138.216667, 65.0833333; -138.266667, 65.0833333; -138.216667, 65.0833333; -145.9666667, 65.4; -136.255, 60.59805556; -153.85, 60.76666667; -148.981, 63.80186111; -136.422, 59.599; -135.1666667, 59.6; -135.1372895, 59.6122207; -135.1383333, 59.61611111; -134.9833374, 59.8500023; -153.001098, 60.561329; -133.0718994, 60.5950594; -136.255, 60.59805556; -153.90253, 60.6478; -153.92979, 60.65217; -153.94826, 60.65224; -153.92361, 60.65753; -153.85, 60.76666667; -142.97098, 60.83136; -142.97403, 60.8316; -141.9769, 60.83209; -142.96805, 60.83294; -138.464, 60.887; -138.533, 60.933; -143.14203, 60.96545; -143.14317, 60.96645; -143.14937, 60.97113; -143.14914, 60.97121; -143.14893, 60.97193; -143.12917, 60.97598; -143.14618, 60.97622; -143.12076, 60.98047; -135.4147338, 61.0010814; -143.3633833, 61.05845; -145.7570278, 61.14188889; -149.5376586, 61.143898; -145.7507778, 61.153; -152.85901, 61.15374; -152.85907, 61.15387; -152.85995, 61.15569; -152.85797, 61.15609; -152.86104, 61.15623; -152.86079, 61.15628; -152.86093, 61.1563; -152.83794, 61.15817; -152.83931, 61.15949; -132.9833333, 61.166667; -149.5833333, 61.21666667; -149.5833333, 61.21666667; -138.267, 61.217; -148.9083333, 61.365; -128.2653809, 61.3651452; -148.425293, 61.3796204; -148.4652148, 61.4510225; -148.4644734, 61.4514769; -148.464116, 61.45152; -144.4194412, 61.497221; -148.6172133, 61.5614416; -140.201, 61.582; -142.04005, 61.61212; -142.04309, 61.61665; -140.2624512, 61.6168432; -140.174, 61.743; -149.2341613, 61.7474562; -149.35, 61.76666667; -149.3333333, 61.7833333; -141.20945, 61.78635; -141.2064,

61.788; -149.2101287, 61.7932513; -141.8333333, 61.8333333; -128.5180664,
61.8716911; -132.451, 61.98; -141.1294833, 62.03118333; -141.1294833, 62.03118333;
-144.1571044, 62.2218763; -150.109436, 62.3238907; -148.7316589, 62.3722878;
-143.0667114, 62.3865505; -148.05, 62.73333333; -146.6400146, 62.8162735;
-148.8704071, 62.8365279; -145.6, 63.05; -145.62511, 63.05764; -145.63324, 63.05791;
-151, 63.06; -145.65366, 63.06709; -146.2256944, 63.06830556; -145.64064, 63.06847;
-146.21866, 63.06937; -145.63921, 63.06971; -145.6361661, 63.070329; -145.6382,
63.07098; -145.63672, 63.073; -146.2318611, 63.07422222; -145.62791, 63.0766;
-145.63512, 63.08388; -145.632944, 63.085083; -145.630703, 63.085542;
-146.4350128, 63.0899982; -146.18567, 63.12133; -146.25, 63.133333; -130.2,
63.1666666; -146.5, 63.166667; -146.243, 63.172; -145.5580597, 63.1875038;
-150.7351684, 63.2163051; -148.3697604, 63.3556132; -145.69846, 63.39891;
-144.1818237, 63.4290174; -149.916687, 63.4799575; -130.4333344, 63.4999962;
-149.2915344, 63.7498741; -148.981, 63.80186111; -147.3355865, 63.8769714;
-135.0837707, 63.87939; -138.3, 63.916667; -147.6049957, 64.0449982; -139.0833282,
64.0499992; -142.9988937, 64.2038918; -143.1013794, 64.2886639; -131.9999924,
64.2999992; -138.3782959, 64.3850663; -138.25, 64.55; -127.669, 64.567;
-139.4999924, 64.5833282; -138.2166667, 64.58333333; -138.3425903, 64.6485844;
-144.3333333, 64.66666667; -138.383333, 64.666667; -141.2567139, 64.7852433;
-143.779, 64.811; -143.7399, 64.8144; -143.7469, 64.8158; -143.7509, 64.8212;
-138.25229, 64.87478; -143.05, 64.96666667; -127.6166667, 65; -128.4631348,
65.0350604; -145.6166667, 65.05; -145.65, 65.06666667; -138.266667, 65.083333;
-143.4677811, 65.0986137; -138.366667, 65.1; -143.5858333, 65.16527778;
-143.5913085, 65.1668859; -143.5426389, 65.18877778; -143.55, 65.2; -146.6666667,
65.33333333; -145.9833333, 65.4; -145.5333333, 65.43333333; -146.2692261,
65.4405725; -145.4166667, 65.48333333; -145.4166667, 65.48333333; -145.5213928,
65.5177765; -136.2340937, 67.7084535; -137.2192382, 67.7677132

American pika - *Ochotona princeps*

-126.3666, 52.21429825; -123.25, 51.2; -123.0280991, 50.58179855; -123.0277023,
50.58269882; -123.0276642, 50.5826683; -122.1822, 42.5374; -122.054718,
46.75667191; -122.0034, 44.4186; -121.95, 47.15; -121.937, 44.3945; -121.9142,
47.0384284; -121.8881, 46.8789; -121.8612, 44.4016; -121.8490887, 46.9879;
-121.8428662, 48.797966; -121.8411, 46.9353; -121.83883, 46.98535; -121.8272018,
44.24620056; -121.8272, 44.2462; -121.8089981, 44.26089859; -121.808609,
44.25999832; -121.7611, 48.3147; -121.7567978, 46.05339813; -121.7480011,
46.33029938; -121.7338, 46.7863; -121.7062812, 48.9037095; -121.69, 48.6483;
-121.6811, 48.8636; -121.6591661, 48.8636; -121.6558, 46.9114; -121.6411, 46.915;
-121.6378, 46.9256; -121.6344, 48.9519; -121.61624, 48.72194; -121.593658,
46.304147; -121.575, 48.8375; -121.5739, 46.9231; -121.5725098, 41.69841003;
-121.5359, 46.6861; -121.52583, 46.83227; -121.5144, 46.8722; -121.5, 46.9; -121.4675,
47.45; -121.4556497, 47.3569122; -121.45472, 47.46722; -121.4464, 46.1511;
-121.3633, 48.8756; -121.1555556, 47.34722222; -121.1490812, 47.7464; -121.1239,

46.7078309; -121.1194, 47.7494; -121.1128, 48.1114; -121.0847, 47.7464; -121.0661, 48.7319; -121.06605, 48.0972; -120.9753, 46.7583; -120.9666667, 47.13333333;
-120.9381, 47.42721; -120.639801, 48.51050186; -120.2388, 41.36989975;
-120.2124023, 41.37860107; -120.1358032, 53.34820175; -120.1249008, 53.36529922;
-120.123497, 53.35860062; -120.1137009, 53.35910034; -120.075, 38.86138889;
-120.0730556, 38.85638889; -119.8623962, 51.71770096; -119.8528976, 51.7242012;
-119.8162, 38.54582; -119.4191971, 54.07720184; -119.4188004, 54.07730103;
-119.273385, 37.972866; -119.2188978, 37.9359892; -119.1666667, 37.68527778;
-119.0091667, 37.62222222; -118.9991667, 37.59944444; -118.5617, 42.6784;
-118.4783, 48.6075; -118.3258972, 36.7804985; -118.2442017, 44.9455986;
-118.2240982, 44.93859863; -118.2098999, 44.94710159; -118.079886, 37.4320685;
-117.7666667, 52.85; -117.3534012, 38.87730026; -117.3498993, 38.8370018;
-117.3193047, 48.8195343; -117.2830963, 45.05770111; -117.2208, 45.3205;
-117.2155, 45.2674; -117.1308, 48.7969; -117.073, 49.0566; -116.9261017,
38.72520065; -116.9256973, 38.72539902; -116.9238968, 38.73989868; -116.5886002,
48.63079834; -116.5752029, 45.18700027; -116.571701, 48.63150024; -116.5705032,
48.63169861; -116.5641022, 45.18270111; -116.5413971, 52.05799866; -116.5214996,
52.0603981; -116.5156021, 52.03720093; -116.4794006, 52.05749893; -115.65,
45.5166667; -115.5666667, 51.1666667; -115.4350967, 43.6155014; -115.3932037,
40.5870018; -115.3921967, 40.58250046; -115.3896027, 40.58769989; -114.98333,
50.59722; -114.2923, 46.0299; -114.1, 49.18333333; -114.08333333, 49.18333333;
-113.8961029, 44.31159973; -113.83794, 46.97684; -113.7008, 46.5671; -113.6482,
48.7004; -113.6293, 46.5734; -112.4005, 38.3821; -111.5189, 39.0633; -111.518898,
39.06330109; -111.4829025, 38.44029999; -111.4710999, 39.11180115; -111.28,
40.64306; -111.0410995, 40.75830078; -111.016098, 40.76470184; -110.87556,
40.87444; -110.6638, 46.948; -110.6627, 46.9479; -110.645, 46.9566; -110.6292,
46.9664; -110.626, 46.9352; -110.626, 46.9352; -110.6249, 46.9352; -110.06748,
43.75274; -110.0440979, 44.37110138; -110.0427017, 43.75260162; -110.0262985,
43.70589828; -109.72205, 40.64408; -109.5096, 44.9976; -109.5096, 44.9976;
-109.5096, 44.9976; -109.5092, 44.9976; -109.5092, 44.9976; -109.5092, 44.9976;
-109.4712, 45.0061; -108.0681686, 39.04966736; -108.0681, 39.04959869;
-107.988016, 37.836437; -107.9491812, 39.0402668; -107.8686981, 44.92309952;
-107.8591995, 44.88219833; -107.8583984, 44.9095993; -107.8435974, 44.85710144;
-107.75, 38.03333333; -107.699129, 37.90087; -107.6628555, 37.7829565;
-107.2525024, 39.979599; -107.2441025, 39.99480057; -107.18445, 38.8427645;
-107.150773, 39.04861; -107.07889, 44.14972; -107.0419402, 39.0102618;
-107.0262944, 38.9585178; -107.0139008, 41.17779922; -106.9916138, 39.0461013;
-106.9897676, 38.959158; -106.983, 38.983; -106.6366667, 39.19111111;
-106.5967102, 37.30065537; -106.5708237, 38.26851654; -106.5451202, 37.34168625;
-106.5322189, 37.35194016; -106.4774933, 37.35192871; -106.39222, 35.890278;
-106.382826, 37.074751; -106.380373, 37.4768558; -106.370277, 35.757221;
-105.788002, 39.79990005; -105.7817002, 35.7865987; -105.777496, 35.788887;
-105.777298, 35.79859924; -105.7761112, 35.8002787; -105.776108, 35.800278;
-105.7753983, 35.79520035; -105.768623, 35.795338; -105.757767, 35.832222;

-105.739954, 35.832333; -105.644173, 35.962502; -105.644095, 38.087756;
-105.64278, 39.5885941; -105.613569, 40.05688; -105.510612, 37.566936;
-105.5016632, 36.61399841; -105.501503, 36.60333252; -105.5012, 36.6122;
-105.49833, 37.570801; -105.497256, 37.572897; -105.492601, 37.574457;
-105.487278, 37.591659; -105.4518966, 36.5878973; -105.4518965, 36.6316005;
-105.448891, 36.635834; -105.4173965, 36.5588994; -105.416389, 36.556667;
-105.161737, 37.286656; -105.0439003, 38.8405422; -104.990393, 37.329212;
-104.958574, 37.347612; -115.0401833, 50.6155674; -115.0481456, 50.965197;
-116.2151792, 52.0134273

Plateau pika – *Ochotona curzoniae*

100.107, 36.63; 100.482, 37.503; 101.274, 37.685; 100.255, 37.959; 99.283, 37.174; 94.31,
35.734; 94.058, 35.712; 93.386, 35.356; 92.942, 34.862; 92.591, 34.33; 92.26, 35.548;
91.652, 33.589; 88.832, 33.186; 91.732, 32.309; 91.593, 32.178; 92.277, 31.441; 91.035,
30.721; 90.27, 29.502; 90.417, 29.11; 90.101, 28.901; 97.295, 30.187; 97.128, 30.53;
96.064, 33.54; 95.884, 34.142; 97.236, 33.356; 98.015, 33.033; 100.592, 34.647; 101,
35.44; 102.883, 33.9; 97.716, 35.074; 98.135, 34.833; 98.855, 35.082; 100.76, 36.68;
87.433, 37.767; 87.433, 37.767; 83.73333333, 28.78333333; 86.56666666, 28.5