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Supplementary Material

Very low rate of multiple paternity detected in clutches of a wild agamid lizard

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Text S1. Details of captive hatching methodology and results

Captive hatching methods

The captive hatching schedule is provided in figure S1. After capture, gravid females were housed at the field station in Hawker for a maximum of three days before they were transported to Flinders University, Adelaide (five hour drive). During housing at the field station and transport to Adelaide, gravid females were secured in individual calico bags and placed in a portable electric fridge to keep them at approximately 15 °C, thereby reducing actively levels. The lid on the fridge was ajar for airflow. Once at Flinders University, gravid females were placed in individual enclosures.

Enclosures were made of large opaque plastic storage tubs (60 cm x 45 cm x 30 cm) with wire mesh lids and included UV lighting, basking lamps, warm and cool hides and nesting substrate (fig. S2). For female enclosures, nesting substrate was piled approximately 20cm high and 20cm wide up the side of one of the cool corners of the enclosure and consisted of a 70% sand and 30% peat moss mix. To ensure the nesting pile remained firm enough for females to dig safely, it was kept damp by spraying with water every second day. Three to six live small to medium sized crickets were provided every second day. Adult *C. decresii* were observed eating foliage at the Hawker field site, therefore shredded greens (bok choy, kale or cos lettuce) were provided once per week. Water was provided every second day by spraying both tiles and the sides of the container until pools of water formed. Gravid females were monitored twice daily and behaviour was recorded as either hiding, active (e.g. foraging or digging), basking or abnormal (e.g. running circles around enclosure, limping). Feeding records were kept, including the number of crickets provided, whether females were observed eating or foraging, and whether crickets remained from the previous feed.

Once females had laid their eggs they were removed from the enclosure temporarily while eggs were removed. Females were retained for approximately seven days after laying to increase body condition before release at their capture location. During transport females were secured in calico bags inside a portable electric fridge at 15 °C, with the lid ajar for airflow. Thirty minutes before release the temperature of the portable fridge was increased to 25 °C so that females were active when released. Opportunistic sightings of females in the weeks following release were recorded to determine whether females remained close to the original capture location and whether they became gravid again later in the season.

Eggs were removed from enclosures and the number of eggs laid (clutch size), individual egg weight and clutch weight were recorded before they were placed in separate containers for incubation (fig. S3). Due to regular monitoring, eggs were placed in the incubator within 12 hours of laying. Incubating substrate, consisting of a damp vermiculite mixture of 1 parts water and 3 parts vermiculite, was placed in incubating containers. Eggs were incubated in an Exo Terra Reptile Incubator at 30°C, which is likely to produce an even sex ratio (Harlow 2000; pers. comm. Devi Stuart-Fox).

Once a hatchling was fully emerged from the egg standard morphometric measurements were taken and it was then housed in an individual enclosure. Enclosures consisted of plastic storage containers (30 cm x 20 cm x 11 cm) with half of the lid replaced with wire mesh. Enclosures included UV lighting, basking lamps, and warm and cool hides (fig. S4). Hatchlings were fed approximately 10 'baby' or 'pinhead' sized crickets every second day. Water was provided daily by spraying tiles and the sides of the enclosures. When weather permitted, hatchling enclosures were taken outside so that hatchlings could bask in sunlight. Monitoring was undertaken twice daily to record hatchling behaviour. Feeding records were also kept to ensure hatchlings were eating. Any hatchlings that did not eat after four days were hand fed for up to a week (3-4 feeds).

At hatching, six weeks and 12 weeks standard morphometric measurements were taken. Structural abnormalities (e.g. kinked tail) were recorded at hatching. The overall percentage of eggs that hatched and the percentage of hatchlings that survived to 12 weeks of age was calculated, along with mean growth rate (g/day) from hatching to 12 weeks of age and relative clutch weight (RCW). RCW is a measure of maternal investment as is calculated as total clutch weight divided by post-laying weight of the mother (Vitt and Congdon 1978). At approximately 12 weeks of age hatchlings were transported to Hawker and released into vacant rock crevices (checked with a torch) near their mothers capture location. During transport hatchlings were secured in calico bags inside a portable electric fridge at 15 °C, with the lid ajar to allow airflow. The temperature was increased to 25 °C 30 minutes prior to release so that hatchlings were active when released.

For both female and hatching enclosures, native foliage was provided to create structural heterogeneity and fine filtered sand was used as a substrate. Enclosures had a warm end and a cool end, each with a tile hide. At the warm end of the enclosure a basking spot was created during daylight hours (8am-5pm) with heat lamps providing 35°C, and UV lights (URS Outback Max 10% UVA/UVB) providing adequate levels of UVA and UVB light. Overhead lighting was provided during daylight hours (7am-7pm). The cool end of the enclosure remained at approximately 28°C during daylight hours. Room temperature was set to 28°C during the day, and 23°C at night.

Strict quarantine protocols were followed to ensure that gravid females, hatchlings and other animals within the Flinders University Animal House were not exposed to pathogens. This allowed females and hatchlings to be released into the wild, hence reducing the impact on the population. Quarantine protocols included separate rooms for *C. decresii* and other animals within the Flinders University Animal House, disinfecting rooms before and after use, disinfecting enclosures before and after use, disinfecting calico bags used for temporarily holding lizards before and after use, disinfecting hands before and after handling, feeding and watering lizards and other animals, handling lizards only when necessary, and limiting handling of food items before feeding.

Captive hatching results

On average, females were held at the Hawker field station for one night before being transported to Flinders University. Female were then housed, on average, for 20 days before release back into the wild. Of the 27 females captured, four were likely not gravid and were released after 2 – 3 weeks. All gravid females (n = 23) buried their eggs within the enclosure and eggs were incubated within 12 hours of laying. After release, 12 females were opportunistically sighted (individual ID number written on back with non-toxic paint pen) throughout the field season on 1-3 different occasions. Of those females, two were observed to be heavily gravid again based on the presence of visible egg lumps. All resighted females were within 31 m of the original capture location (average, 10 m). Although released females were not actively targeted for resightings, these findings suggest that at least some females remained close to the original capture location and were reproductively active for the remainder of the breeding season.

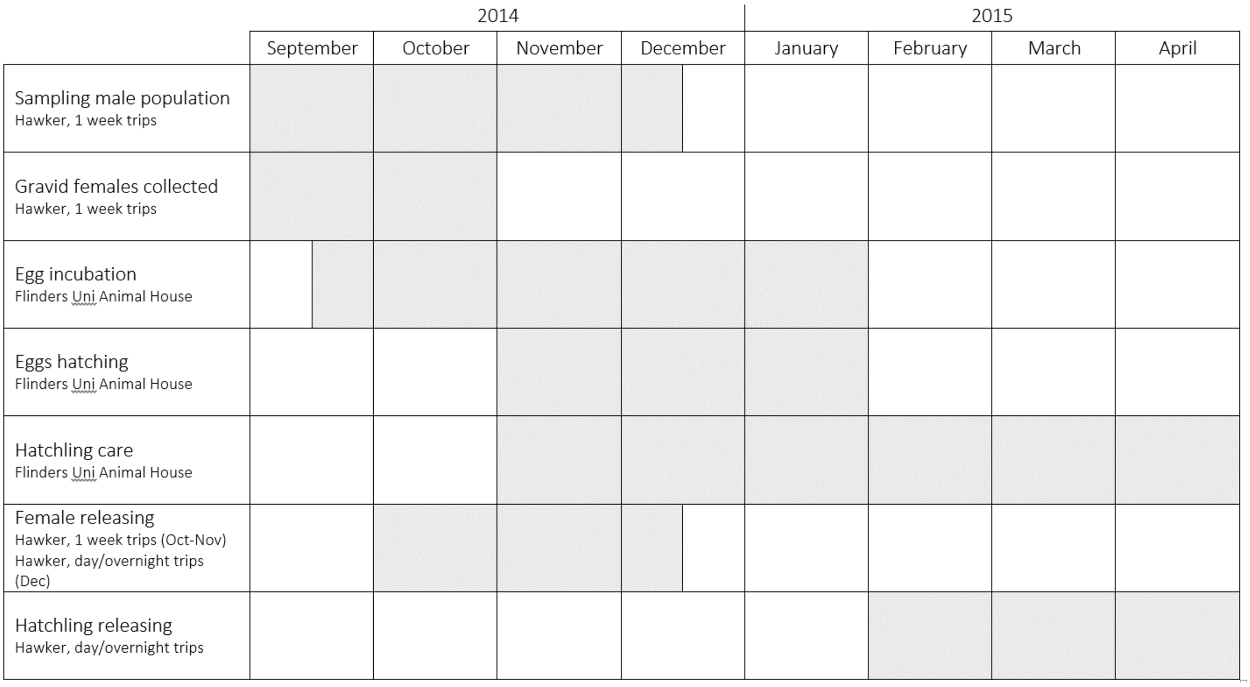
Eggs were incubated for 49-65 days and average egg weight was 1.13 g. Average weight at hatching was 1.19 g and average SVL was 31 mm. This increased to 2.18 g and 36 mm, respectively, by 12 weeks of age. The mean growth rate among hatchlings was 0.012 g/day. Overall, hatching survival was high, with a mean of 95 % hatchling surviving to 12 weeks across clutches. Mean relative clutch weight (RCW) was 45 % and varied among clutches, ranging from 32 % to 67 % (table 1). Overall, 17 hatchlings (12%) presented structural abnormalities, with 10 clutches affected. Structural abnormalities included kinked tails and slightly concaved spines. Mean growth rate was similar between hatchlings with (0.010 g/day) and without (0.012 g/day) structural abnormalities, indicating that hatchling growth was not impacted. One hatchling displayed a possible case of exomphalos and was euthanised immediately after hatching. Hatchlings were housed for a maximum of 110 days before release.

All females ate the crickets provided, with few crickets remaining after each feed. When water was provided some females were observed drinking from the surface of tiles although none were observed drinking from the sides of the enclosures. During captivity (excluding the first 4 days) 12 females predominantly (>50% of daily observations) displayed ‘basking’ behaviour and 14 females predominantly displayed ‘hiding’ behaviour. One female predominantly displayed ‘active’ behaviour (e.g. digging, foraging, regulating body temperature).

Most hatchlings ate crickets provided by the second or third day after hatching and drank water from the surface of tiles. Most hatchlings were observed displaying normal behaviour (e.g. basking, foraging and hiding/retreating). A small portion of the hatchlings (n=5) did not start eating crickets and remained inactive after the third day. Therefore, these individuals were hand-fed 3-5 pin-head sized crickets every second day for a week, after which they started eating for themselves. Despite efforts, these hatchlings didn’t thrive and died at 4-6 weeks of age.

Table S1. Captive hatching statistics and hatchling morphometrics for *Ctenophorus decresii*. Relative clutch weight; total clutch weight divided by post-laying weight of mother.

	Mean	Minimum	Maximum
Number of eggs within a clutch	6	4	8
Incubation time (days) at 30°C	57	49	65
Percentage of clutch hatched	83	0	100
Egg weight (g)	1.13	0.93	1.51
Relative clutch weight (%)	45	32	67
Weight (g) at hatching	1.19	0.95	1.47
Weight (g) at 12 weeks	2.18	1.42	3.02
Snout-to-vent length (mm) at hatching	31	29	32
Snout-to-vent length (mm) at 12 weeks	36	30	40
Average hatchling growth rate (g/day)	0.012	0.002	0.020
Clutch hatchling survival to 12 weeks (%)	95	50	100



	2014				2015			
	September	October	November	December	January	February	March	April
Sampling male population Hawker, 1 week trips	▨	▨	▨	▨□				
Gravid females collected Hawker, 1 week trips	▨	▨						
Egg incubation Flinders Uni Animal House	□▨	▨	▨	▨	▨			
Eggs hatching Flinders Uni Animal House			▨	▨	▨			
Hatchling care Flinders Uni Animal House			▨	▨	▨	▨	▨	▨
Female releasing Hawker, 1 week trips (Oct-Nov) Hawker, day/overnight trips (Dec)		▨	▨	▨□				
Hatchling releasing Hawker, day/overnight trips						▨	▨	▨

Figure S1. Captive hatching schedule used to obtain family group data for *Ctenophorus decresii*

Figure S2. Example of an enclosure used to house gravid female *Ctenophorus decresii*

Figure S3. A *Ctenophorus decresii* egg prepared for incubation

Figure S4. Example of *Ctenophorus decresii* hatchling enclosures

Table S2. Review of the rate of male and female multiple mating in squamate reptiles determined using molecular methods. Rate; percentage of individuals that mated multiply within a single mating season. Sample size is given in brackets. In all cases female multiple mating was assessed by the contribution of >1 sire to a single clutch or litter. Cases in which multiple paternity within clutches or litters was not observed are indicated with bolded text. Only studies undertaken on wild or free-ranging captive animals are included.

Species	Male multiple mating detected?	Rate (percentage of males)	Female multiple mating detected?	Rate (percentage of females)	Reference
Scincidae					
Egernia whitii, White's skink	Yes	—	Yes	17% (NA)	While, Uller *et al.* (2009)
Egernia whitii, White's skink	Yes	—	Yes	12% (5/43)	Chapple and Keogh (2005)
Egernia stokesii, Gidgee skink	Yes	9% (2/23)	Yes	25% (4/16)	Gardner, Bull *et al.* (2002)
Egernia cunninghami, Cunningham's skink	Yes	12% (4/33)	Yes	3% (1/38)	Stow and Sunnucks (2004)*
Tiliqua rugosa, Sleepy lizard	Yes	18% (7/39)	Yes	19% (4/21)	Bull, Cooper *et al.* (1998)
Tiliqua adelaidensis, Pigmy blue-tongue	Yes	—	Yes	75% (18/24)	Schofield, Gardner *et al.* (2014)
Eulamprus heatwolei, Southern water skink	Yes	—	Yes	42% (5/12)	Keogh, Noble *et al.* (2012)
Eulamprus heatwolei, Southern water skink	Yes	—	Yes	82% (14/17)	Morrison, Scott Keogh *et al.* (2002)
Eulamprus quoyii, Eastern water skink	—	—	Yes	65% (41/63)	Noble, Keogh *et al.* (2013)^
Eulamprus leuraensis, Blue Mountains water skink	—	—	Yes	27% (11/41)	Dubey, Chevalley *et al.* (2011)
Oligosoma grande, Grand skink	Yes	70% (7/10)	Yes	47% (7/15)	Berry (2006)
Pseudomoia eurecateuixii, Mountain log skink	—	—	Yes	27% (3/11)	Stapley and Keogh (2006)^

Pseudomoia eurecateuixii, Mountain log skink	—	—	Yes	57% (9/17)	Stapley, Hayes *et al.* (2003)
Plestiodon fasciatus, Common Five-lined Skink	—	—	Yes	65% (13/20)	Bateson, Krenz *et al.* (2011)
Liopholis kintorei, **Great desert skink**	**Yes**	**40% (NA)**	**No**	**0% (NA)**	**McAlpin, Duckett *et al.* (2011)***
Lacertidae					
Iberolacerta cyreni, Spanish rock lizard	Yes	—	Yes	48.5% (16/33)	Salvador, Díaz *et al.* (2008)
Lacerta vivipara, Common lizard	Yes	51% (22/43)	Yes	65% (17/26)	Hofmann and Henle (2006)
Lacerta agilis, Sand lizard	—	—	Yes	80% (4/5)	Gullberg, Olsson *et al.* (1997)
Podarcis muralis, Common wall lizard	—	—	Yes	87% (27/31)	Oppliger, Degen *et al.* (2007)
Gallotia bravoana, Giant lizard of La Gomera	Yes	60% (3/5)	Yes	27% (3/11)	Gonzalez, Cerón-Souza *et al.* (2014)
Agamidae					
Amphibolurus muricatus, Jacky lizard	—	—	Yes	30% (20/67)	Warner, Woo *et al.* (2010)^
Ctenophorus pictus, Painted dragon	—	—	Yes	18% (9/51)	Uller and Olsson (2008)
Ctenophorus ornatus, Ornate dragon	Yes	—	Yes	25% (5/20)	Lebas (2001)
Intellagama lesueurii, Water dragon	—	—	Yes	86% (19/22)	Frère, Chandrasoma *et al.* (2015)
Iguanidae					
Ctenosaura pectinate, Black spiny-tailed iguana	—	—	Yes	11% (1/9)	Faria, Zarza *et al.* (2010)
Crotaphytus collaris, Collard lizard	Yes	—	Yes	—	York and Baird (2015)
Chamaeleonidae					
Bradypodion pumilum, Cape Dwarf Chameleon	—	—	Yes	100% (6/6)	Tolley, Chauke *et al.* (2014)
Phrynosomatidae					

Sceloporus virgatus, Striped plateau lizard	Yes	—	Yes	61.5% (8/13)	Abell (1997)
Uta stansburiana, Side-blotched lizard	—	—	Yes	73% (71/97)	Zamudio and Sinervo (2000)¥
Teiidae					
Ameiva exsul, Teiid lizard	Yes	—	Yes	—	Lewis, Tirado *et al.* (2000)^
Diplodactylidae					
Oedura reticulate, Reticulated velvet gecko	Yes	97% (29/30)	Yes	100% (0/26)	Lange, Gruber *et al.* (2013)
Dactyloidae					
Anolis cristatellus, Puerto Rican crested anole	—	—	Yes	30% (7/23)	Eales, Thorpe *et al.* (2010)
Colubridae					
Nerodia sipedon, Northern water snake	—	—	Yes	62% (NA)	Kissner, Weatherhead *et al.* (2005)^
Nerodia sipedon, Northern water snake	Yes	—	Yes	58% (46/81)	Prosser, Weatherhead *et al.* (2002)^
Nerodia sipedon, Northern water snake	—	—	Yes	86% (12/14)	Barry, Weatherhead *et al.* (1992)
Nerodia rhombifer, Diamondback water snake	—	—	Yes	100% (1/1)	Wusterbarth, King *et al.* (2010)
Elaphe obsolete, Black rat snake	Yes	13% (5/39)	Yes	88% (30/34)	Blouin-Demers, Gibbs *et al.* (2005)
Natrix natrix, Grass snake	—	—	Yes	90% (10/11)	Meister, Ursenbacher *et al.* (2012)
Stegonotus cucullatus, Slatey-grey snake	Yes	—	Yes	—	Dubey, Brown *et al.* (2009)
Thamnophis elegans, Western terrestrial garter snake	—	—	Yes	50% (3/6)	Garner and Larsen (2005)

Thamnophis sirtalis parietalis, Red-sided garter snake	—	—	Yes	85% (50/59)	Friesen, Mason *et al.* (2014)
Thamnophis sirtalis, Garter snake	—	—	Yes	75% (6/8)	McCracken, Burghardt *et al.* (1999)
Thamnophis sirtalis, Garter snake	—	—	Yes	37.5% (6/16)	Garner, Gregory *et al.* (2002)
Thamnophis sirtalis, Garter snake	—	—	Yes	100% (4/4)	King, Milstead *et al.* (2001)
Thamnophis sirtalis, Garter snake	—	—	Yes	100% (1/1)	Wusterbarth, King *et al.* (2010)
Thamnophis melanogaster, **Blackbelly garter snake**	**—**	**—**	**No**	**0% (0/1)**	**Wusterbarth, King *et al.* (2010)**
Thamnophis sauritus, Ribbon snake	—	—	Yes	100% (1/1)	Wusterbarth, King *et al.* (2010)
Storeria dekayi, Brown snake	—	—	Yes	100% (1/1)	Wusterbarth, King *et al.* (2010)
Storeria occipitomaculata, Redbelly snake	—	—	Yes	100% (1/1)	Wusterbarth, King *et al.* (2010)
Elapidae					
Enhydris enhydris, Rainbow water snake	—	—	Yes	100% (2/2)	Voris, Karns *et al.* (2007)
Enhydris subtaeniata, Mekong mud snake	—	—	Yes	100% (4/4)	
Hydrophis elegans, **Elegant sea snake**	**—**	**—**	**No**	**0% (0/2)**	**Lukoschek and Avise (2011)**
Hydrophis kingii, **King's sea snake**	**—**	**—**	**No**	**0% (0/1)**	
Hydrophis mcdowelli, **Small-headed sea snake**	**—**	**—**	**No**	**0% (0/3)**	
Hydrophis ocellatus, **Spotted sea snake**	**—**	**—**	**No**	**0% (0/1)**	
Hydrophis pacificus, **Pacific sea snake**	**—**	**—**	**No**	**0% (0/1)**	

***Lapemis curtus,* Shaw's sea snake**	**—**	**—**	**No**	**0% (0/4)**	
Viperidae					
Vipera berus, Adder	Yes	29% (6/21)	Yes	69% (9/13)	Ursenbacher, Erny *et al.* (2009)
Crotalus atrox, Western diamond-backed rattlesnake	Yes	—	Yes	50% (12/24)	Clark, Schuett *et al.* (2014)
Crotalus horridus, Timber Rattlesnake	Yes[#]	—	Yes	43% (3/7)	Lind, Flack *et al.* (2016)
Gloydius halys, Halys pit viper	—	—	Yes	100% (1/1)	Simonov and Wink (2011)
Pythonidae					
Liasis fuscus, Water python	—	—	Yes	14% (2/14)	Madsen, Ujvari *et al.* (2005)

^Study undertaken on a free-ranging captive population.

*Assessed from juveniles in family groups, not hatchlings

[#] Based on field observations

[¥] Based on KINSHIP program. Using the COLONY program multiple paternity was estimated at 68% (66/97)

Table S3. *Ctenophorus decresii* microsatellite genotypes. Paternity assignment probability is provided for each father in brackets and is based on the polygyny Colony model. The number of paternal alleles were inferred at each locus for each clutch. Maternal alleles are coloured green and paternal alleles are coloured red. Missing data or alleles affected by missing data are coloured purple and mismatches are coloured yellow. Evidence for multiple paternity was found for a single clutch (mother F_958_F).

		CP11		**Ctde03**		**Ctde05**		**Ctde12**		**Ctde21**		**Ctde45**		**CP10**		**Ctde08**	
Mother	F_1016_F	144	144	0	0	203	230	245	281	0	0	0	0	132	132	213	213
Father (1.000)	M_655_F	144	146	295	295	242	242	277	302	325	401	157	157	120	120	156	156
	H_1016-2_F	144	146	295	316	203	242	281	302	329	401	157	157	120	132	156	156
	H_1016-3_F	144	144	295	316	230	242	245	277	325	329	157	157	120	132	156	156
	H_1016-4_F	144	144	295	355	230	242	277	281	325	329	157	157	120	134	156	156
Number inferred paternal alleles:		1		NA		1		2		NA		NA		1 - 2		1	
Mother	F_1022_F	144	150	316	359	195	242	237	253	291	308	211	211	120	134	213	213
Father (0.949)	M_848_F	144	146	277	277	242	242	241	253	287	287	157	176	0	0	158	177
	H_1022-1_F	144	150	316	359	195	242	241	253	287	308	157	211	120	171	158	213
	H_1022-2_F	144	150	316	359	242	242	237	253	287	308	176	211	120	171	177	213
	H_1022-3_F	144	144	316	359	242	242	241	253	291	291	176	176	120	188	177	177
	H_1022-4_F	144	150	277	316	195	242	237	241	308	308	157	157	134	171	158	158
	H_1022-5_F	144	144	316	359	242	242	237	241	291	291	157	157	134	134	158	158
Number inferred paternal alleles:		1		2		1		2		2		2		2 - 3		2	
Mother	F_903_F	142	144	299	316	167	230	265	273	405	405	161	176	120	149	160	177
Father (1.000)	M_910_F	144	146	291	295	222	230	241	281	325	325	169	207	120	130	168	209
	H_903-2_F	0	0	291	316	167	222	265	281	401	405	0	0	120	120	177	209
	H_903-3_F	144	146	295	299	222	230	241	265	401	405	161	207	130	149	160	209
	H_903-4_F	142	144	291	316	167	230	273	281	325	325	161	169	120	149	160	168
	H_903-5_F	144	144	291	316	167	230	241	273	401	405	161	169	0	0	160	168
	H_903-6_F	142	146	295	316	222	230	265	281	325	325	176	207	130	149	177	209
Number inferred paternal alleles:		2		2		2		2		2		2		2		2	
Mother	F_906_F	144	150	295	295	210	246	281	297	291	325	161	161	134	140	160	160
Father (1.000)	M_609_F	144	144	0	0	167	222	237	285	291	291	145	207	120	138	144	209
	H_906-1_F	144	150	316	316	210	222	237	281	291	325	145	161	120	140	144	160
	H_906-2_F	144	144	316	316	210	222	237	297	291	325	161	207	120	140	160	209
	H_906-3_F	144	144	0	0	210	222	237	297	291	291	145	161	120	134	144	160
	H_906-4_F	144	150	0	0	210	222	281	285	291	291	161	207	134	138	160	209
	H_906-5_F	144	144	295	295	167	210	237	297	291	291	161	207	138	140	160	209
	H_906-6_F	144	150	295	295	167	210	285	297	291	291	145	161	138	140	144	160
Number inferred paternal alleles:		1		2		2		2		1		2		2		2	

		CP11		Ctde03		Ctde05		Ctde12		Ctde21		Ctde45		CP10		Ctde08	
Mother	F_913_F	144	144	332	367	222	239	281	285	291	291	0	0	130	146	197	201
Father (1.000)	M_668_F	144	144	328	336	167	167	273	289	325	325	157	211	0	0	156	213
	H_913-1_F	144	144	332	336	222	230	281	289	291	325	196	211	125	144	197	213
	H_913-2_F	144	144	332	336	167	222	273	281	291	325	200	211	120	120	201	213
	H_913-3_F	144	144	332	336	167	239	273	281	291	325	157	196	120	130	156	197
	H_913-4_F	144	144	328	332	222	230	273	281	291	325	157	196	146	168	156	197
	H_913-5_F	144	144	336	367	167	222	281	289	291	325	200	211	120	146	201	213
	H_913-6_F	144	144	336	367	167	239	285	289	291	325	196	211	130	168	197	213
	H_913-7_F	144	144	336	367	230	239	273	285	291	325	157	196	120	130	156	197
Number inferred paternal alleles:		1		2		2		2		1		NA		2		2	
Mother	F_915_F	144	144	295	316	239	239	277	281	287	295	157	207	134	152	158	209
Father (1.000)	M_609_F	144	144	0	0	167	222	237	285	291	291	145	207	120	138	144	209
	H_915-1_F	144	144	316	316	222	239	281	285	287	291	145	157	120	134	144	158
	H_915-2_F	144	144	295	316	222	239	281	285	287	287	157	207	120	152	158	209
	H_915-3_F	144	144	295	295	167	239	277	285	295	295	145	207	120	152	144	209
	H_915-5_T	144	144	316	316	167	239	277	285	287	291	207	207	120	152	209	209
	H_915-6_F	144	144	295	316	222	239	237	277	291	295	207	207	138	152	209	209
	H_915-7_F	144	144	295	295	167	239	281	285	287	287	145	157	120	134	144	158
Number inferred paternal alleles:		1		2		2		2		2		2		2		2	
Mother	F_916_F	144	144	299	320	167	230	253	273	325	325	157	161	120	149	158	160
Father (1.000)	M_648_F	142	144	316	355	230	239	285	289	0	0	211	211	125	130	213	213
	H_916-1_F	142	144	299	316	167	239	253	289	333	333	157	211	120	130	158	213
	H_916-2_F	144	144	316	320	167	230	273	285	325	325	157	211	125	149	158	213
	H_916-3_F	144	144	299	316	230	239	253	289	333	333	161	211	130	149	160	213
	H_916-4_F	144	144	0	0	167	239	0	0	325	325	0	0	120	125	160	213
	H_916-5_F	144	144	316	320	167	239	273	289	333	333	161	211	120	125	160	213
	H_916-6_F	144	144	299	316	167	239	273	285	333	333	157	211	130	149	158	213
	H_916-7_F	142	144	299	316	230	239	253	289	333	333	157	211	130	149	158	213
	H_916-8_F	144	144	316	320	167	230	273	285	333	333	161	211	120	130	160	213
Number inferred paternal alleles:		2		2		2		2		1		1		2		1	
Mother	F_922_F	144	144	295	305	218	230	237	241	291	295	0	0	130	144	209	213
Father (1.000)	M_631_F	144	144	291	295	211	259	265	289	287	287	176	211	134	142	177	213
	H_922-1_F	144	144	295	295	218	259	237	265	295	295	176	211	134	144	177	213
	H_922-2_F	144	144	291	305	230	259	237	265	287	295	207	211	130	142	209	213
	H_922-3_F	144	144	295	305	230	259	237	265	291	291	207	211	142	144	209	213
	H_922-4_F	144	144	295	295	211	230	237	289	287	295	176	207	130	142	177	209
	H_922-5_F	144	144	295	295	230	259	237	265	287	291	176	211	142	144	177	213
	H_922-6_F	144	144	291	305	218	259	241	289	287	291	176	211	142	144	177	213
	H_922-7_F	144	144	295	305	230	259	241	289	295	295	176	207	130	142	177	209
	H_922-8_F	144	144	295	295	230	259	241	289	295	295	207	211	142	144	209	213
Number inferred paternal alleles:		1		2		2		2		1		NA		2		2	

		CP11		Ctde03		Ctde05		Ctde12		Ctde21		Ctde45		CP10		Ctde08	
Mother	F_932_F	146	150	340	340	207	211	241	277	287	308	157	200	134	135	156	201
Father (1.000)	M_908_F	144	144	316	320	222	230	273	285	329	329	161	176	120	179	160	177
	H_932-1_F	144	146	316	340	211	222	277	285	0	0	176	200	135	135	177	201
	H_932-2_F	144	150	316	340	211	230	277	285	308	329	157	161	135	179	156	160
	H_932-3_F	144	146	316	340	211	222	241	285	308	308	157	176	120	134	156	177
	H_932-4_F	144	146	320	320	211	230	273	277	308	308	157	161	120	134	156	160
Number inferred paternal alleles:		1		2		2		2		2		2		2		2	
Mother	F_934_F	144	144	277	316	214	222	265	281	287	405	176	211	134	149	177	213
Father (1.000)	M_805_F	144	150	316	316	230	230	237	265	291	329	176	211	138	138	177	213
	H_934-1_F	144	144	316	316	222	230	265	265	329	405	176	211	138	149	177	213
	H_934-2_F	144	150	277	316	214	230	265	281	287	329	211	211	134	138	213	213
	H_934-3_F	144	150	277	316	222	230	265	281	287	329	176	176	149	149	177	177
	H_934-4_F	144	144	277	316	222	230	265	265	287	329	176	176	134	179	177	177
	H_934-5_F	144	150	277	316	222	230	265	281	287	329	176	211	149	179	177	213
	H_934-6_T	144	144	277	316	214	230	265	281	287	291	176	211	149	149	177	213
	H_934-7_F	144	150	316	316	214	230	265	265	329	405	211	211	149	179	213	213
	H_934-8_F	144	144	316	316	214	230	237	281	287	329	211	211	149	179	213	213
Number inferred paternal alleles:		2		1		1		2		2		2		2		2	
Mother	F_943_F	144	146	259	277	222	222	241	277	295	321	157	211	120	130	156	213
Father (0.999)	M_825_F	144	144	311	332	167	222	273	281	291	299	161	161	142	142	160	164
	H_943-1_F	144	144	277	311	167	222	241	273	299	321	157	161	120	142	156	160
	H_943-2_F	144	144	259	311	222	222	273	277	299	321	161	211	130	142	160	213
	H_943-3_F	144	146	277	311	167	222	241	273	295	299	161	211	130	142	160	213
	H_943-4_F	144	144	259	311	222	222	273	277	295	299	157	161	130	142	156	160
	H_943-5_F	144	146	259	311	222	222	241	273	299	321	211	211	120	142	164	213
	H_943-6_F	144	144	259	311	222	222	273	277	299	321	157	161	120	142	156	160
	H_943-7_F	144	144	277	311	167	222	277	281	299	321	161	211	130	130	160	213
	H_943-8_F	144	144	259	311	222	222	273	277	291	321	211	211	130	130	164	213
Number inferred paternal alleles:		1		1		2		1		2		1		1		2	
Mother	F_944_F	144	146	363	367	222	242	253	277	291	291	0	0	130	149	158	197
Father (1.000)	M_833_F	0	0	311	311	214	239	270	277	325	325	149	169	0	0	149	168
	H_944-1_F	144	144	311	363	222	239	277	277	291	325	149	196	130	146	149	197
	H_944-2_F	144	144	367	367	214	222	253	277	291	401	149	196	130	134	149	197
	H_944-3_F	144	146	363	363	214	242	270	277	291	401	169	196	130	146	168	197
	H_944-4_F	144	144	311	363	222	239	277	277	325	325	169	196	134	134	168	197
	H_944-5_F	144	144	363	363	239	242	277	277	291	325	157	169	146	149	158	168
	H_944-6_F	144	146	363	363	214	222	253	270	291	325	149	196	130	134	149	197
	H_944-7_F	144	146	311	363	214	222	270	277	291	401	157	169	130	134	158	168
Number inferred paternal alleles:		1		1		2		2		2		NA		2		2	

		CP11		Ctde03		Ctde05		Ctde12		Ctde21		Ctde45		CP10		Ctde08	
Mother	F_955_F	144	146	295	295	167	242	281	285	291	291	0	0	120	134	149	213
Father (0.998)	M_825_F	144	144	311	332	167	222	273	281	291	299	161	161	142	142	160	164
	H_955-1_F	144	144	295	332	222	242	273	285	291	299	149	161	134	142	149	160
	H_955-2_F	144	146	295	332	167	222	273	285	291	299	211	211	124	134	164	213
	H_955-3_F	144	144	332	355	167	242	273	281	291	291	149	161	134	134	149	160
	H_955-4_F	144	146	295	332	167	167	281	281	291	291	161	211	120	120	160	213
	H_955-5_F	144	146	295	332	167	242	281	281	291	299	161	211	134	142	160	213
	H_955-6_F	144	146	295	332	167	222	281	281	291	299	211	211	134	134	164	213
	H_955-7_F	144	144	295	332	167	222	281	285	291	291	211	211	134	134	164	213
Number inferred paternal alleles:		1		1		2		2		2		NA		2		2	
Mother	F_957_F	144	150	316	328	218	218	277	314	287	287	157	200	130	146	158	201
Father (1.000)	M_919_F	144	144	295	328	218	227	241	289	308	308	157	196	130	134	156	197
	H_957-1_F	144	144	295	316	218	218	241	277	333	333	157	196	130	134	158	197
	H_957-2_F	144	144	316	328	218	227	241	314	287	287	157	200	130	134	156	201
	H_957-3_F	144	144	316	328	218	227	289	314	287	308	157	157	130	146	156	158
	H_957-5_F	144	144	295	328	218	218	241	277	287	308	157	157	130	146	156	158
	H_957-6_F	144	144	295	316	218	227	241	314	333	333	157	200	134	146	156	201
	H_957-7_F	144	150	316	328	218	218	277	289	287	287	196	200	130	130	197	201
	H_957-8_F	144	144	295	316	218	218	277	289	308	308	157	200	130	146	156	201
Number inferred paternal alleles:		1		2		2		2		2		2		2		2	
Mother	F_960_F	144	144	305	336	227	230	281	281	325	325	157	196	134	144	156	197
Father (1.000)	M_668_F	144	144	328	336	167	167	273	289	325	325	157	211	0	0	156	213
	H_960-1_F	144	144	305	328	230	230	0	0	325	325	157	157	144	168	156	156
	H_960-2_T	144	144	305	336	167	230	273	281	325	325	157	157	120	144	156	156
	H_960-3_F	144	144	305	328	167	230	273	281	325	325	157	157	120	144	156	156
	H_960-4_F	144	144	305	328	230	230	273	281	325	325	196	211	120	134	197	213
	H_960-5_F	144	144	328	336	167	227	273	281	325	325	196	211	134	168	197	213
Number inferred paternal alleles:		1		2		2		1		1		2		2		2	
Mother	F_974_F	146	150	316	332	227	230	265	285	287	299	157	169	112	144	156	168
Father (1.000)	M_657_F	144	150	311	328	203	227	237	285	287	325	176	211	120	124	177	213
	H_974-1_F	144	150	311	316	203	227	0	0	299	325	169	176	120	144	168	177
	H_974-2_F	142	146	311	316	227	227	237	265	287	287	169	176	124	144	168	177
	H_974-3_F	144	146	316	328	203	230	285	285	299	325	157	211	120	144	156	213
	H_974-4_F	150	150	328	332	203	230	285	285	287	299	157	211	120	144	156	213
Number inferred paternal alleles:		2		2		2		2		2		2		2		2	

		CP11		Ctde03		Ctde05		Ctde12		Ctde21		Ctde45		CP10		Ctde08	
Mother	F_987_F	142	150	277	277	207	218	281	285	321	321	200	211	142	146	201	213
Father (0.834)	M_700_F	150	150	0	0	203	214	237	237	0	0	157	157	0	0	0	0
	H_987-1_F	142	150	277	316	214	218	237	285	321	325	157	200	120	146	158	201
	H_987-2_F	150	150	277	316	207	214	237	281	287	287	157	200	146	179	158	201
	H_987-4_F	0	0	277	320	207	214	237	281	321	325	157	200	120	146	158	201
	H_987-6_F	142	150	277	320	214	218	237	281	321	325	157	200	142	179	158	201
Number inferred paternal alleles:		1		2		1		1		1 - 2		1		2		1	
Mother	F_990_F	144	150	299	311	218	242	245	285	325	329	196	200	130	144	197	201
Father (1.000)	M_655_F	144	146	295	295	242	242	277	302	325	401	157	157	120	120	156	156
	H_990-1_F	144	150	295	299	218	242	245	277	329	401	157	196	120	144	156	197
	H_990-2_F	144	146	295	311	242	242	245	302	325	401	157	196	120	130	156	197
	H_990-3_T	146	150	295	299	242	242	285	302	325	329	157	196	120	130	156	197
	H_990-4_F	144	150	295	311	218	242	285	302	325	401	157	200	120	130	156	201
	H_990-5_F	146	150	295	311	218	242	277	285	329	401	157	200	120	130	156	201
	H_990-6_F	144	146	295	299	242	242	277	285	325	329	157	200	120	130	156	201
	H_990-7_F	144	144	295	311	218	242	285	302	325	401	157	200	120	130	156	201
Number inferred paternal alleles:		2		1		1		2		2		1		1		1	
Mother	F_995_F	144	144	277	299	211	222	249	270	299	325	161	211	134	149	160	213
Father (0.958)	M_857_F	144	144	316	316	183	222	237	281	291	308	157	157	122	122	158	158
	H_995-1_F	144	144	299	316	211	222	270	281	308	325	157	211	122	122	158	213
	H_995-2_F	144	144	299	316	183	222	270	281	299	308	211	211	134	134	164	213
	H_995-3_F	144	144	277	316	183	211	270	281	308	325	161	161	146	149	160	160
	H_995-4_F	144	144	277	316	183	222	249	281	299	308	161	161	146	149	160	160
	H_995-5_F	144	144	277	316	183	222	237	270	291	325	211	211	134	134	164	213
	H_995-6_F	144	144	299	316	183	211	270	281	299	308	157	211	149	149	158	213
Number inferred paternal alleles:		1		1		2		2		2		1		2		2	
Mother	F_997_F	144	150	0	0	222	222	277	285	287	287	157	161	124	125	158	160
Father (1.000)	M_655_F	144	146	295	295	242	242	277	302	325	401	157	157	120	120	156	156
	H_997-1_F	144	150	295	328	222	242	277	285	325	325	157	157	120	124	156	158
	H_997-2_F	144	146	295	328	222	242	285	302	325	325	157	161	120	124	156	160
	H_997-3_F	144	146	295	328	222	242	277	277	287	401	157	161	120	125	156	160
	H_997-4_T	146	150	295	328	222	242	285	302	287	401	157	161	120	124	156	160
	H_997-5_F	144	146	295	328	222	242	277	302	325	325	0	0	120	125	156	160
	H_997-6_F	144	150	295	311	222	242	277	302	325	401	157	161	120	124	156	160
	H_997-7_F	144	150	295	311	222	242	277	285	287	401	157	161	120	124	156	160
Number inferred paternal alleles:		2		NA		1		2		2		1		1		1	

		CP11		**Ctde03**		**Ctde05**		**Ctde12**		**Ctde21**		**Ctde45**		**CP10**		**Ctde08**	
Mother	F_998_F	142	150	295	311	207	210	277	281	308	321	157	176	134	142	156	177
Father (0.998)	M_841_F	144	144	311	328	203	227	237	285	325	325	196	211	120	124	197	213
	H_998-1_F	144	150	311	311	207	227	281	285	321	325	176	211	120	142	207	227
	H_998-2_F	142	144	311	328	210	227	237	281	321	401	157	196	120	142	156	197
	H_998-3_F	144	144	295	311	203	207	281	285	308	401	157	196	124	142	156	197
	H_998-4_F	144	150	295	311	203	210	277	285	308	401	176	196	120	142	177	197
	H_998-5_F	142	144	311	328	203	207	281	285	308	401	176	211	124	134	177	213
	H_998-6_F	142	144	295	328	210	227	237	281	308	325	157	196	124	134	156	197
Number inferred paternal alleles:		1		2		2		2		2		2		2		2	
		MULTIPLE PATERNITY															
Mother (father/s unknown)	F_958_F	144	144	336	363	167	259	249	273	325	325	157	207	120	134	156	209
	H_958-1_F	144	150	277	336	167	259	273	285	325	325	149	157	120	130	156	156
	H_958-2_F	144	144	277	363	167	203	249	285	321	325	149	207	120	120	149	209
	H_958-3_F	144	150	316	363	207	259	257	273	325	325	207	211	120	144	209	213
	H_958-4_F	144	150	316	363	214	259	249	257	325	325	196	207	134	149	197	209
	H_958-5_F	144	150	336	336	167	167	249	285	325	325	149	207	120	120	149	209
Number inferred paternal alleles:		1		2		3		2		1		3		3		3	
Mother (father/s unknown)	F_996_F	144	144	277	316	214	230	245	277	287	405	165	211	132	138	164	213
	H_996-1_F	144	144	299	316	230	242	277	281	287	287	196	211	130	138	197	213
	H_996-2_F	144	144	277	299	230	242	245	285	291	405	165	196	138	138	164	197
	H_996-3_F	144	144	316	332	214	242	277	281	287	291	196	211	138	168	197	213
	H_996-4_F	144	144	277	332	167	214	277	285	291	405	165	196	130	138	164	197
	H_996-5_F	144	144	277	332	214	242	277	281	287	291	157	165	138	168	156	164
	H_996-6_F	0	0	277	332	230	242	245	285	287	405	157	211	130	138	156	213
Number inferred paternal alleles:		1		2		2		2		1		2		2		2	

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