

Red-browed Amazon Parrot (*Amazona rhodocorytha*)

Caging

Husbandry of Amazon parrots is well established, as Amazons are one of the easiest birds to house and raise. Red-browed Amazons housed by RSCF are kept in pairs in large (minimum 6'x6'x12') cages of galvanized wire mesh either suspended 3'-5' off the ground outdoors or enclosed in buildings with concrete floors. Perches are placed throughout the enclosure, permitting comfortable resting surfaces while also accommodating and encouraging flight space. Perches average 2" -2.5" in diameter. Natural, non-toxic perch material (branches, wooden dowls) are preferred. Heavily barked perch material provides both a comfortable perching surface and promotes natural chewing behaviors. Feeding stations are placed towards the front of the enclosure for ease in servicing (cleaning, repairs, etc.). Feeding stations as well as food and water containers are large enough to encourage social feeding and bathing.

At RSCF, juvenile birds (1-3 years of age) are flocked in groups of six or more, in larger suspended flight enclosures (12'Wx50'Lx18'H). This setting promotes social behavior and natural pair bonding. Minor modifications such as additional feeding stations and perching are important to prevent aggression within the group. The birds are conditioned in this enclosure until pairs are established, at which time they are removed from the flight and set up in smaller breeding enclosures as described previously.

Nest Boxes

Nest boxes (dimensions: 1'x1'x2'depth) are made of wood or synthetic composites, filled with 4" -6" of soft pine shavings and hung at the rear of the enclosure, outside the cage, level with the roof- line. The boxes have a single entry/exit opening and a hinged, lockable door to permit inspection, egg/chick removal and cleaning. Red-brows typically use boxes only for breeding, though they are made available year-round.

Diet/Nutrition

Red-brows are foragers, and in the wild their diet consists of a wide variety of fruits, vegetation, seeds and nuts. Duplicating this diet in captivity is impractical, as there are many commercial psittacine diets that are suitable for Red-brows. The following diet is currently in use at RSCF in Florida.

Ingredients:

Fortified large parrot seed mix

Large, grey-stripe sunflower seed

Higgins brand "Amazon Crunch" manufactured pellets, The Higgins Group, Miami, FL 33166

Zupreme brand monkey biscuit, Premium Nutritional Products, Inc. P.O. Box 094, Mission, KS 66202

Chopped fruit and vegetable mixture including: apples, pears, citrus (orange, grapefruit, etc.), grapes, melon, cooked sweet potato, corn, peas, broccoli, leafy greens (collards, kale), squash and beets.

The ration is a combination of the seed mix (2:1 mixture of fortified parrot and grey-stripe sunflower) and the fruit/vegetable mix. Seeds constitute roughly 30% of the daily ration by volume. Approximately 2.5 cups of seed and 3.5 cups of fruit/vegetable mix are fed per pair of birds per day. The seed diet is topped with 1/2 cup Amazon pellets, and one monkey biscuit per bird. A soluble, powdered multi-vitamin (Quiko multivitamin, Quiko GmbH, 46395 Bocholt, Germany) is added to the drinking water, which is changed daily. Diets are distributed once daily between 0800 and 0900 hrs.

Additional portions of seed, fruit/vegetable mix, and soaked monkey biscuits are made available to pairs rearing chicks. The diet is increased proportionally as chicks age, leave the nest box and begin feeding on

their own. Chicks are usually fully weaned by 10 weeks of age. Further discussion regarding feeding schedules, growth trajectories, and weaning are addressed in forthcoming sections.

Hand rearing and Growth Rates

The following information derives from chicks hand-reared at RSCF in 1994.

Upon hatching, Red-brows are fed every 90 minutes around-the-clock for the first 10 to 15 days. Chicks are weighed daily, prior to feeding, when their crops are completely empty to track weight gains and growth. Red-brows gain weight quickly (see attached growth trajectories), averaging a 15% increase in total body weight per day. Feeding frequency is reduced with age, with a more typical psittacine regime becoming established after the first few weeks, by which time chicks are fed every two or three hours, or whenever crops are completely empty. After the first three weeks chicks are fed three to four times per day, with the last feeding at 2300-2400 hours. Red-brows begin showing pin-feathers by day 18, with complete juvenile plumage by six weeks. The weaning process usually begins by week six, with chicks fully weaned in 10-12 weeks. Feedings are gradually reduced during this period; weaning is facilitated with dietary additions such as millet spray; soft foods such as banana and soaked monkey biscuit, as well as whole wheat breads, cooked rice, beans and pasta, as well as the full adult diet of seeds and pellets.

Hand-rearing formula:

Components:

Kaytee Exact Handfeeding Formula, Kaytee Products, Inc., Chilton, WI 53014

CeDe Lorifood, CeDe Vofelvoeders BV, St. Ceciliastraat 2, 5038 HA Tilburg, Holland

Beechnut Papaya Tropical Fruit Dessert, Beechnut Nutrition Corp., Canajoharie, NY 13317

Formula:

3:1 Kaytee:CeDe by volume mixed with 1/5 (of total dry volume) Beechnut; add water to proper consistency.



Red-browed Amazon at 21 days

Conclusions

Amazona rhodocorytha is in a critical state in the wild, yet there are decisive, well-defined steps that can be taken to save the species. Indeed, the genetic research, application of breeding recommendations, development of a North American studbook and European EEP, and numerous reproductive successes here and abroad, all since 1992, are testimony to the efficacy of recovery from near extinction. Granting the species SSP status would effectively facilitated the conservation of the species globally through: (1) coordinating efforts with EEP at Loro Parque to produce self-sustaining captive populations in Europe and North America; (2) enhancing the management and genetic profile of both populations; and (3) initiating and coordinating *in situ* conservation programs with successful captive programs. The North American Red-brow population is vital to this species' long-term survival, and cannot be managed effectively while isolated from the EEP Program.

The Red-brow Amazon is experiencing the same demise of many species within southeastern Brazil's remnant Atlantic rain forest. Vast habitat loss during the last century has fragmented the forest to insular islands, and surviving animals must struggle against further deforestation, reduced foraging sites, increased competition for nesting areas and the ever-present threat of capture for the local pet trade. Lessons from other psittacine restoration efforts (Beissinger and Snyder, 1991; Snyder, et. al., 1987) emphasize the desperation of the current situation with Red-brows. The frailty of remnant captive populations with respect to extinction by disease outbreaks, catastrophes, sex ratio skew and other demographic curses is well known. Stimulating breeding under artificial circumstances is a serious problem, which must be addressed before the founder animals die of old age. Imprinting, while potentially beneficial for birds to be kept and bred forever in captivity, poses obvious difficulties for reintroduction. Indeed, the fate of captive birds is stake, since conserving the species without preserving its native habitat is tantamount to gene banking—a long-term salvage approach with weighty ethical and financial concerns. Low (1984) wrote in her monograph, *Endangered Parrots*:

"Were there as many as one dozen pairs in captivity there would be some spark of hope for the future of the Red-browed Amazon. Instead, there is none."

Sixteen years following her discussion, conservation biologists find an opportunity to arrive at a different conclusion. Whereas the Red-brow's status in the wild is likely to remain endangered, prospects for captive propagation have increased considerably in just the last few years. The North American group, which in 1982 numbered only 10-12 birds, now totals 30, and 23 birds have been hatched in captivity in North America. The European EEP for Red-brows is now well established, with coordinated record keeping for birds throughout Europe and increasing rates of production. Within the next few years, the RSCF Red-browed Amazon program and EEP programs should yield a global master plan for the species, with *in situ* conservation efforts well underway. Unlike so many SSP's, all of the captive birds in the U.S. reside in a managed program overseen by a conservation organization pledging continuous support.

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Literature Cited

- Beissinger, S.R. and N.F.R. Snyder, eds. 1991. *New World Parrots in Crisis: Solutions from Conservation Biology*. Smithsonian Institution Press, Washington, D.C.
- Collar, N.J., M.J. Crosby and A.J. Stattersfield. 1995. *Birds to Watch 2. The world list of threatened birds*. Birdlife International, Conservation Series No. 4.
- Forshaw, J.M. 1989. *Parrots of the World*, 3rd edition. Lansdown Editions, Weldon Publishing, Melbourne, Australia.
- ISIS, 1984. *Avian Taxonomic Directory*, 2nd edition. International Species Information System, c/o Minnesota Zoological Gardens, Apple Valley, MN
- Low, R. 1984. *Endangered Parrots*. Blandford Press, Dorset, England.
- Low, R. 1986. *Parrots, Their Care and Breeding*, 2nd edition. Blandford Press, London.
- Mann, R. and P. Mann. 1981. *Breeding the Red-topped Amazon (Amazona braziliensis rhodocorytha)*. The Parrot Society **15**: 85-88.
- Noegel, R. 1984. *U.S. First Captive Breeding of the Brazilian Red-browed Amazon*. Mag. of the Parrot Soc. **18**: 270-275.
- Pinto, O.M. de O. 1935. *Aves de Bahia*. Revta Mus paul. **19**: 1-325.
- Reillo, P.R. 1993. *Breeding the Red-browed Amazon Parrot (Amazona dufresniana rhodocorytha): Chronicles of a Paradise Lost?* AFA Watchbird **20**(5): 34-38.
- Reillo, P.R. 1994. *Red-browed Amazon parrot, North American Regional Studbook*, First Edition. American Zoo and Aquarium Association Archives.
- Reillo, P.R. 1997. *Red-browed Amazon parrot, North American Regional Studbook*, Third Edition. American Zoo and Aquarium Association Archives.
- Ridgely, R.S. 1981. *The Current Distribution and Status of Mainland Neo-tropical Parrots*. in R.F. Pasquier (ed.), *Conservation of New World Parrots*, ICBP Tech. Publ. No. **1**: 233-384.
- Salvadori, T. 1891. *Catalogue of birds in the British Museum*, vol. 20, Psittaci, London: British Museum (Natural History).
- Snyder, N.F.R., J.W. Wiley and C.B. Kepler. 1987. *The Parrots of Luquillo: Natural History and Conservation of the Puerto Rican Parrot*. Western Foundation of Vertebrate Zoology, Los Angeles, CA.
- Stoodley, J. and P. Stoodley. 1990. *Genus Amazona*. Bezels Publications, Portsmouth, England.
- Sweeney, R.G. 1994. *European Regional Studbook for the Red-browed Amazon Parrot*, First Edition. EEP Executive Office; Loro Parque, S.A., Tenerife, Canary Islands.