

Remembering Arthur Crane Risser, Part II

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Editor's note: The tables referred to throughout the following article can be found in the previous edition of Watch-bird, 36-4, on pages 8-12. This article will be followed by Part III in our next edition.

Art Crane's evangelical zeal in confronting the Newcastle's crisis was a reflection of his newly attained responsibilities as Assistant Curator of Birds to the largest collection in the Western Hemisphere (and until a very short time before, the world). His first several years at the zoo were made difficult by one quarantine station crisis after another. He enumerated several of these in a paper presented at a regional conference of what was then the AAZPA, in 1976 (Risser, 1976a): 10 South African Penguins, for whose quarantine the zoo paid \$1,000, were destroyed, along with all the other birds in a commercial station, when a Turaco tested positive for Newcastle's on their 29th day there. A compatible pair of Double-wattled Cassowaries had to be sent back to Holland (where they were sold elsewhere) when a starling at the same station died 20 days after their arrival. Attempts to pair up San Diego's Great Hornbill and White-tailed Black Cockatoo were thwarted over happenstance of one kind and another. The particularly nightmarish logistics involved in bringing a shipment of Birds of Paradise and other birds from Papua New Guinea

in 1977, were the subject of another painfully detailed article (Risser, 1977). As a remedy to these situations, Art pursued the establishment of a quarantine station expressly for zoos, to be jointly administered by the Zoological Society of San Diego and Sea World, Inc. (Risser, 1976a). As it happened, this did not come to pass, and, by the 1980s, the problems inherent in importing birds through commercial and government quarantine stations were dealt with in various ways and bringing birds to U.S. zoos became somewhat routine, if far more costly than before.

Enhanced propagation and the establishment of self-sustaining captive populations in the U.S. were zealously pursued. The San Diego Zoo had a very long tradition in breeding birds. Founded in 1916 and established at its present site in 1922, the zoo had already achieved a remarkable breeding record by the end of the 1920s. Fourteen taxa of psittacines were bred there through 1930 (Dolan & Moran, 1970), far and away the best record for an American zoo (Lindholm, 1999). These included the Red-sided Eucalyptus, the Blue-winged Grass Parakeet and the Swainson's Lorikeet (the first lory breeding in North America). In 1930 alone, 16 species of wild pigeons and doves were hatched at San Diego, along with Guadalupe Island House Finches, Diamond Sparrows

and Yellow-billed Cardinals (Ring, 1931).

Kenton C. Lint joined the staff of the San Diego Zoo as a mammal keeper in 1936, joined the bird department in 1938, and, after service in Pacific, became Curator of Birds in 1948, retiring in 1976 when Art succeeded him. K.C. would have been a hard act for anyone to follow. From 1938 through 1976, more than 425 species and subspecies of birds hatched at San Diego (Lindholm, 1993a&b). The huge number of publications he authored further established San Diego's reputation as a center of aviculture (Lindholm, 1993b). And of course, the sheer size of the collection compelled attention.

Although an enormous number of birds were hatched during K.C.'s tenure and distributed to public and private collections all over the country, results were not always consistent. For example, I present San Diego Zoo's breeding records for 1959 (Table I.), when the year's-end inventory listed 2,109 birds of 559 taxa, compared and contrasted with those for 1970 (Table II.), which began with 3,465 specimens of 1,126 species and subspecies of birds. There is almost an inverse relation of taxa bred to the number exhibited.

On closer examination it can be seen that quite aside from the number of taxa, the sorts of birds propagated at each end of that eleven year

interval are quite different. In 1959, the most well represented order were the Galliformes (gamebirds) with 22 taxa. Only three were bred in 1970. Eleven kinds of finches were bred in 1959 and none at all in 1970. On the other hand, no softbills were bred in 1959 and seven species were hatched in 1970. While parrots are well represented in both years, the nineteen taxa bred in 1959 made up less than a third of the total, while the 28 hatched in 1970 comprised more than two thirds of the taxa bred that year.

This was very much K.C.'s intention. In an interview (Lint, et al, 1990) he explained: "My philosophy is that the more species you have, the more you have to work with. Each year I tried to concentrate on a different family of birds, you see. Because I had a large collection, I could do this and I was able to establish a lot of breeding records with that collection."

The imposition of Newcastle's Disease import restrictions ended this state of things. In 1974, the year Art arrived at San Diego, the year began with an inventory of 2,510 birds of 772 taxa. As can be seen from Table III, the total number of species bred jumped back to 1959 levels, exceeding that year's total by one. Though parrots still dominated with the 36 taxa comprising nearly half the 1974 total, there was a much greater representation

across the orders and families of birds than in 1970. It should be noted however, that a number of species were native to North America and several others were already extremely common in U.S. aviculture.

One figure that stands out in the 1974 list is the Darwin's Rhea. This was to be a particular focus for Art for several years. Unfortunately, his attempts to establish it in American aviculture ultimately proved frustrating. San Diego obtained several birds from the Brookfield Zoo at the beginning of the 1970's and breeding was already in full swing when Art arrived. Currently classified as Near-threatened by the IUCN, this bird has been considered a declining species for a long time. By the end of 1976, San Diego held "what is believed to be the largest breeding flock of captive Darwin's Rheas in the world" and groups had been sent on breeding loan to several U.S. collections (Risser, 1976b). However, this program was beset with difficulties, especially a very high susceptibility to salmonella among the chicks, along with various developmental problems. Because of this depressing neonatal mortality, Art came to call Darwin's Rhea chicks the "Heartbreak Kids" and detailed these problems in an article by that name (Risser, 1978). However, he carried on. In 1981, 141 Darwin's chicks were hatched and 56 were reared to independence and distributed to five zoos and two private collections (Risser, 1981). As it happens, despite the importation of unrelated



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Art Risser at zoo school. New World parrots were always a particular favorite of his.

birds in the 1980's, Darwin's Rheas were not to be established in North America. At the end of 2009, the International Species Inventory System lists one specimen each in two U.S. collections, though around seventy are distributed among a number of European collections, several currently breeding them.

Between Jan. 1 and Nov. 22, 1981, when 141 Darwin's Rhea chicks hatched, the total number of birds hatched at San Diego was 715 Specimens of 71 taxa, as well as a hybrid hummingbird. These birds are listed in the January 1982 number of *ZooNooz* (Risser, 1982). The number of taxa is slightly less than for 1974 (Table III), but the taxonomic range is much broader and the

list of aviculturally remarkable species is startling. Bulwer's Pheasants and Desmarest's Fig Parrots had only been added to the collection the year before and Greater Prairie Chickens had just arrived in 1981. The parents of the Raggiana Bird of Paradise arrived in the aforementioned challenging Papuan shipment of 1977. The hatching of nine Tahitian Lories was the fruit of another nightmarish Newcastle's quarantine situation, to be further discussed. Other species that stand out in this list include 29 Black-breasted Hemipodes, six Tawny Frogmouths, six Blue-faced Honeyeaters, three Painted Finches, 21 Black-rumped Parson Finches, all descendants of birds imported directly from Australia at the

end of the 1970's. After Art succeeded K.C. Lint as Curator of Birds in 1976, it was his turn to appoint an Assistant Curator. A less confident man might have selected some one "green around the ears", but instead, Kerry Muller, the Curator of Birds at the Taronga Park Zoo, in Sydney, was chosen. Before going to Australia, Kerry had been at the National Zoo, in Washington, for years and had started his zoo career at San Diego in his youth. In the early 1980's Kerry again crossed two hemispheres to become Director of the Wellington Zoo, in New Zealand. In his several years at San Diego, his Australian connections were put to considerable use and an amazing series of softbills, finches, psittacines,

waders and other species were thus able to arrive at San Diego. In the days when ISIS was still in its infancy, Kerry also organized a Birds Breeding Survey, in which 123 zoos and private collections participated (Risser, 1981a) resulting in a 92-page document cataloging 26,077 of 939 taxa, distributed to all participants and AZA-listed zoos (Anon, 1987).

In the face of the sudden decrease in availability of birds, Art became a leader in attempts to create self-sustaining populations of birds in American zoos. A major early step in this direction was the creation of the San Diego Zoo's Avian Propagation Center in 1980, three years into Art's Curatorship (Nickel, 1994, Risser, 1982). Art described this facility thusly:

"The propagation center is composed of four separate areas of activity. Egg receiving and recording, incubation, hatching and egg preparation and embryonic research occur in one building. Attached to this so-called incubator building, which occupies approximately 720 square feet, is a mechanical room which houses the separate air filtration systems, the solar/electrical hot water system and air humidifier.

"Adjacent to the incubator building, but separated by a breezeway, is the brooder building, occupying approximately 1,500 square feet. This portion of the facility has separate environmental controls..

"On the south side of the brooder building are 12 outdoor enclosures, with a central

door leading to a small indoor enclosure. Chicks of various species, especially ratites, can find necessary warmth on the inside and can move to the outdoor enclosure at will. A shallow, rectangular depression in the floor of each of the indoor enclosures provides a swimming pool for waterfowl and other types of water-loving birds.

"Baby birds grow fast and soon outgrow the space at the brooder house. They are then moved to another brooder facility which consists of six large enclosures (each 15 feet by 16 feet) and twelve smaller enclosures (4 feet by 16 feet). From these brooder pens birds are sent out to other institutions, to private aviculturists, or into display enclosures.

"As the zoo expands its captive-propagation programs, it is essential to have off-display breeding space, which provides necessary room for additional breeding pairs, offspring of which can be put on display. Off-display areas are also important for housing difficult or temperamental species which may be unlikely to carry on normal activities before the public. The Avian Propagation Center includes 40 breeding cages of a variety of configurations, with another 19 breeding enclosures located on the roofs of the incubator and brooder buildings. Altogether, these breeding enclosures occupy 4,300 square feet. Care was taken in the orientation of these enclosures so that all cages are exposed to some sunlight during the day, especially during the winter months. Because these enclosures are

not open for public viewing, they have not been landscaped as extensively as the exhibits on display. For the most part, only the species' essential requirements are met and caution is taken to keep disturbances to this valuable breeding stock at a minimum." (Risser, 1982).

Over the last three decades, the projects and research of the "Prop Center" have had far-reaching implications. Already, by 1994, more than 250 taxa of birds had been hatched there. These birds formed a vital component of many of the current avicultural populations of their respective species. Procedures perfected there have been applied to conservation programs in far places and staff who began their careers there have been tremendously influential in today's aviculture.

Crucial funds for the constructions of this facility came from International Foundation for the Conservation of Birds, founded by Gerald Schulman in 1979, with Dr. Risser one of its founding Directors and a primary influence. The Foundation's activities spanned a little less than a decade, yet during that time, a remarkable number of other projects were endowed (Anon., 1987): Kerry Muller's aforementioned 1982 breeding survey and a reprise by another investigator in 1987; The first edition of the *Queen of Bavaria (Golden) Conure Studbook*; The Center for Propagation of Endangered Panamanian Species; Some of Frank Todd's fieldwork with penguins around the world; Pilai Poonswad's work with

hornbills in Thailand; Other researchers' projects in Haiti and the Dominican Republic, Chile and Isla Rasa, in the Gulf of California; The construction of a Torrent Duck aviary at Slimbridge; The donation of a greenhouse to the San Diego Wild Animal Park, for growing browse; Research on the natural incubation of parrot eggs and growth rates in hand-reared New World Parrots; Veterinary research on psittacosis and effective antibiotic regimens for psittacines; The development of microcomputer programs for collection management; The publication of the proceedings of the 1978 Delacour Conference in 1981, a project led by Art, with considerable involvement of San Diego Zoo Staff (Risser, 1981b).

And, of course, there were the 1983 and 1987 Delacour Conferences (more formally known as the Jean Delacour/IFCB Symposia on Breeding Birds in Captivity), a treasured memory for many aviculturists. With his good friend Frank Todd, then Corporate Curator of Birds for Sea-World, Art was instrumental in arranging the august assembly of speakers and editing the proceedings (whose immediate availability was another munificence of the IFCB).

I have chosen to present the bird breeding records for 1985, in Table IV, as that was the last full year that Art served the San Diego Zoo in the capacity of Curator of Birds. In 1986 Art Risser unexpectedly found himself General Manager of the San Diego Zoo. The circumstances were tragic. Dr.

James Bacon, the zoo's Curator of Reptiles, who had only assumed the position of General Manager a few months before, suffered a fatal embolism. Art was to hold this title for seventeen years.

Comparing and contrasting the breeding results between 1974 and 1985, one can see that though five fewer taxa were hatched in the latter year, the degree of avicultural complexity of the birds involved rose significantly. For instance, while five softbill species were hatched in 1974 (three of them starlings), 14 were hatched in 1985.

Though 37 taxa of psittacines hatched in 1974, if one does not count Cockatiels, there were no cockatoos and the only New World parrots were Quaker Parrots. Of the 32 sorts of parrots in 1985, five were cockatoos and five were New World species, including three macaws (of which I believe Art was particularly fond). This was partially due to innovations in sexing monomorphic birds, of which Art was an early enthusiast. He was especially supportive of the fecal steroid research that Arden Berkowitz conducted in the 1970's and '80s (Berkovitz, et al, 1983). I should note here that one constant in the 50 years of San Diego Zoo bird breedings represented in the six tables I've presented is the propagation of Lories: two taxa in 1959, 12 in 1970, 16 in 1974, 12 in 1985, eight in 1996 and five in 2009).

Other birds that stand out among the 1985 achievements are the startling numbers of Chinese Bamboo Partridges,

Temminck's Tragopans and Elliot's Pheasants. Commencing in 1979, the Zoological Society of San Diego was in the forefront of exchanging animals between American zoos and their counterparts in the People's Republic of China. From 1980 through 1986, the partridges and eight species of Chinese pheasants were received at San Diego from three Chinese Zoos (Lieberman, 1988). In its first eight years, this program resulted in 527 chicks hatched. Many of these birds were distributed to private aviculturists, especially through Chick and Minnie Driscoll's Lexington Pheasantry in Kelso, Washington, where many more were bred.

Badly needed genetic refreshment was provided for the North American stocks of Reeve's, Elliot's, Golden, Amherst, Blue-eared and Brown-eared Pheasants, as well as Chinese Bamboo Partridges. The glorious and gigantic Chinese Monal was bred for the first time outside of China. Before San Diego's four 1980's importations, Temminck's Tragopans, seen today in nearly 20 U.S. zoos and generally available to private aviculturists, probably existed only as hybrids with Satyr Tragopans. I remember walking back and forth, in more than one zoo, trying to distinguish the purported Temminck's and Satyrs in their respective exhibits only to realize in retrospect that both were mostly mongrels. The 15 birds that San Diego imported from three Chinese zoos from 1980 through 1983 (Lieberman, 1988) completely

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changed that situation.

Quite aside from all the Chinese pheasants that San Diego Zoo distributed across North America, birds were sent to China. In 1987 and 1988, 21 Temminch's Tragopans, nine Elliot's Pheasants, 10 Blue-eared Pheasants and six Brown-eared Pheasants, all hatched in North America, went to the Beijing Center for Breeding Endangered Animals (Lieberman, 1988). Run by China's Ministry of Forestry, the Center was partially funded by the Zoological Society of San Diego.

I do not have the overall collection statistics for the beginning or end of 1985, but on Dec. 31, 1982, there were 2,406 birds of 422 taxa, while on Dec. 31, 1986, there were 1,673 birds of 485 taxa. This is a significant reduction from Jan. 1, 1974, the year Art arrived at San Diego, when there were 2,510 birds of 772 taxa. The 1980s bird collection held fewer than half the species and subspecies present in the late 1960s and early 1970s. This reduction was deliberate, with the aim of enhancing propagation and improving overall husbandry, as well as presenting animals more in the context of how they live, rather than as living museum specimens or field guide illustrations.

When the collection was in the neighborhood of a thousand taxa, many of them were represented by single specimens, or exhibited in circumstances not optimal for breeding. K.C. Lint described the great rainforest aviary, converted from a birds of prey

display in 1960, as "the funnest aviary anyone ever had." He told me it held 1000 birds of 200 species, more than most American zoos now maintain in their entire collection. Bali Mynahs bred there for the first time in the Western Hemisphere, in 1962 (Lint, 1962). It was certainly an interesting place. In 1975, for instance, I remember admiring a European Starling, a Paradise Whydah, a Nuttall's Woodpecker, a Four-toed Golden-backed Woodpecker and a Crimson-rumped Tanager at the same visit.

In the early 1980s, Art oversaw the transformation of this enormous structure, constructed in 1936, to a habitat for birds of tropical Asia and the Indo-Pacific, a conversion that stands to this day. This included the addition of the "Upper Rainforest," an extension composed of metal panels from Europe that had to be assembled in the zoo's parking lot before visitors arrived. The three resulting sections were then lifted by helicopter into the zoo and assembled into a tension structure, the first of its kind in the U.S. (Jouett, 1982). A great variety of softbills and pigeons have since been bred in this complex. This was followed by the conversion of San Diego's other huge walkthrough aviary, the 1922 Scripps Cage, into a purely tropical American display. This also resulted in some remarkable propagation, including Toco Toucans, Pale-mandibled Aracaris and an Andean Cock of the Rock in 1988, shortly before this aviary was again re-themed, this

time to Africa.

One of the first major exhibit area transformations during Art's curatorship were the "Seventeen Cages," where there were indeed 17 long, narrow unplanted aviaries with earthen floors, in a row between the Scripps Cage and the ape exhibits. Each held a species of psittacine and a species of ground bird. In 1979 and 1980, the walls were knocked out of most of them to create a series of planted aviaries, each featuring a different corner of the world. The Australian one was the source of large numbers of Black-rumped Parson Finches and Gouldians that went into private aviculture and quite a variety of other finches were exhibited there over the next decade. The first Emerald Starlings I ever saw were in the African display. A desert aviary featured Least Seed Snipes, always an avicultural rarity. Sun Bitterns bred repeatedly in the South American exhibit. Asian exhibits focused on Malaysia and China. Greater Prairie Chickens bred there, and, in the mid-1990s, one of the few pairs of Capercaillie ever displayed in North America could be seen there.

In 1983, another transformation was unveiled. Built in 1923, the McRae cages featured a remarkable collection of hawks, eagles, falcons and owls, many of them single specimens, with practically no breeding, in long, unplanted runs (Greeley, 1983). These were turned into another series of habitat displays featuring remarkable species. The first Chinese Monals seen in a

U.S. public zoo were featured here. Several remarkable birds from Bolivia, including the only Crested Quetzals I've ever seen, Pale-legged Ovenbirds and two species of Mountain Tanagers arrived from Bolivia. They were among the last shipments of the then Octogenarian Charles Cordier, who also supplied denizens for the famous hummingbird house, including the only Red-tailed Comet Hummingbirds to breed in North America. The logistics of receiving these treasures from Cordier in the 1980s were demanding and time-consuming.

Art went to great effort finding homes for many of the birds of prey that had resided in the McRae cages, as well as a great many parrots and other birds represented at the zoo by single specimens. Many parrots went to private aviculturists. The number of birds on breeding loan from and to San Diego exploded. In subsequent years, I saw San Diego's Asian White-backed Vulture and Hooded Vulture at Honolulu Zoo. The American Great Gray Owl went to Winnipeg. The Javan Brown Wood Owl (*Strix leptogrammica bartelsi*) went to the National Zoological Park, where it had been placed with another Brown Wood Owl that looked nothing at all like it. It was only years later that it was realized that this specimen, beautifully portrayed on the back cover of the January 1974 *ZooNoz* was actually a Spotted Wood Owl (*Strix seloputo*).

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