# First breeding of the Blue-violet-gray-white Pied Ringneck Parakeet 

by Jaynee Salan<br>Lake Arrowhead, California, U.S.A. (c) 1990 U.S.A. and U.C.C. by Jaynee Salan

Mutagenesis, or the creation of a mutation, happens by nature's chance and design. Much of the genetic variation in a population is invisible, but manifests itself in subtleties, where we might see only tiny remnants of latent color patterns. Much the same way as a pool player banks his shots for the optimum results, the billiard balls roll and move around the table, as they combine, recombine and the colors mix and roll apart in constant new patterns of design, sinking into pockets along the perimeter of the playing field or table, in new color combinations as they come to rest.

Eight years ago when the yellow and green pied ringneck appeared in my aviaries, I visualized the possibility then of still another variegated color as beautiful as this one.

This new variegated colored ringneck did hatch in early 1990. And it's as beautiful as the name implies, the


These two beautiful pieds bave come from the same parents, in the same nest in 1990. They are a visual display of "polygenic inheritance."

Blue-violet-gray-white Pied Indian Ringneck Parakeet.

The microevolution of a mutation takes great patience. As the future generations are bred in and out of the intermediate phases, dreams rise and fall until one day it appears. All the genetic rolls of the dice, the calculations of percentages, the averages and expectations can be anticipated, but not planned. Only when it becomes visual, does it become visual!

The computers can tell us what the odds are, but they can't make the visual appear. Much the same way Las Vegas can give us the odds of a horse
race, they cannot create a winner.
When we started calculating this dream eight years ago, the yellow and green pied was used as a base bird. From that beginning, this stunning new combination of colors has appeared.

We learned from breeding members within the closed gene pool only that this yellow and green pied displayed an altered genetic code. The cells that produce pigment that produce tissue eventually made the colors in the feathers shut down a part of the genetic mechanism that produced melanin or the color blue. Melanin can be dis-


This beautiful blue-violet-gray-white pied above and the yellow-green pied below, its nestmate, are the products of multiple gene inberitance; a phenomenon known as "Polygenic Inberitance." The term "polygene" was introduced by Mather (1954) and summarizes this interpretation of quantitative inberitance.


# MUTANT BREEDING COMBINATIONS AND THEORETICAL EXPECTATIONS* INDIAN RINGNECKED PARAKEETS NORMAL GREEN, LUTINO, BLUE AND ALBINO 

| 1. M Green split to Ino FGreen (normal) |  | M Albino . . . . . . . . . . . . . $6.25 \%$ |  | Pruduces: |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $F$ Lutino | 6.25\% | M Lutino split to blue | 50\% |
|  |  | F Lutino split to blue | 12.5\% | F Lutino split to blue. | 50\% |
| Produces: |  | F Blue. | $6.15 \%$ |  |  |
| M Green | 25\% | F Green split to blue | 12.5\% | 29. M Albino |  |
| M Green split to Ino. | .25\% | F Normal green.. | 6.25\% | F Lutino split to blue |  |
|  | 25\% | F Albino | 6.25\% | Produces: |  |
| ${ }_{F} \mathrm{~F}$ Green. | $25 \%$ |  |  |  |  |
|  |  | 17. M Blue |  | M Lutino split to blue | .25\% |
| 2. M M Green (normal) |  | F Lutinu split to blue |  | M Albino. | $25 \pi$ |
|  |  |  |  | F Lutino split to blue | 25\% |
|  |  | Produces: |  | F Albino | 25\% |
| Products: |  | M Blue split to Ino. . . . . . . . $25.25 \%$ |  |  |  |
| M Green split to Ino. | . $50 \%$ | m Green split to tio and blue | .25\% | 30. M Lutino |  |
| F Green......... | .50\% | ${ }_{F}$ Green split to blue . . . . . . . . . $25 \%$ |  | F Albino |  |
|  |  |  |  |  |  |
| 3. M Green split to Ino |  | 18. M Blue split to tio |  | Produces: |  |
|  |  |  | M Lutino split to blue | .50\% |
|  |  |  | F Lutino split to blue. | . $0 \%$ |
| Produces: |  |  | Produces: |  | 31. M Lutino split to blue FAlbino |  |
| M Lutino | .25\% |  |  |  |  |
| M Green split to Ino. | 25\% | M Lutino split to blue | .12\%\% |  |  |
| F Lutino | 25\% | M Blue split to Ino. . . . . . . | .122\% |  |  |
| F Green. | 25\% | $M$ Green split ro mo and blue | .1212\% | Produces:M Lutino split to blue |  |  |
|  |  | M Albino | .12k\% |  | .25\% |
| 4. M Lutino |  | F Blue. | .12\%\% | M Lutino split to blue | 25\% |
| F Green (normal) |  | F Lutino split to blue. | .121\%\% | $F$ Lutino split to blue | .25\% |
|  |  | Falbino $\ldots \ldots \ldots \ldots \ldots \ldots$. $121 \% \%$ |  | F Albino . . . . . | .25\% |
| Produces: |  |  |  |  |  |
| M Green split to Ino.. | .50\% | 19. M Green split to Ino and ble F Blue |  | 32. M Blue |  |
| F Lutino | . $50 \%$ |  |  | F Albino |  |
| 5. MLutino |  |  |  | Produces: |  |
|  |  | Produces:$M$ Blue split to [no . . . . . . . . $12 \% \% \%$ |  |  | .50\% |
| Produces: |  | M Blue . . . . . . . . . . . . . $1212 \%$ |  |  | .50\% |
| M LutinoF Lutino | . $50 \%$ | M Green split to Ino and blue | . $122 \mathrm{k} \%$ | 33. M Blue split to ho |  |
|  | . $50 \%$ | $\underset{\mathrm{F}}{\mathrm{M} \text { Green split to blue }}$ | . $1212 \%$ |  |  |  |
|  |  | F Lutino split 10 blue |  |  |  |
| 6. M Green split to blue |  |  | . $12 \% \%$ | Produces: |  |
|  |  | F Green split to blue <br> F Albino | 12\%\% | M Blue split to Ino. |  |
|  |  |  |  | F Blue. . . . . . . . . . . . . . . . . . 25.25 |  |
| M Green split to blue . . . . . . . $25 \%$ |  | 20. M Lutino split to blue |  |  |  |  |
| M Green ................ $25 \%$ |  | F Blue |  | F Albino . . . . . . . . . . . . . . . $25 \%$ |  |
| F Green split to blue | 25\% |  |  | 34. M Blue split to Ino F Lutino |  |
| $F$ Green. | 25\% | ${ }_{\text {M }}^{\text {Produces }}$ Blue split to Ino. . . . . . . . . . $25 \%$ |  |  |  |  |
| 7. M Green (normal)F Green split to blue |  | M Green split to Ino and blue ... $25 \%$ |  | Produces: |  |
|  |  | F Lutino split to blue . . . . . . . . $25 \%$ |  | M Lutino split to blue . . . . . . $255 \%$ |  |
|  |  |  |  |  |  |  |  |  |
| Same as in 6 . |  | 21. M Lutino split to blue |  | F Lutino split to blue . . . . . . . . . $25 \%$ |  |
| 8. M Green split to blue F Green split to blue |  | F Lutino split to blue |  | F Green split to blue . . . . . . . . . $25 \%$ |  |
|  |  | 35. M Albino |  |  |  |  |
|  |  | Produces: |  |  |  |  |  |
| Produces: ${ }_{\text {M Brue }}$. . . . . . . . . . . $1212 \%$ |  |  |  | M Albino . . . . . . . . . . . . .12\%\% |  |  |  |
|  |  | M Lutino . . . . . . . . . . . . . . . $12 \frac{12 \%}{2 / 2}$ |  | Produces: |  |
| M Green split to blue . . . . . . . . $25 \%$ | 25\% |  |  |  |  |  |  |  |
| M Green . . . . . . . . . . . . . $121 / 2 \%$ |  | F Albino $\ldots \ldots \ldots \ldots$F Lutino . . . . . . . . . . . . . $1212 \% \%$ |  | M Green split to blue, Ino . . . . $25.25 \%$ |  |
| FGreen split to blue | 121\%\% |  |  |  |  |
|  | . $125 \%$ | F Lutino split to biue | 25\% | F Albino . . . . . . . . . . . . . . . $25 \%$ |  |
|  |  | 22. M Blue split to Ino |  | 36. M Green (normal) |  |
|  |  |  |  |  |  |  |  |  |
| F Green (normal) |  |  |  | F Albino |  |
|  |  | M Plues split to Ino. | .25\% | Produces: |  |
| $M$ Green split to blue | . $50 \%$ | M Blue . ${ }^{\text {a }}$. . . | .25\% | M Green split to blue, Ino. | 50\% |
| M Green split to blue | .50\% | F Blue. | .25\% | F Green split to blue | 50\% |
|  |  | F Albino . . . . . . . . . . . . . . . $25 \%$ |  | 37. M Green split to Ino <br> F Albino |  |
| 10. M Mreen (normal) |  |  |  |  |  |  |  |  |
|  |  | 23. M Lutino split to blue F Green split to blue |  |  |  |
| Same as in 9. |  | F Green split to blue |  | Produces: |  |
|  |  | Produces: |  | M Green split to blue, Ino . . . . $25.25 \%$ |  |
|  |  |  |  | F Green split to blue ........ $25 \%$ |  |
|  |  |  |  |  |  |  |  |  |
|  |  | M Green split to Ino . . . . . . 12 2 \% \% |  | F Lutino split to blue . . . . . . . $25 \%$ |  |
| M Blue . . . . . . . . . . . . . .25\% |  | F Lutino split to blue $\ldots$. . . . $225 \%$ |  | 38. M Green split to blueF AlbinoPres |  |
| M Green split to blue | .25\% |  |  |  |  |  |  |  |
| $\underset{\text { F Blue......... }}{ }$ | .25\% | F Albino . . . . . . . . . . . . . .12h\% |  |  |  |  |
|  | .25\% | 24. M Green split to Ino F Lutino split to blue |  | Produces: ${ }_{\text {M Green split to blue, Ino . . . . . } 25 \%}$ |  |
|  | 12. M Green split to blue |  |  |  |  |  |  |  |
| F Blue |  |  |  | F Green split to blue | .25\% |
|  |  | ${ }^{\text {Produces }}$ Lutino. | .12\%\% | F Blue................... $25 \%$ |  |
|  |  | M Lutino split to blue . . . . . .12\%\%\% |  | 39. M Green split to blue, Ino FAlbino |  |
| 13. M Blue F Blue |  | M Green split to Ino and blue . $1212 \mathrm{k} \mathrm{\%}$ |  |  |  |  |
|  |  | Green split to blue, Ino Albino |  |  |  |  |
| Produces: |  |  |  |  |  |
| m Blue . . . . . . . . . . . . . . . $50 \%$ |  | F Lutino split to blue . . . . . . $12121 / 2 \%$ |  |  |  |
| F Blue................ |  | F Green split to biue | .121/\% |  |  |
| 14. MLutino $\begin{gathered}\text { F Blue }\end{gathered}$ |  |  |  |  |  |
|  |  | 25. M Albino |  | M Albino . . . . . . . . . . . . 12 2\%\% |  |
|  |  | F Albino |  | ${ }_{F} \mathrm{~F}$ Lutino split to blue. | 1212/\% |
|  |  | Produces: |  | $\underset{\text { F Alue... }}{\substack{\text { a }}}$ | ${ }^{12 \% \%}$ |
| M Green split to Ino and blue | .50\% | M Albino. | . $50 \%$ | F Albino | .12\%\% |
| F Lutino split to blue.... | .50\% | F Albino | . $50 \%$ |  |  |
|  |  | 26. M Albino |  | *The above theoretical expect | ations are |
| F Lutino |  | F Green (normal) |  | based on in infinite statistical and assume that all eggs laid a | de hatched |
| Produces: |  | Produces |  | and successfully raised. |  |
| M Green split to Io ano and blue | . $50 \%$ | M Green split to ino and blue | . $50 \%$ |  |  |
| F Green spilit to blue ...... | . $50 \%$ | F Lutino split to blue. . . . . | .50\% | as a Percent | Total |
| 16. M Green split to Ino and blue |  | 27. M Albino |  | of 100 Expected | Offspring |
| F Lutino split to blue |  | F Blue |  | 507 = ${ }^{\text {a }}$ in | 2 |
| Produces: |  |  |  | $25 \%=1 \mathrm{in}$ |  |
| M Blue split to Ino. . . . . . . | $\begin{aligned} & 6.25 \% \\ & 6.25 \% \end{aligned}$ | M Blue split to Ino. |  | $1212 \%$ $614 \%$ $=1$ | 8 16 |
|  | . $12.5 \%$ | F albino . . . . . . . . . . | . $50 \%$ | 6\%\% $=1 \mathrm{~m}$ |  |
| M Green split to Ino. . | 6.25\% | 28. M Albino |  | 1. The Auk, Vol 83, 1966. ppg | .667.668. |
| M Green split to Ino and blue |  | F Lutinu |  | Schnell and Caldwell. - |  |

played in an array of cryptic colors such as blues, browns, grays, blacks or the lack of them. This is what we determined produced the beautiful yellow and green pied. The melanin production ceased in some areas of the bird's body and allowed the lipochrome (yellow) to show in its pure form. Yet in other areas, the bird still produced melanin, making the color green visible.

The turning on and off of a brand new genetic code mechanism to produce the beautiful variegated color pattern is the essence of the yellow and green pied ringneck that was developed at our ranch here in California in 1983.

Then I wondered what would happen if we introduced new colors into this already variegated color pattern. We did and the Blue-violet-gray-white Pied Ringneck appeared.

The theory stands now that this new mutation is the product of a third gene alteration, another new genetic code never seen before that shuts down the producing lipochrome cells to visualize melanin colors only and nothing else.

The Indian ringneck is a marvelous aviary bird to breed because it seems to have an endless color spectrum. Although the ringneck is found in the wild by the thousands throughout India, they are nomadic by nature and do not form strong pair bonds. Therefore, they can be paired year by year in a multitude of color combinations to produce the 18 or so color mutations that now exist. One of the most commonly circulated color expectation charts* was reprinted to illustrate Rae Anderson's article in the April/May 1977 Watchbird magazine, and is again presented here for a frame of reference.

Due to the extremely complex color pattern that is displayed on this new Blue-violet-gray-white Pied, we now believe this to be one of several color keys. 1) Analogous: three to six colors adjacent to a key color with one color in common. 2) Triadic: three colors that are evenly and equally spaced from each other forming a triangle of color. 3) Tedrad: a double complementary contrast as illustrated by a square or rectangle of color. 4) Split Complementary: a key color combined with the two colors that are next to its complement.

Test breedings will be enchanting and fruitful. I cannot wait to see what the third pied color mutation will look like!

# CLASSIFIED ADS 

CLASSIFIED RATES - $\$ 10$ minimum charge for 4 lines of type (average 7 words per line). Additional charge of 15 cper word for ad running over 28 words. ( 28 words to include name, address and phone.) All copy to be RECEIVED BY 15th day 6 weeks preceding publication. One inch boxed ad - 58 word maximum - $\$ 20$. As of January 1, 1990, AFA's policy was reaffirmed to no longer allow hybrid birds to be offered for sale in its official publication, the AFA Watchbird.

## BIRDS

## General Hookbills

PERFECT PARROT PETS - Handfed Blue-headed Pionus $\$ 400$, s/s mature male Bronze Wing $\$ 500$, Visual and split silver cockatiels, whiteface males. Reasonable. No shipping. So. Calif. area. Phone (714) 879-5980.

1(XI)
BEAUTIFUL EGG-LAYING PAIR, Queen of Bavaria Conures. Approximately 7 years old. Excellent condition. $\$ 6000$ pair. Regret selling. Call Betty, (818) 357-3733, mornings best. Leave address if not CA. 1(x)

## AFRICAN GREY AND GREEN WING macaw babies.

 Exceptional quality, hand-fed in our home. Closed banded. We ship anywhere. Jade Exotic Birds, (602) 488-1415, ArizonaSUPER TAME, closed banded domestic babies. Blue \& golds, Greenwings, Hahn's, Severes, African greys, Meyer's, Senegals, Blue-headed pionus, Alexandrines, Moustaches, Ringnecks, Crimson wings. References gladly provided. Char, (602) 936-1334, AZ.

RAINTREE MACAWS - Baby Greenwings, Scarlets, Hyacinths, Blue \& golds, Buffon's, Miritarys, and Red fronts lovingly hatched and handfed at our breeding farm. All birds are feather sexed, closed banded and veterinarian checked. Unrelated pairs available for your breeding program. We will ship birds. Call Joanne Abramson, (707) 964-4380. Northern Calif. 6(X6)

BLUE CROWN HANGING PARROTS - sexed, healthy pairs available - some young stock. Quantity discounts, will ship. Cail (305) 434-8599, Florida. 3(x3)

BLUE THROATED MACAWS, Buffon's macaws, sexed unrelated pairs. Babies: Hyacinth macaws, Scarlets, Militarys, Green wings, Blue \& golds. Tritons, Moluccans, Sulphurs, Umbrellas. Tres Maria, Lilacines, Yellow-wing Amazons. Will ship, Florida. Call (305) 434-8599, 10 a.m. - 1 p.m.
MACAWS: Canindes, Greenwings, Blue \& golds, Severes, domestic breeders and handfed babies, Amboina kings domestic pairs and babies, pairs of Amazons. Aurora Aviary, (707) 722-4142, Calif. 2(X2)
ARIZONA BRED BABIES, hand fed and healthy. Macaws, mini-macaws, cockatoos, Yellow napes, Blue fronts, African Congos. Vet references. Message (602) 749-0002. I return all calls. Lynn MacGregor, Tucson, AZ.
COCKATOO BABIES, domestic, handfed: Citrons, Goffin's, Moluccans, Rose-breasted, Sulphur-cresteds, and Umbrellas. Highly sociable, loveable and incredibly tame. Buy young and save. Also available: one mature male Goffin's. Send SASE for price list. Kayla's Aviaries, P.O. Box 1210, Kulpsville, PA 19443. Call (215) 855-4463.

2(x3)
SELLING OUT: Double yellow head magna pairs, Tres Marias pairs, Yellow-naped Amazons, Congo African greys, misc. singles. Len, (617) 623-1345, Massachusetts.
ROSE BREASTED COCKATOOS, Indian ringnecks, blue, albino, and splits. Robert Calvillo, P.O. Box 1073, Citrus Heights, CA 95611. Call (916) 726-2051.

BABIES - domestic home hand fed. Macaws, mini-macaws, Amazons, greys, eclectus Closed banded, tame and talking. SPBE champion breeder. Call p.m. (209) 897-3661, Calif.

DOMESTIC-BRED AND RAISED in our home. Red front, Blue \& gold, Green-winged, Illiger's, Severe and Yellow-collared macaws, Rose-breasted cockatoos. Eclectus, Congo greys, Queens. Frenchy, (713) 466-9824, Texas.

2(X6)
HANDFED RINGNECK AND COCKATIEL MUTATIONS. Also adult Goffin's, Mexican Red-head, Patagonian Conure and Yellow-collared Macaw. Blue Willow Farms, 2331 Federal, El Paso, TX 79930. Phone (915) 565-0123. Will ship.
$1(x 2)$

SUPER TAME, domestic, closed banded babies. Blue \& golds, Blue-headed Pionus, Crimson Wings. Normal, lutino and albino ringnecks. References gladly provided. Char, (602) 936-1334, Arizona.

1(x3)

## Mixed Species

LORY \& SOFTBILL collection for sale. Send SASE for details. Oasis Sanctuary, 13209 N. 27th Pl., Phoenix, AZ 85032.
$1\left(x_{1}\right)$
YELLOW NAPED AMAZON \$575. Tufted jays, breeders \$450. Bob Blankenship, 3360 Pioneer Ln., Redding, CA 96001, or call (916) 246-2213.
$1(X 1)$

INCUBATOR HATCHED AND HAND FED WITH TLC. Hyacinth, Red-front, Scarlet, Greenwing, Blue \& gold. Blue-eyed Triton, Moluccan, Umbrella, Lesser Sulphur, variety of Amazons. Birth certificates \& photos. Closebanded and health certified for shipping. Call for availability. J \& J's Unique Birds, (206) 8455301, Washington.
$1(\times 6)$
RINGNECKS (most mutations), Rosellas (most species), Slaty-heads, Plumheads, Blossom-heads, Moustache, Red rumps, Alexandrine, Derbyans, Princess of Wales, Barnard's, Barrabands, Twenty-eights, Crimsonwinged Parrot, White-crowned Pionus, White bellied and Black-headed Caiques. Call for availability. All babies handfed and raised in our home. We will ship. Call (813) 482-5352, Frank or Claire, Florida.

MACAWS - PROVEN PAIRS AND BONDED PAIRS: Hyacinths, Blue \& golds, Scarlets, Greenwings, Militarys, Red-fronted, mini macaws. Also Double yellow heads, Yellow napes, African greys, Red lores, caiques. Phone (713) 973-6924. Texas.

5(X6)

ASIAN PARAKEETS, macaws, cockatoos, African greys, cockatiels, lovebirds, and misc. Send request, S.A.S.E. to Moctezuma Bird Gardens, P.O. Box 1973, Escondido, CA 92025-0340. Call (619) 745-8697.

5(x6)
PARTICULAR ABOUT YOUR BIRDS? So are wel Only the finest domestic hand-fed babies. Most close-banded. Hatch certificates included. Eclectus, lories \& lorikeets, African greys, cockatoos, pionus, lovebirds, macaws, mini-macaws, conures, ringnecks, Moustaches, Senegals, Quakers, cockatiels, budgies, rosellas, touracos, caiques. SWEET BEAKS/Contact: Mary, (407) 844-5104, Gary (407) 2865546, Gayle (407) 286-5041. SASE for price list: 1614 SE Washington St., Stuart, FL 34997.

## Gamebirds / Waterfowl

SIBERIAN RED-BREASTED GEESE, 1989 and 1990 hatch, unrelated pairs and single birds available. David Monuszko, 4922 N.E. Gunderson Rd., Poulsbo, Washington 98370. Phone (206) 770-3795. 1(XI)

## BIRD SUPPLIES

FINCH \& CANARY NEST PADS, reusable (5" $\times 5-1 / 2^{\prime \prime}$ ) to fit basket, $100 \%$ washable. Used since $1981 . \$ 18$ per dozen. Postage paid. Dealers wanted. Birds \& Specialty Products, P.O. Box 1207, Perris, CA 92370. Call (714) 943-6370.

WINGS OF LIFE FEED LIMITED has a product to meet your bird's needs (maintenance, laying and rearing). Diets designed, used and produced by a Canadian nutritionist for Canadians. DAVE BARNEY, M.S.C. RR1, Elora Ontario NOB 1S0; phone (519) 846-5593.

4(X6)

MACAW GROWERS, raw, dried-in-shell macadamia nuts, premium $\$ 1.65 \mathrm{lb}$. , regular $\$ 1.50 \mathrm{lb}$. ( 50 lb . minimum). F.O.B. California. COD's okay. Call (619) 728-4532, or write to P.O. Box 235, Fallbrook, CA 92028.

## Tell the advertiser you saw his ad in the WATCHBIRD!

## Bird Pet and Supplies Retailers -

did you know that one of the most
prestigious bird publications,

## The Watchbird

is available for resale in your store?
Call or write for information:
American Federation of Aviculture P.O. Box 56218

Phoenix, Arizona 85079-6218 Phone (602) 484-0931

## Deadline Schedule

Oct / Nov '90
Featuring LORIES
Aug. 1 -editorial copy
Aug. 15-ADS, classified \& display
Dec '90 / Jan '91
Oct. 1-editorial copy
Oct. 15 - ADS, classiffed \& display
Feb / Mar '91
Dec. 1 - editorial copy
Dec. 15 - ADS, classified \& display

## Apr / May '91

Feb. 1 -editorial copy
Feb. 15 - ADS, classified \& display
June / July '91
April 1-editorial copy
April 15-ADS, classiffied \& display
Aug / Sept '91
June 1-editorial copy
June 15-ADS, classified \& display


