

## Epilepsy in Red-Lored Amazons

(*Amazona autumnalis*)

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### Introduction

During the last four years, we have noted many cases of apparent idiopathic epilepsy in red lored Amazon parrots (*Amazona autumnalis autumnalis*, *Amazona autumnalis salvini*, *Amazona autumnalis lilacina*, and *Amazona autumnalis diadema*). The rather high rate of this condition in this relatively rare species leads us to believe that the condition may be a syndrome and worth relating to the membership.

### Background

Epilepsy has been occasionally noted by the authors and others in double yellow-headed Amazons<sup>1</sup>, mynah birds, and others. True idiopathic epilepsy seems to be rare in avian species. The diagnosis is usually made after ruling out other causes of seizures such as hypocalcemia<sup>2</sup>, encephalitis (bacterial or viral), toxins such as lead poisoning,<sup>3,4</sup> etc., hypoglycemia in birds of prey but not in psittacines<sup>5</sup>, trauma, parasites, hepatic encephalopathy, neoplasia, vitamin deficiency problems, etc. As in canines and humans, the affected birds may appear normal between convulsions. In severe cases, the bird may appear paranoid or hyperactive, possibly from the anticipation of more frequent seizure activity.

Four subspecies of red-lored Amazons are known.<sup>6</sup> Most seen in practice are the Mexican variety (*Amazona autumnalis autumnalis*). Our cases have all been of this variety except for one case in an *Amazona autumnalis salvini* (Salvin's Amazon).

In our practice, we have seen at least ten cases of idiopathic epilepsy in red-loreds. Our colleagues and clients have described many other probable cases. Considering how rare the condition seems to be in caged birds (with the possible exception of the mynah bird), there seems to be a disproportionate number of these birds. We, therefore, consider the condition a syndrome. One can only speculate on the etiology, but genetic factors seem most likely.

### Case Reports

Three cases, typical of what we have been seeing, will be described. Two alternate modes of treatment were used.

#### Case No. 1

A three year old red-lored Amazon was referred to us in November of 1983 for treatment of a seizure disorder. The owner informed us that the bird would "fall" two to three times each night. These falling spells would seem to crescendo to an "attack." His first seizure (several months previously) resulted in severe head trauma with resultant

hemorrhages. Also, his right leg or foot seemed to bother him and his grip was not normal as a result. The bird appeared frightened of everything, even food at times, according to the owner. His judgement of depth perception was off, and the owner described frequent twitching and shivering. The owner also described abnormal behavior such as lateral head tipping and staring at the ceiling. At other times, the bird would appear normal. The owner commented that no "attack" was ever the same.

A physical exam revealed no obvious abnormalities. The bird appeared bright, alert, and responsive, had normal integument, normal weight (329.0 g), and no orthopedic abnormalities were evident (despite the fact that the owner felt that the right leg or foot was "bothering" the bird).

A hematological work-up revealed a slight basophilia and slightly elevated uric acid value. A blood lead (Smith-Kline Labs) reading was normal at 13 mg/dl.

The bird was sent home on phenobarbital elixer (20mg/5ml) at a dose of 0.30 ml orally b.i.d.

The owner informed us two days later that the bird seemed improved. There were no signs of drowsiness or depression. The bird was playing and no seizures had been noted. The owner was very pleased and described the bird as almost 100% normal. At this time the phenobarbital dose was increased to 0.40cc b.i.d. to compensate for some of the medication lost in the owner's attempts at administration.

Two days later the owner was contacted. The owner said that after increasing the dose to 0.40cc, the bird started acting "zombie-like" and she reduced the dose to 0.30cc. The owner was advised not to give further doses in the evening or the morning of the next day. If the bird was still "trance-like," we would decrease the doses to 0.30cc once daily. The next day the bird experienced a minor seizure.

Two days later, the bird panicked when his cage cover was removed and began screaming and trying to fly. The owner began administering 0.20cc phenobarbital b.i.d. Despite the setbacks, the bird was considered greatly improved by the owner.

The bird stabilized over the next two weeks on 0.20cc b.i.d. The bird began to regress when the dose was reduced to 0.15cc b.i.d.

Two weeks later the bird seemed to show hyperactivity, "paranoia," and aggressiveness. The dosage was increased to 0.25cc twice daily at that

time. On the higher dose the bird did not seem drugged to the owner this time. The owner felt that the effects would last eight to ten hours, and then some "paranoia" would be evident.

For the last one and one-half years, the bird has been maintained on phenobarbital at a dosage of 0.25cc twice daily. Very minor seizure activity occurs periodically but is quite tolerable to the owner. The bird has been quite healthy and currently weighs 352.0g. The owner refills the bird's prescriptions and administers the medication regularly.

### Case No. 2

A mature (*Autumnalis autumnalis salvini*) Salvin's red-lored Amazon was presented in April of 1984 for diagnosis and treatment of a seizure disorder. The bird appeared in good condition and weighed 482g. Seizures were described that included a trance-like state and a generalized stiffening of the left wing and leg with violent shaking. Seizures were occurring on an almost daily basis and lasted for about one minute. A hemogram and blood chemistry panel yielded normal results.

A diagnosis of idiopathic epilepsy was made and treatment was initiated using phenobarbital elixir in the drinking water at the rate of 1cc phenobarbital in 120cc of water. Microvet SF<sup>®</sup> manufactured by Bio-Ceutic was used to increase palatability at the rate of ¼ teaspoon to 120cc of water.

The owner called a week later and reported little or no effect on the seizures. The dose was increased to 1.5cc per 120cc, then to 2cc per 120cc of water. At 2cc the bird seemed to respond well. Only minor seizures were observed on a weekly basis. Increasing the dose to 2½cc and then to 3cc seemed to aggravate the condition as the bird became drowsy and the seizures worsened. The owner noted that the bird consumed 30-35cc of treated water daily.

The bird remained virtually asymptomatic for five months on 2cc phenobarbital in 120cc drinking water. After that the owner abruptly ceased treatment. The bird now seizures once or twice every two weeks but this is considered acceptable by the owner who grew tired of medicating the bird.

### Case No. 3

A mature red-lored Amazon (*Amazona Autumnalis autumnalis*) was presented for a standard check-up, hematology and blood chemistry

profile, and a gram stain and culture. All tests proved normal. On taking a history, the owners described periodic trance-like states with the bird staring into space and rocking back and forth while "stiffening up." These spells have occurred once or twice a month for the last year of the bird's life. The owners consider the spells acceptable and have elected not to treat the bird. The bird is asymptomatic between seizures.

### Discussion

It is evident from the case reports that mild to severe seizure states may occur in these birds. This is similar to what is seen in man and in canines. The number of cases that we have seen (over ten) plus reports of others seen by numerous practitioners, lead us to believe that this is a syndrome of red-lored Amazons. Epilepsy in other birds has been rare (several mynahs, rare others).

The dose range of phenobarbital seems to fall in a narrow range. The cases presented here seem typical of others we have seen.

In case #1, the effective dose was .50cc daily (0.25cc b.i.d.) or two mg. total daily dose (20mg/5cc or 4mg/cc x .5cc) for a 350 gram bird. This works out to be .0057mg/g. or .0015cc/g.

In case #2, a 482g. bird did well on 2cc of phenobarbital in 120cc of drinking water. The owner calculated that the bird drank around 32.5cc of this mix daily or .54cc (2.16mg) total daily dose for a 482 gram bird. This dose works out to be .0045mg/g. or .0011cc/g.

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