

Body Temperature of Adult Pigeons

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We all like to get hold of our bird on occasion and look at the eye for alertness, stroke and smooth the feathers back, and feel the flight muscles on either side of the keel for health. If the breast is relatively broad and flat, the bird is considered to be in good condition. If it is thin (sharp, bony), the bird is either malnourished or ill.

Well, the feathers there between and in front of the legs are easily pushed to one side to expose the skin for about 1/2 inch on either side of the bone. That is the "brood patch" which during incubation contacts the eggs directly for warmth. Remember how the bird feels nice and warm in the hand? How warm?

People, of course, are supposed to be about 98.6 degrees F (37 degrees C). Individual variation is acknowledged, but seldom considered. This temperature is good enough to hatch chicken eggs. I can remember news items calling our attention to some bed-ridden patient hatching chicks, or even someone who just walked around incubating chicken eggs under his shirt till they hatched. In spite of the shorter incubation time, I never heard of anyone doing it for pigeon or dove eggs. They are just too fragile! Besides, feeding the young squab would be a problem.

Is the incubation temperature the same as the body temperature in a bird. Not in my experience. According to the Handbook of Biological Data edited by Spector, the body temperature of a chicken is about 41.4 degrees C (that is about 106.5 degrees F). Proper incubation temperature for chicken eggs is generally given as 99 degrees F with forced air draft to 101 degrees F. In other words, eggs should be rather cooler than body temperature.

As a graduate student way back in the summer and fall of 1951, I used to incubate quite a few dove and pigeon eggs. A temperature of 99-102 degrees F would work, but anything over 103 generally resulted in a dead embryo. In my best single experiment all of the 26 fertile pigeon eggs incubated at 42 degrees C (107.6 degrees F) died by day eight. I had taken the cloacal temperature of 31 of the pigeons. I got very high readings: Range 106.0-110 degrees F, average 108.0 degrees F. Twenty ringnecks ranged from 104.6 to 108.6 degrees F, average 107.2 degrees F. But maybe that old 3-minute thermometer got overheated from my holding and confining straggly birds.

Recently (24 Nov. 73) I borrowed a good fast thermister (Electronic thermometer also called TRI-R) which reached maximum within 30 seconds. By inserting the probe at least 1/2 inch into the cloaca, I got the temperature for 141 birds of five species and some hybrids. I was especially interested in noting any difference between hybrids and their parental species. I would have gotten more data but my wife accidentally cut

her wrist trying to clean a mirror during two breaks (15 stitches) so I stopped.

The hottest bird was 110 degrees F. The coolest adult bird was 103.7 degrees F. Month old or even two-week-old squabs tended to be close to adult temperatures, but a 10-day-old squab was only 101.2 degrees F.

In the table I have summarized the results. There seemed to be no significant difference between male and female pigeons. But there was a difference between male and female ringneck doves, and also between incubating birds (cooler) and non-incubating birds. Six outside ringnecks were a degree cooler than the room temperature birds. First cross (F1) species hybrids of ringnecks and dwarf turtle doves were rather hot; and seven such species F2 hybrids (from F1 x F1) did not even overlap the parental type and barely overlapped the dwarf turtle doves! Backcross hybrids were much like ringnecks. Eight older ringnecks (more than 4 years of age) tended to be hotter (107.6 degrees F) than those under four years (106.7 degrees F).

In the handbook, *S. decacoto* (perhaps equal ringnecks?) has 43.3 degrees C equal 110 degrees F as its average temperature, which is considerably higher than my 41.5 degrees C. So that stock really is different, or maybe they were using the old 3 minute thermometer.

With that high body temperature, such birds always have a "fever". No wonder they are resistant to most bacteria and can survive wounds that would give cool mammals like us gangrene.

Forces of Nature Causes Problems

(Continued from page 391)

uable pigeons were lost and much of the loft was damaged beyond repair. Now he is waiting to see how much the insurance payment will be to decide to rebuild or maybe buy a pre-fab building. For the moment though, his garage is being set up as an emergency loft.

So that everyone may benefit by this story I would urge that everyone check to be sure that your loft is sufficiently insured so to prevent financial loss in the event that something like this happens to you. Also, if your loft is fairly new or if you are now building one, you will want to give special attention to the strength of your loft so that the forces of nature don't interfere with your hobby.

SOME TEMPERATURES OF ADULT BIRDS

Species	Number and sex sampled	Farenheit		Centigrade		Handbook Average
		Average	Range	Average	Range	
mourning dove	4 males	108.0	106.59-109.1	42.2	41.4-42.8	43.4
<u>Zenaidura macroura</u>	1 female					
dwarf turtle dove	5 males	107.4	106.5-108.1	41.8	41.5-42.3	-
<u>Streptopelia humilis</u>						
ringneck dove	13 males	105.8	103.7-109.1	41.5	39.9-42.8	43.3?
<u>S. risoria</u>	18 females	107.3				
	13 not sexed	105.4				
	incubating	107.0				
	non-incubating	107.0				
domestic pigeon	14 males	106.2	104.0-108.5	41.2	40.1-42.5	41.1
<u>Columba livia</u>	8 females					
muscovy duck	2 males	105.2	103.1-106.5	40.7	39. -41.4	42.0
<u>Cairina moschata</u>	4 females					
Generic hybrid F ₁						
mallard-muscovy	1 male	106.3		41.3		
	1 female	104.7		40.4		
pigeon-dove	3 males	104.4 (12 years old)		40.2		
		107.5		41.9		
		107.8		42.1		
mourning dove-ringneck	1 male	106.5 (8 years old)		41.4		
	1 female	106.7 (7 years old)		41.5		
Species hybrid						
F ₁ dwarf turtle ringneck	1 male	108.6 (7 years old)		42.6		
	1 female	110.0 (7 years old)		43.3		
F ₂ "	2 males	106.15	104.1-107.4	41.2		
	5 females					
backcrosses to ringneck	12 males	107.0	103.8-109.0	41.4		
	12 females	106.1				