Candle or … Buddy?

During the incubation of any egg (whether it be artificial or parent) if we get a chance to have a peek for fertility…
We will.
The "candle method" has been a tried and tested method to see those tell tale first growth signs of life at around day 4 of incubation, and there will always be a use for candeling to show vein growth etc. However, it is quite possible in seeking to get a good picture of development that the breeder overstays his time of inspection, and causes heat damage to the embryo.
When all eggs reach the mid to latter stages in development (from about 12 days onwards), then we can see very little and start to wonder if our developing embryo is still going to make it. A well-tried method for checking for egg viability at this stage is to float it in warm water, and wait to see if it moves. However, recent research has shown that this method also is detrimental to the embryo, as the egg becomes saturated with water, and also becomes susceptible to harmful bacteria, which are sucked in through the pores of the shell. How many times have we all thought "is it still alive?" Indeed there have been many bird keepers who have mistakenly thought that "it must be dead, because it should have hatched yesterday", so the top of the egg is removed, only to find the chick was still alive and is now well and truly dead. Disaster!

Over the last 4 years we have been working at taking the guesswork out of incubation. After a terrific amount of work and research we are pleased to announce the arrival of **Buddy**, the first digital egg monitor in the world that has been made available to those involved in egg incubation. There is no heat radiation whatsoever, so **Buddy** is completely safe. If your egg is fertile then **Buddy** will tell you by around day seven. You simply place your egg in the egg compartment, close the lid and press the "on" button. You will instantly be given information from the onboard screen via a flashing heart, Pulse readout, and three-digit heart rate. You will be amazed how rapid a chick's heart beats!
If the chick is moving then the **Buddy** egg monitor will tell you. When the chick settles the readout reverts back to heart rate. If the chick is not alive **Buddy** will let you know by showing a black still heart, a flat Pulse line and zero heart rate readout. **Buddy** is mains or battery operated so can be taken out to your aviary to check any eggs, or if your work is in the field of conservation you can take **Buddy** anywhere you go, even up the tallest of the Rainforest tress.
You will wonder how you ever got by in the past without your **Buddy**!

What can Buddy offer?

Heart Rates

The first thing that the user will notice when a fertile egg is put into **Buddy** is a ***visual*** heart readout. Just that in itself gives a warming knowledge that everything is fine. The heart icon is flashing away at a good rhythm in conjunction with the pulse line and the three-digit heart rate is telling you how many beats per minute this is all happening at.

The heart rate of a developing chick in the shell is ***staggering*** when seen for the first time! Most Parrots and parrot-like birds are up around 260 – 290 beats per minute (BPM).
As you monitor your eggs during the incubation period you will for most of that period see that 260 – 280 BPM is the norm. If heart rate changes you will notice and want to know why.

During the trials of **Buddy,** an egg at mid-duration of incubation period was placed into **Buddy** and heart rate recorded at 260 BPM. As the egg cooled after 1 – 2 minutes, heart rate slowed noticeably down to 220 BPM and further!
At 3 – 4 minutes it was down to 180 – 190 BPM.
This is quite natural because the egg is slowing down to conserve energy while the sitting hen may be away from the nest for a short period of time.

“Internal Pip” – a critical time

Toward the end of incubation a developing chick will “internal pip” – ***this is a very important time***. The chick has to push its way through the internal membrane. This is the membrane that separates the developing embryo from the “airsac” end. This normally happens 2 full days before hatch and is extremely demanding on the chick’s energy reserves. You will notice this on the heart rate read outs. At this stage it is almost impossible to get a read out while the chick is moving and pushing inside of the egg. **Buddy** amplifies everything 20.000 times so this “noise” is also amplified and displayed to the **Buddy** user as chick movement. That is the little chick icon on the screen and can be seen flapping its wings.

Only when the chick rests during this exhausting period will you get a heart rate readout and you will notice it to be lower than usual around 190 – 200 BPM because of the hard work.

“External Pip” and Hatching

After the “internal pip” stage your chick will set about the task of “external pip”.

This is when the chick begins the task of pipping around the inside of the shell; this normally takes the remaining two days of your incubation period.

Again all crashing and banging are amplified 20.000 times so the “chick moving icon” will be busy.

As during “internal pip” the chick will rest and heart rates will be displayed.

If you can visually see that the chick is pipping the egg around the entire circumference then a perfect hatch is probably going to happen. But if you see the chick is pipping in one area only then the chick ***could*** be stuck in the internal membrane. If after the two day hatching period the chick is still in this one position and **Buddy** is indicating that the heart rates are now down around 90 – 100 BPM then assistance is required to save the chick.

This assistance can be safely carried out as long as the two-day hatching period has elapsed. If after the two day hatching period **Buddy** is indicating a weak heart rate and no “pips” can be seen then the chick may be breach (*wrong way around in the egg*).

Assistance can save these chicks that would otherwise have been Dead in Shell (DIS). **Buddy** will tell you!

We have had many phone calls from **Buddy** users who have saved chicks that would have been DIS because they could not get out!

If using **Buddy** for reptile eggs you can expect heart rates of around 60 – 70 BPM!