Male Elephant Reproduction

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The male elephant reproduction study is still going on. The most remarkable difference from other mammal species is the intra-abdominal testicles, which can weigh up to 2 kg each in an adult bull (Figure 1 and 2). The elephant has all accessory sex glands that have been characterized for most mammalian species: i.e., bulbo-urethral glands, prostate, seminal vesicles, and ampullae (Hildebrandt et al., 2000). The transrectal ultrasonography was useful for evaluating the accessory glands structures (Figure 3). Asian elephant semen collection is used manual collection technique which has been described by Schmitt and Hildebrandt (1998) (Figure 4). The Asian elephant spermatozoa have the same morphology or structure with another mammalian species (Figure 5). The successful production of live calves after AI with fresh semen in the Asian elephant was demonstrated (Schmitt et al., 2001; Brown et al., 2004; Thongtip et al., 2009). Although acceptable post-thaw survival has been reported (Thongtip et al., 2004; Sa-ardrit et al., 2006), the birth of live calf after AI with frozen-thawed semen in the Asian elephant has never been reported. There is only one report about the pregnant of female Asian elephant by using frozen-thawed semen in Thailand (Thongtip et al., 2009). Unlucky, the full term fetus was abort and expelled during seventeen month of gestation (Thongtip et al., 2009). One of the major obstacles in developing an effective method to cryopreserve Asian elephant spermatozoa is the variation in semen quality of ejaculates obtained from the same or different individuals. A majority of semen samples obtained by manual stimulation exhibit poor quality (i.e., low motility) (Thongtip et al., 2001; 2004), of which the cause has not been clearly determined. Our previous reported found that a total of seventy
semen samples obtained weekly from 20 Thai’s domesticated elephants (age medians were 19.5 year old) using manual collection technique over the period of five months revealed 0% medians of progressive motility. The clearing of this phenomenon is under investigating.

*Figure 1. Anatomy of Asian Elephant testis*

*Figure 2. Transrectal ultrasonography of Asian elephant accessory glands*
Figure 3. Semen collection by manual collection technique

Figure 4. Spermatozoa of Asian elephant
References


