6.5.3. Trophies, curios and medicinals (Ashley Pearcy)

Innovation from East to West

Medicinal uses of crocodiles and alligators have been recognized from ancient times, dating back to 1578. As recorded in the “Compendium of Materia Medica” or Ben Cao Gang Mu, a memory of the world register with UNESCO written by Li Shizhen, crocodile meat is good for the human body (Li 1578). Other parts, including fat, blood and organs have been used as a cure for a variety of ailments.

Crocodile fat has played a prominent role in traditional medicine. The acknowledgement of fat composition having a noticeable effect on development in the crocodile itself (Ferguson et al. 1997) supports further studies into the benefits for humans. The fat and oils derived from the fat are considered a primary source for relief of respiratory and joint ailments for rural communities throughout crocodilian habitats worldwide (Ross 1992). To explore the validity of these claims, Buthelezi et al. (2012) tested the antimicrobial benefits of major fatty acids, orally and topically administered crocodile oil for inflammation, and found some justification for the continued use by traditional healers for these conditions, although research into the mechanics of crocodile fat effectiveness is still necessary. Li et al. (2012) showed that crocodile oil could enhance skin burn healing. See also Venter (2012).

Crocodile blood has been thoroughly studied in the past decade to identify its microbial properties. Britton et al. (2002) identified high antibiotic activity in the blood of Saltwater crocodiles after noticing that crocodiles are not prone to infection. BBC news reported their discovery of Crocodillin, a peptide that can kill bacteria without damage to a normal cell (BBC News 2000).

Biochemists have reported the discovery of the anti-microbial fractions in the blood of alligators and crocodiles (Merchant et al. 2003; Preecharam et al. 2010; Pata et al. 2011). Merchant et al. (2005) reported antiviral activity of serum from the American alligator (Alligator mississippiensis). Crocosin and Leucrosin are examples of fractions derived from blood of C. siamensis that can kill bacteria (Preecharam et al. 2010; Pata et al. 2011). Other than these, biochemical activities (eg anti-oxidation), anti-inflammatory properties of blood have been studied and the possibility of a new drug or functional food is being sought.

Crocodile meat, dried blood and other parts of C. siamensis have incremental demands for health concerning among Asian consumers. Biologist and food scientists (TemSiripong, Y. and T.) proposed an idea to improve the quality and safety for oral consumption of crocodile products and the possibility for commercialization by following the latest product development process. Freeze-dried crocodile blood in capsules was developed after confirmation of its efficacy (eg anti-microbial peptides and heme iron supplement through collaboration with experts). The first approved, freeze-dried crocodile blood in capsule, Modaplas®, was permitted for commercialization as a food supplement in 2005 by FDA Thailand (Food and Drug Administration Thailand). Modaplas® is an outcome of the East-meet-West knowledge integration produced by Sriracha Moda Co., Ltd.

Other than blood, parts of the crocodile/alligator bodies can be effective health products. For example, dried meat, tail skin, bone and cartilage are consumed as health food in China and other Asian countries. A number of countries (eg Australia, South Africa, Indonesia, Malaysia, Thailand) produce crocodile oil and balm for sale as external medicine or cosmetics. It shows that there is still potential for development and investment in crocodile products rather than singularly skins in the future. These potential benefits can also be applied in the justification for the preservation of these species (Ross 1992).

References


