



Effect of black tea brew of *Camellia sinensis* on sexual competence of male rats

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ABSTRACT

Aim: In Sri Lankan traditional medicine black tea brew (BTB) of *Camellia sinensis* (L.) O. Kuntze (T) is claimed to have male sexual stimulant activity. As this claim is not scientifically tested and proof study was undertaken to evaluate the effects of BTB on male sexual competence.

Material and methods: Different doses of BTB made from Sri Lankan high grown dust grade no 1 167 and 501 mg/ml or water were orally administered to separate groups of rats ($n=9$ per group) later their sexual behaviour were monitored (for 15 min) using receptive females.

Results: The overall results showed that BTB possesses marked aphrodisiac activity (in terms of reduction of latency of ejaculation shortening of mount- and intromission latencies and elevation of testosterone level). The aphrodisiac action had a rapid onset and appears to be mediated via inhibition of anxiety and elevation of serum testosterone level. Further, this aphrodisiac action was not associated with impairment of other sexual parameters like libido, sexual motivation, sexual arousal, sexual or penile erection. BTB was also nontoxic (in terms of overt signs, liver and renal toxicity).

Conclusions: It is concluded that BTB can function as a quick acting, safe, oral aphrodisiac which may be useful in certain forms of sexual inadequacies such as premature ejaculation and impaired libido and other sexual functions.

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1. Introduction

Camellia sinensis (L.) O. Kuntze (Theaceae), popularly known as the tea plant is an evergreen shrub or a tree (if unpruned) with leaves 5–9 cm × 2–2 cm, obtuse or short rounded points (Dassanayake and Fosberg, 1981). It is native to Southeast Asia and is extensively cultivated in tropical countries like Sri Lanka, India, Java, China, Japan, Bangladesh, Indonesia, Kenya and Turkey for manufacture of tea (Modder and Amarakoon, 2002). Depending on the manufacturing technique there are three main types of teas: black tea (fully aerated or fermented), green (unfermented or unfermented) and oolong (partially aerated or semi-fermented).

According to Sri Lankan Ayurvedic practitioners black tea brew (BTB) or infusion of *Camellia sinensis* possesses potent diuretic activity (Weragoda, 1994) and this has been scientifically proven (Ratnasooriya et al., 2006). Sri Lankan traditional native doctors use BTB in treatment of urinary inconsistency, common cold and to suppress anxiety (Weragoda, 1994). Villages in tea growing areas of Sri Lanka apply BTB on sites of burns in the skin to prevent the formation of blisters. Although *Camellia sinensis* is not in the list of

herbs that are reported to enhance sexual performance (Aden 2000) some traditional practitioners (Anonymous, 2003) Nuwara Eliya District (tea growing area in upcountry) of Sri Lanka recommends the drinking of warm 1–2 cups of BTB, especially the Dust grade, about 1 h before coitus to improve sexual function and delay ejaculation (Dr. C.D. Palitharatna, traditional physician personal communication).

Since the advocated sexual stimulant activities of the BTB are not scientifically tested and validated this study was undertaken to investigate the effects of BTB of *Camellia sinensis* on male sexual competence. This was performed in rats using Sri Lankan high grown Dust grade no. 1 black tea. Phytochemically, BTB contains flavonoids (catechins, theaflavins and thearubigins), flavonol glycosides, coanthocyanins, caffeine, amino acids including theanine, pectins, sugars, potassium, volatiles and vitamins (Modder and Amarakoon, 2002).

2. Materials and methods

2.1. Source of tea

Topmost immature leaves and buds of *Camellia sinensis* plucked from the plantation of St. Coombs tea estate of the Tea Research Institute, Talawakelle, Sri Lanka (1382 m above sea level):

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