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Case Report

A NEW RECORD OF DUTTAPHRYNUS MELANOSTICTUS (SCHNEIDER, 1799) (ANURA: BUFONIDAE) FROM VALPARAI, TAMIL NADU WITH NOTES ON NATURAL HISTORY

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ABSTRACT

In this paper deals with the new record of *Duttaphrynus melanostictus*, the Common Indian Toad, from valparai, Tamilnadu with its distribution, Behavior, food & feeding, conservation status and threats.

Keywords: New Record, Coimbatore District, Anura, *Duttaphrynus melanostictus*.

INTRODUCTION

According to the Global Amphibian Assessment (GAA) almost one –third of the worlds 6,638 known amphibian species are listed as threatened or extinct. These declines are attributed to two major factors habitat loss and fungal disease with possible contributions from introduced species, climate change and pollution. Native to Asia, the Asian common toad *Duttaphrynus melanostictus* has a widespread distribution throughout the South East Asia region, from Pakistan through to southern China and south into Indonesia [1]. While many Asian amphibians have suffered declines linked to widespread deforestation across this region [2]. *D. melanostictus* has thrived, and is often found associated with human settlements and disturbed agricultural landscapes [3].

This commensal relationship with humans has facilitated the dispersal of *D. melanostictus* well beyond its native distribution. It has now established alien populations on several tropical islands, including Bali, where it was first recorded in the 1950s and has subsequently spread and established throughout Indonesia and New Guinea [4]. Established alien populations are also found on the Andaman and Nicobar Islands, and the species has also established in Timor Leste around 1999 [5-7]. Outside of Asia *D.melanostictus* has established populations in the Maldives and recently in Madagascar [8,9].

The IUCN Red list of threatened species considered the conservation status of the species as Least Concern (IUCN). We report, The first time record in this *Duttaphrynus melanostictus*, Common Indian Toad, species at Valparai, Coimbatore district, Tamil Nadu state, India.

Study area

The Indian Toad species recorded from Near UPASI tea research institute at Valparai (Figure 1). Valparai is a Taluk and hill station in the Coimbatore district of Tamil Nadu, India. It consists of Anamalai Tiger Reserve and prior to that as Anaimalai Wildlife Sanctuary). It is located 7,502 feet (2,287m) above sea level on the Anaimalai Hills range of the Western Ghats.

Observations

The *D. melanostictus* is native to South and Southeast Asia and has already succeeded in invading multiple regions including Bali, New Guinea, Sulawesi, Timor-Leste, Australia and other islands, mostly between Sundaland and Wallacea [10,11] listed Parasitism by 41 different helminth parasites in *D. melanostictus* and parasitoids of dipterous larvae. Reported parasitism of 2 Haematozoan Parasites belonging different genus *Trypanosoma bisalpurensis* and *Hepatozoon gangwarii* on *D. melanostictus* from India [12]. A new nematode species *Rhabdias bengalensis* belonging family Rhabdiasidae found in lungs of *D. melanostictus* reported from West Bengal, India First report of leech parasitism in D [13]. melanostictus by Tritetrabdella taiwana was from China. Recently, Here, we report the first time record of in this species *D. melanostictus* from valparai, Coimbatore district, Tamil Nadu state, India.

Distribution

Tamil Nadu : valparai (present record) , Coimbatore district ,. India: Generally throughout [14,15]. Andaman & Nicobar Islands (introduced), Arunachal Pradesh, Assam, Bihar (Dhanbad dist., Valmiki Tiger Reserve, West Champaran dist.), Chandigarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu

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Figure 1. *Duttaphrynus melanostictus*, (Common Indian Toad), species.

& Kashmir, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tamil Nadu (Nilgiris), Tripura, Uttarakhand (Chamoli, Dehra Dun, Haridwar, Pauri, Tehri, Uttarkashi; Almora, Nainital, Pithoragarh dists.; Corbett Tiger Reserve; Govind Pashu Vihar; Nanda Devi Biosphere Reserve; Rajaji Tiger Reserve), Uttar Pradesh, West Bengal.

Globally distributed: Bangladesh, Brunei Darussalam, Cambodia, China (including Hong Kong, Taiwan), Indonesia, Laos, Macao, Madagascar, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Singapore, Sri Lanka, Thailand and Viet Nam.

Lifespan/Longevity

Asian common toads live an average of 4 years in the wild and up to 10 years in captivity. ("Pest Risk Assessment: Asian spined toad (Bufo melanostictus)", [16-18].

Behavior

Asian common toads are nocturnal; during the day adults will hide under rocks, leaf litter, logs, and human made structures (drains, garbage piles, and houses). The toads are slow moving and fairly timid. Asian common toads are insectivorous and are known to feed on many insect pests known to humans [19,20].

Food habits & feeding

Asian common toads are insectivorous although these toads are also know to be an opportunist and will feed on a variety of arthropods and even mollusks. An analysis of the stomach contents of multiple specimens of Asian common toads yielded arthropod orders such as earwigs, grasshoppers, crickets, weta, and locusts, true bugs, moths and butterflies, beetles, typical bugs, sawflies, wasps, bees and ants, termites, cockroaches, and mantids, true flies, centipedes, and millipedes. Though these toads are opportunistic feeders the insects that showed the greatest abundance in the stomach were sawflies, wasps, bees and ants, beetles and termites. This toad is feeds on insects that are known pests to human such mosquitoes and various crop pests.

Conservation status

Asian common toads are listed on the International Union for Conservation of Nature (IUCN) Red list as “Least Concern”. In the regions of the world that these toads have become naturalized, populations are on the rise. These toads are becoming increasingly common, although pesticide run off can become a detriment to them if it is not monitored. Study showed that exposure to small levels of an insecticide called diaznon resulted in almost 100% death of Asian common toads [21]. This chemical is highly regulated by the United States and European Union, yet it is still used widely throughout the developing counties of Asia [22,23].

CONCLUSION

Study showed that exposure to small levels of an insecticide called diaznon resulted in almost 100% death of Asian common toads. This chemical is highly regulated by the United States and European Union, yet it is still used widely throughout the developing counties of Asia.

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