

PREFACE

I started my research work in 2010 which has been documented in this dissertation entitled, “IMMUNOPHARMACOLOGICAL INVESTIGATION OF AN EDIBLE FERN, *DIPLAZIUM ESCULENTUM* (KOENIG EX RETZ.) SW., AVAILABLE IN NORTH BENGAL REGION” under the supervision of Prof. T. K. Chaudhuri, Department of Zoology, University of North Bengal, West Bengal, India.

Diplazium esculentum, the vegetable fern, is extensively used as a palatable food throughout Asia, Oceania and especially in the Northern part of West Bengal, India where the present study was performed. The newly emerging coiled fronds are consumed after cooking as a seasonal vegetable during monsoon season which continues for almost five months. Pickles made from this plant are used as an appetizer. This plant is used to counteract constipation, indigestion and spermatorrhea. But, interestingly, this fern is rejected as food by animals including cattle and insects. So, it happened in our mind that this fern may have certain toxic substances for which cattle and insects avoid it and therefore, it may also have some detrimental effects to the human body.

Therefore, in the present study, an attempt was made to elucidate the immunopathological, haematological, biochemical, antifertility and neuromodulatory activities of crude (unboiled) and cooked (boiled) *Diplazium esculentum* by investigating several *in vivo* and *in vitro* parameters. We have conducted this pilot study to investigate the health deteriorating effects, if any, of the boiled aqueous preparation of *D. esculentum*, keeping in mind the fact that the local people consume this plant as food after cooking, not as raw material. The findings of the present study are published in various research journals and are presented and discussed in details in the Results and Discussion part of this dissertation.