

Study on the invasive alien species in ponds of Jalaun district of Uttar Pradesh, India

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ABSTRACT

Invasive alien plant species are widely vulnerable to invasion and recognized as stresses altering the ecosystem properties and competing with native flora of pond. During the investigation a total of 30 invasive alien species belonging to 26 genera under 17 families were recorded. Asteraceae was the most dominant family with 5 species and about 79% of these invasive alien species were introduced from Tropical America. Among invasive alien species, major potential threat in the near future is by *Argemone maxicana* and *Parthenium histophorus*. It was observed that 18 plant species were being used by local inhabitant for medicinal purposes. In order to resist the spread, a better planning is needed for early detection of control, report infestation of spread of new and naturalized invasive alien species to be monitored.

Key words : Invasive alien species, life form, nativity, pond ecosystem

INTRODUCTION

A global ecological and conservation crisis has been observed because of non-native species. These invasive plant species have been altering the terrestrial and aquatic communities all over the world, as they spread very fast once they introduced (Keller, 2011). The non-indigenous species have been termed as invasive alien species which become established in natural or semi natural ecosystem or habitat as agent of change and threatens native biological diversity (IUCN, 2000). Ecological or economic harm in that ecosystem. Invasive alien species are recognized as important indicators of stress to ponds, the main drivers for biodiversity loss, threat to environment and economy including the reducing ecosystem services worldwide (Ndiokwayo *et al.*, 2016; Dwire *et al.*, 2017; Liu *et al.*, 2017; Rishi *et al.*, 2017; Magee *et al.*, 2019).

In Indian subcontinent, comprehensive studies on invasive species and plant invasion are still lacking in ponds except few studies (Reddy, 2008; Singh *et al.*, 2010; Sekar, 2012; Aravindhana and Rajendran, 2014). A large number of exotics are naturalized, affecting the distribution of native flora and a few among them have consequently altered vegetation pattern of the country. Therefore, it is very important to make an effective implication

management of invasive alien species, knowledge about their diversity, habit, habitat and use is essential. Considering these reasons, the present study was undertaken to enumerate the invasive alien species and its diversity with the future implication in ponds of the district Jalaun, Uttar Pradesh, India.

MATERIALS AND METHODS

Study Area

The present study was undertaken in some ponds of Jalaun district of state of Uttar Pradesh, India. The District Jalaun is located at latitude 25°46'30" N to 26°27'30" N, longitude 78°54'11" E to 79° 57' 20" E and the total area extended over 4569.78 sq. m. The entire district is the alluvial plains of river Yamuna with an average altitude of 140 m above the sea level.

Floristic Study

Intensive field studies were conducting during July 2018 to June 2019 to record the maximum number of invasive alien species in different ponds of the Jalaun district. The identification of species done on the basis of information available local and regional flora.

Self attention
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