Short communication

Phenology of Keora (*Sonneratia apetala* Buch.-Ham.) in Coastal Plantations of Kattoli, Chittagong

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Keora (*Sonneratia apetala* Buch.-Ham.) is a pioneer species in coastal areas of Bangladesh (Siddiqi 2001). It alone constitutes 94.4% of the existing mangrove plantations (Siddiqi and Shahjalal 1997) because of its high survival and growth in the newly accreted land. However, the information on flowering, fruiting and seed collection are very little. There was no systematic study in this context. So, for a clear understanding about the phenology of keora a study over a period of 12 months from January to December 1996 was conducted in the coastal plantation of Kattoli under Chittagong Coastal Afforestation Division.

The study was based on field data collection through visual observation and measurement in the field and laboratory. Two sites having varying inundation regimes were selected for the study of flowering, seeding, fruit maturing and fruit falling period. Site-1 was located at the northern part of the cannel and site-2 was located at the southern part of the canal of Latifpur. Site 1 was inundated over 9 months and site 2 bellow 9 months of the year. The age of both plantations sites were 11 years. Ten trees from each site were randomly selected and numbered. They were intensively observed and data were collected by direct observation by visiting the sites at every third day over time. Fruits were tested orally where the sourness was the indication of maturity.

Keora is an evergreen mangrove tree species. It does not become completely leafless at any time of the year. It has a regular characteristic of shedding old leaves and flashing new leaves. It has been found that during the Winter (December to February), shedding of old leaves was more than any other time of the year. By the end of February it flashes new leaves.

Appearance of floral buds commenced by the last week of March and continued upto the last week of April. Flowering was first observed on the 31st March and it continued till the end of the 3rd week of May in site 1. In site 2, it was first observed on the 9th April and continued till the end of the last week of May. Peak period of flowering was in between the 20th April and the 10th May in site 1, while it was in between the 24th April and the 15th May in site 2 (Fig. 1). However, Saenger and Siddiqi (1993) reported that flowering period of keora lasted from March to mid April while Rahman (1982) stated that flowering of keora occurred in April-June. But no significant difference was found in flowering period of keora in between the sites due to inundation.

Seeding of keora started by the 12th April and it continued up to the 2nd June in site 1 and in site 2, by the 18th April and it continued up to the 5th June. Peak period of seeding was observed between the 26th April and 20th May at site 1, and on the 30th April and 22nd May for site 2 (Fig. 2).

The fruit maturing commenced by the 15th July and continued up to the 23rd August for site 1, while in site 2, it started by 20th July and continued up to the 26th August. Peak period of fruit maturing was found between the 28th July

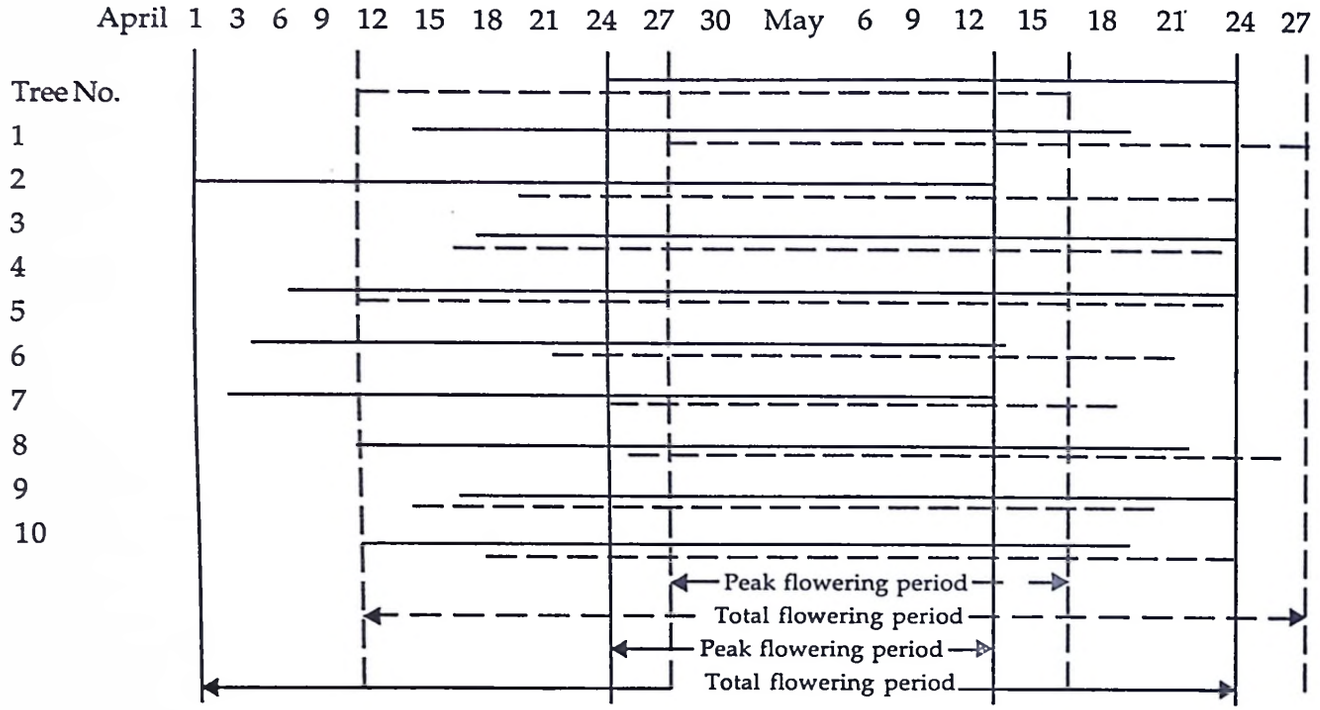

Figure 1. Flowering period of keora at site 1 (____) and 2 (-------) in coastal area of Chittagong.

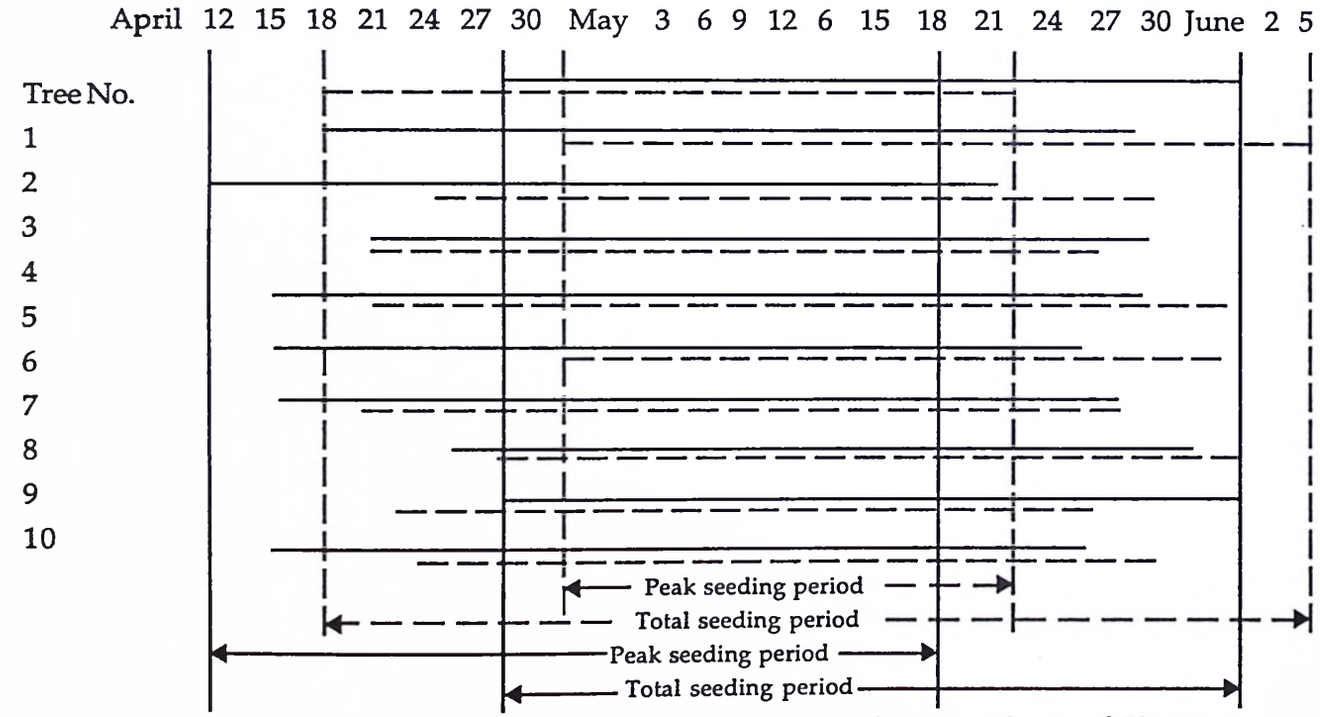

Figure 2. Seeding period of keora at site 1 (____) and 2 (-------) in coastal area of Chittagong.

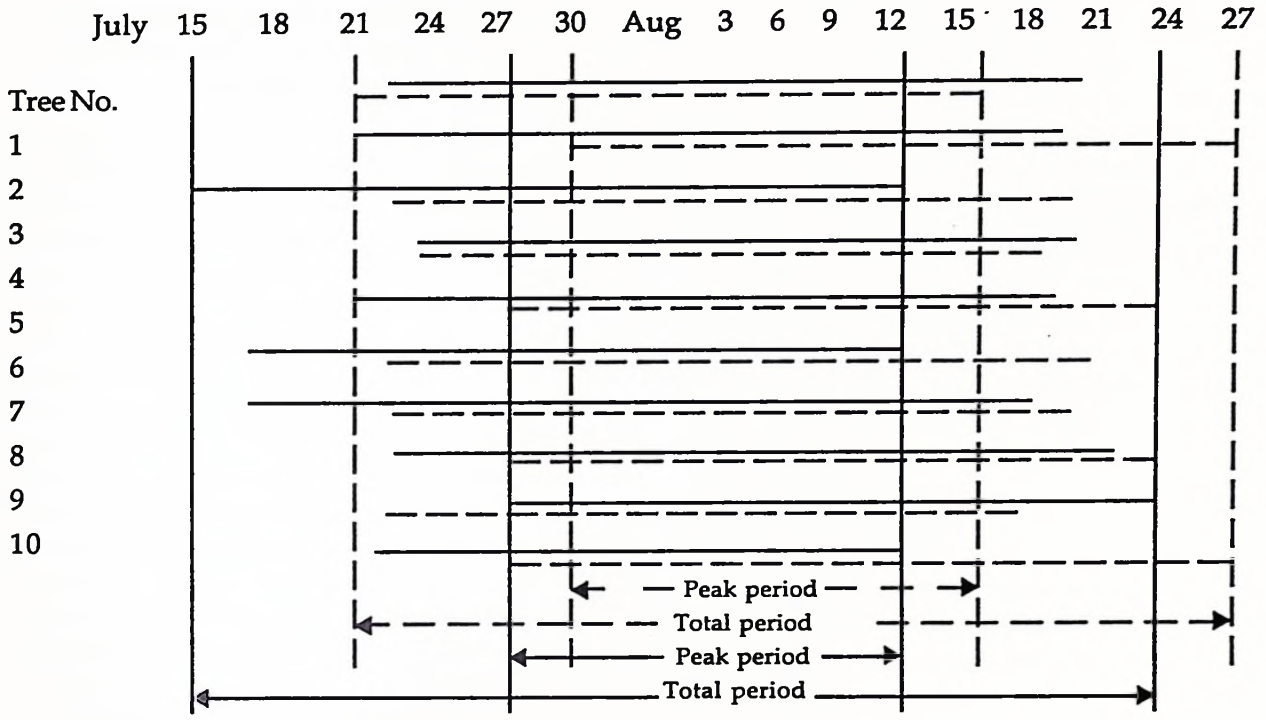

Figure 3. Fruit maturing period of keora at site 1 (____) and 2 (———) in coastal area of Chittagong.

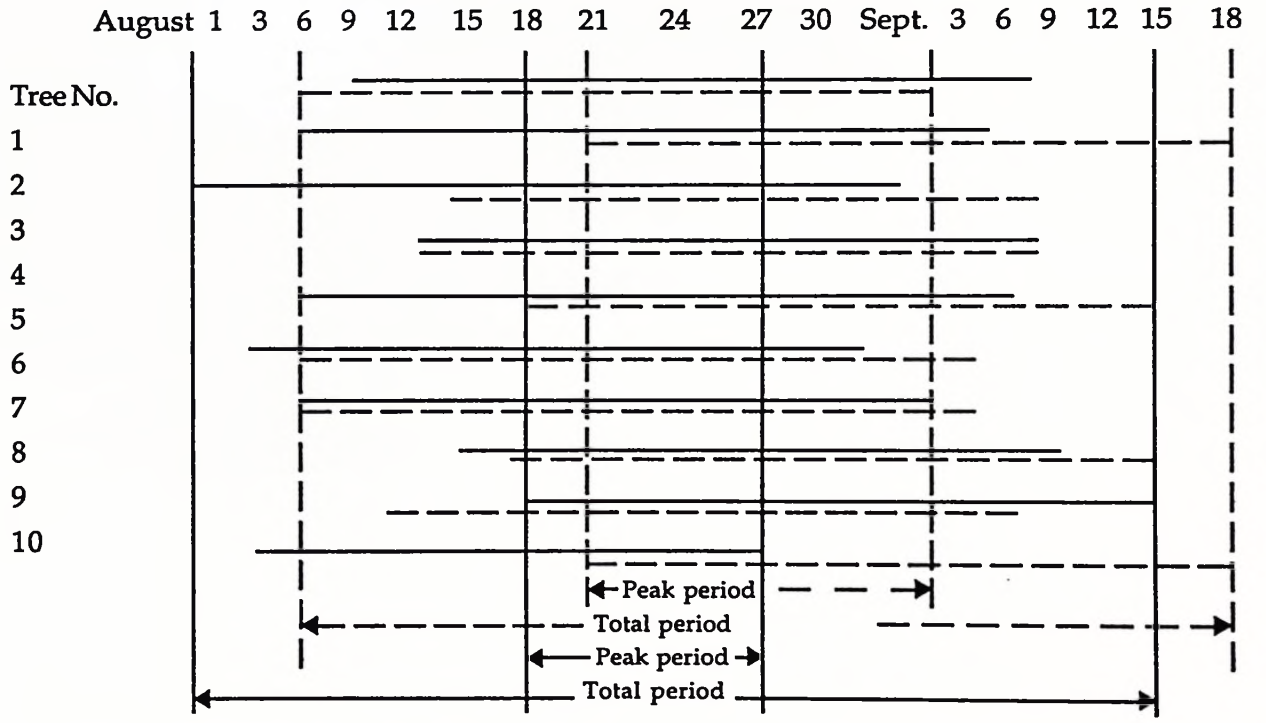

Figure 4. Fruit falling period of keora at site 1 (____) and 2 (———) in coastal area of Chittagong.

and the 11th August for site 1 and between the 1st August and the 15th August for site 2 (Fig. 3). However, Saenger and Siddiqi (1993) mentioned that the fruit-maturing period of keora was June and July while Rahman (1982) stated that the fruit-maturing period of keora was August and September.

Fruit falling of keora was found to commence by the 31st July and continued up to the 15th September in site 1. Fruit falling was observed on the 6th August to the 18th September for site 2. Peak period of fruit falling was found between the 18th August and the 27th August for site 1 and between the 21st and the 3rd September for site 2 (Fig. 4). However, Saenger and Siddiqi (1993) reported that the fruit falling period of keora was July and August while, Das (1986) mentioned that the fruit falling period of keora was August to the 2nd week of October. Again, Karim (1995) reported that in the Sundarban natural mangrove forests fruit falling of keora occurred during July to September. The result was supported by Rahman (1982) that the fruit falling period of keora was August and September. No significant difference was found in fruit falling period of keora in between the sites due to inundation.

The flowering period of keora extended from the 1st week of April to the last week of May with a peak period between the 3rd week of April and the 2nd week of May. The seeding period was found to extend from the 2nd week of April to the 1st week of June and the peak period was found from the last week of April to the 3rd week of May. The fruit maturing period was in between the 2nd week of July and the last week of August and the peak period was between the last week of July and the 2nd week of August. The fruit falling period was found to begin in between the 1st week of August and 3rd week of September with the peak period from the 3rd week of August to the 1st week of September. It is preferable to collect mature fruits for nursery raising during the 2nd week to the last week of August. The phenology of keora varies from place to place and may likely to vary from year to year. Thus it is necessary for a long term study of the phenology covering all the representative areas.

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