Species Datasheet

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Datasheet No. G-007.005.022
(family.genus.species)

1.Taxon:

Species:*Pinus roxburghii* Sarg.
Subspecies:
Variety:
Cultivar:
Hybrid:

Image file

2. Synonyms:*Pinus longifolia* Roxb. ex Lamb.

3.Systematic Position:

Christenhusz*et al.* (2011)

- Class: Equisetopsida C. Agardh
- Subclass: Pinidae Cronquist
- Order: Pinales Gorozh.
- Family: Pinaceae Spreng.
- Genus:*Pinus*L.
- Species: *P.roxburghii* Sarg.

Bentham and Hooker (1862)
Kingdom: Plantae
Division:Phanerogamia
Class: Gymnospermeae
Ordo: Coniferae
Tribus: Abietineae Eichler
Genus: *Pinus*L.
Species: *P. roxburghii* Sarg.

4.Distribution:

Global: Northern Pakistan across northern India and Nepal to Bhutan

India: Northern India in lower Himalayan ranges

5.Indigenous/Exotic/Endemic;Cultivated/Wild:

6.Threat Status:

IUCN: Least concern

BSI:

7.Habit and Habitat: Evergreen tree (30-50 m tall).*P. roxburghii* is widespread and common in the north-south oriented outer valleys of the Himalaya and its foothills and often forms pure stands especially on dry,

fire-prone slopes. Mature trees are relatively fire resistant; regeneration after destructive fires can be massive and rapid when it acts as a pioneer species. In prolonged dry seasons it may drop most of its leaves. It occurs on a variety of substrates, from deep soil to bare rocks. Its altitudinal range is from 400 m to 2,300 m a.s.l., with the highest growing, scattered individuals at 2,500 m. *P. roxburghii* is restricted to the monsoon belt with summer rains.

8.Life Form: Phanerophytes

9.Economic Importance: Chir Pine is an important pine for resin production in the Himalayan region, especially in North West India, The wood is of importance for railway sleepers after treatment for preservation, and for construction, carpentry and joinery, it is also pulped for the paper industry. The bark has a high tannin content (11-14%)

10. Probable Progenitor of:

11.DNA

C-value	**Methodology**
2C (38.80 pg) [63]	Feulgen microdensitometry [63]
2C (61.70 pg) [96]	Flow cytometry [96]
2C (70.52 pg) [20]	Flow cytometry [20]

12.Basic chromosome number(s):x=12 [8, 12, 23, 35, 40, 48, 49, 63, 73, 74]

13. Zygotic chromosome number(s):2n=24 [8, 23, 40, 48, 49, 63, 74]

14. Gametic chromosome number(s):n=12[34, 48]

15.Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene chromosomes/Neocentric chromosomes):

Image file

16.Ploidy level: Diploid[8, 23, 34,40, 48, 49, 63, 74]

Image file

17.Agametoploidy:

18.Nature of polyploidy (auto, segmental, allo, autoallo):

19.Genomic formula:

20.Aberrant chromosome number(s)(aneuploidy, aneusomaty, polysomaty):

21.Somatic chromosomes:23, 48, 40, 49

Karyotype Median shortest pair submedian[23, 48, 40, 49]

Chromosome size Large[23, 48, 40, 49]

NOR chromosome(s) 12 [23]

Degree of asymmetry Symmetrical[23, 48, 40, 49]

Image file

22. Banding pattern(s):

Image file

23.Physical mapping of chromosomes:

In situ hybridization

Image file

Fluorescent in situ hybridization:

Image file

24.Genomic in situ hybridization:

Image file

25. Linkage map:

Image file

26.Chromosome associations:

Female meiosis

Male meiosis12II^{34}

Image file

27.Chromosome distribution at anaphase I:

28. Genetic diversity:

Chromosomal level

Image file

DNA level

29.Any other information (Apomixis; Inversion; Male sterility;Pollen grain mitosis; Pollen stainability;Translocationsetc.):