229. Satyanti, Annisa; Farid Kuswantoro; Eko Susanto; Trisno Utomo; Mahmudin Mahmudin; Izu Andry Fijridiyanto. 2015. Highland species and temperature requirement for germination: a case from two endemic <i>Papuan Pittosporum</i> (Pittosporaceae) species. Buletin Kebun Raya Vol.18 No.1 ISSN 2460-1519

Abstract
Climate change, including warming and drying, is currently the biggest challenge for plant regeneration. We conducted two experiments on how temperature affected the germination of <i>Pittosporum pullifolium</i> and <i>P. spicessens</i>, both endemic to Central Papua highlands. <i>P. pullifolium</i> habitat temperature at night could reach 8°C whereas <i>P. spicessens</i> habitat temperature ranged from 19°C early in the morning up to 26°C at midday. The first experiment was to understand the effect of chilling on <i>P. pullifolium</i> germination initiation. Our study showed that <i>P. pullifolium</i> was dependent on cold stratification for its germination. Without cold stratification the germination was absent even though the temperature range of sowing environment is at ca. 13–26°C (Cibodas Botanic Gardens). With a cold stratification at 6–8°C (constant) for more than a month, germination of <i>P. pullifolium</i> occurred, with better germination rate under a light. Subsequently we carried out extended cold stratification for a month and interestingly, the germination still occurred but now it is better under dark condition. For <i>P. spicessens</i>, the germination at its habitat temperature range (Wamena) and in the warmer environment (Bogor Botanic Gardens), both occurred at more than two weeks after sowing.