



Research projects of counterparts funded at UNJA

Name	Counterpart	Title
Revis Asra, Izu Andry Fijridiyantom, Dinda Riskia Chairunnisa	B14	Sex ratio jernang (<i>Daemonorops</i> spp.) in Seko Besar Village, Sarolangun, Jambi

Research Summary

Daemonorops is one of the rattan genera of the Palmae family that comes from the Greek word "daemon" which means devil and "rhops" which means bush. Species belonging to the Palmae family can only be found in Sumatra and Kalimantan. *Jernang* distribution in Sumatra is found in West Sumatra, South Sumatra, Jambi, Riau to Lampung.

Based on observations in the field, we found several types of *jernang* from *Daemonorops*, namely *jernang rambai* (*D. draco*), *jernang burung* (*D. didymophylla*) and *jernang bengkarung* (*D. maculata*). The observations show that *D. draco* dominates the area compared to other *jernang* species (Table 1). In determining the sex of a species based on the Mendelian theory, the sex ratio of 1:1 must be produced. *Daemonorops draco* constitute the largest population with the highest number of individuals found in the village of Great Seko, Sarolangun, Jambi, and a sex ratio of 1:2.4 between its males and females. This shows that the value of male and female sex ratio in this area deviates from the 1:1 theory. Genetic and environmental factors have the potential to modify the sex ratio of seeds, although the mechanisms involved are poorly understood. At the research location, it is found that individual males are dominated by *D. didymophylla* (11 species) and females are dominated by *D. draco* species (17 species) (Figure 1).

In the Sekamis forest in Desa Seko Besar, Sarolangun, Jambi, the highest number of stems per clear clump was found in the population of female *Daemonorops draco*, and in other *jernang* populations such as *Daemonorops didymophylla* and *Daemonorops maculata* it was also found that the number of stems per clump in females was higher than in males. Sex ratio analysis shows that

Jernang sex expression is most likely influenced by the condition of its habitat. This area, where the observations were carried out, had a high enough canopy, especially in areas where *Jernang* was found in general. Male individuals live in harsh or unfavorable and environmental conditions with poor nutrient availability and faster air flow which will enhance males' function in mating. However, a survey of nearby residents showed that residents had cut down the male population because they could not produce fruits so it was considered to not provide benefits. This could interfere with the generative reproduction of the *jernang* due to the absence of individual males which will cause disruption of pollination in this plant itself.

Table 1. Sex ratio of jernang (*Daemonorops* spp.)

No	Species	Male	Female	Unknown	Total	Scale
1	<i>D. draco</i>	7	17	9	33	1:2,4
2	<i>D. didymophylla</i>	11	5	10	26	2,2:1
3	<i>D. maculata</i>	2	3	-	5	1:1,5

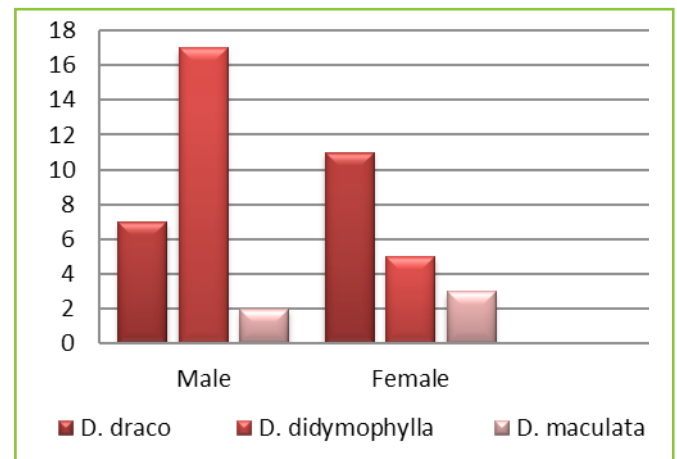


Figure 1. Graph of sex ratio

Table 2. Comparison of male and female

No	Species	Average number of stems	
		individual males	individual females
1	<i>D. draco</i>	20,2	27,6
2	<i>D. didymophylla</i>	2,3	2,5
3	<i>D. maculata</i>	4,5	5,0