

## Cyanogenic Polymorphism of *Lotus corniculatus* var. *japonicus* Regel in Korea

Moon, T.Y.<sup>1)</sup> & D.A. Jones<sup>2)</sup>

Department of Applied Biology  
The University of Hull, Hull HU6 7RX, UK

*Lotus corniculatus* L. contains various subspecies, forma, and varieties of which application is different depending on botanists, and also various cultivars of which some have been naturalised in European countries. *Lotus corniculatus* var. *japonicus* Regel is one of local varieties, and is native to the eastern Himalayas, southern China, Korea and Japan (Jones 81 Turkington 1986).

Using the method of Jones (1966), we tested the leaves of var. *japonicus* for the cyanogenesis with the small samples obtained at ten different sites in South Korea. Table 1 represents the result of the test. Through this investigation, it is proved that var. *japonicus* growing in Korea is polymorphic for cyanogenesis at least in the leaves. The possible reasons for the relative differences of the frequencies for cyanogenic morphes between the first eight samples ( $\chi^2=21.76$ ,  $df=7$ ,  $p < 0.05$ ) and the rest (Jirisan A and B;  $\chi^2=12.54$ ,  $df=1$ ,  $p < 0.01$ ) are under investigation, with particular concerns if the selection-pressures suggested by Daday (1954) and Jones (1966) in Europe also act to maintain the cyanogenic population of var. *japonicus* in this far-eastern region.

Table 1. Cyanogenesis Frequencies (%) of *Lotus corniculatus* var. *japonicus* Regel sampled at ten different sites in South Korea; 1=the number of cyanogenic leaves; 2=the number of acyanogenic leaves; 3=total number of leaves tested; 4=the frequencies (%) of cyanogenic leaves; 5=habitat description

LOCALITY	DATE	1	2	3	4	5
Chonniasan A	4.10.1985	196	4	200	98.00	Roadside Hedge
Choranasan B	14.10.1985	179	1	180	99.44	Railway Bank
tftyongjisan A	9.9.1985	96	8	104	92.30	Roadside Hedge
Myoungjisa B	19.9.1985	97	3	100	97.00	Roadside Hedge
Sor i san	8.10.1985	98	2	100	98.00	Roadside Hedge
Gyeryongsa	10.8.1985	111	9	120	92.50	Roadside Hedge
Chilgapsan	10.8.1985	101	9	110	91.82	Roadside Hedge
Gun San	7.7.1985	96	4	100	96.00	Coastal Dune
Jirisan A	25.8.1985	49	56	105	46.67	Roadside Hedge
Jirisan B	25.8.1985	107	49	156	68.59	Roadside Hedge
Σ		1130	140	1270	88.98	

$$\chi^2=309.25, df=9, p<0.001$$

### Literature

Daday, H., 1954, *Heredity*, 8:61-78; Jones, D.A., 1966, *Can. J. Genet. Cytol.*, 8:556-567; Jones, D.A. & R. Turkington, 1986, *J. Ecology*, 74:1185-1212

### Current Address

<sup>13</sup> Division of Biodiversity Research, Korean Entomological Institute, c/o Korea University, Seoul 136-701, Korea

<sup>23</sup> Department of Botany, 220 Bartram Hall, The University of Florida, Gainesville, FL 32611, USA