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## Appendix

The table shows spores and pollen grains of plants from peat sediments in percentage :

a : *Polygonum chinense* L.

b : *Polygonum plebejum* R.Br.

c : *Betula* sp.

d : *Engelhardtia* sp.

e : Myrtaceae

f : *Rhododendron* sp.

g : *Vaccinium* sp.

h : *Agapetes* sp.

i : *Schima wallichii* Korth.

j : *Pinus* sp.

k : Graminae

l : *Quercus* sp.

m : Rubiaceae

n : *Magnolia* sp.

o : *Rubus* sp.

p : Rosaceae

q : Legume

r : Cyperaceae

s : Araceae

t : *Plagiogyria communis* Ching

u : *Selaginella* sp.

v : *Polypodium* sp.

w : *Crypsinus* sp.

x : *Asplenium* sp.

y : Unidentified grains

Depth (cm)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
1	12.5	10	2.5	0	11	1.5	5	1	12	0	1.5	6.5	0	0	3	0	0	1.5	2.5	0	0	2	2	2.5	23
3	11.26	5.63	3.75	0	8.92	1.87	3.75	0.46	10.79	5.55	2.8	9.38	1.87	0	1.4	1.4	4.69	1.87	2.81	1.4	0.46	5.16	4.69	2.81	7.28
5	10.1	3.22	3.22	0.92	11.47	2.76	3.22	1.38	9.18	0	2.3	6.88	3.67	0.46	1.38	1	4.26	3.12	6.88	0.96	0	8.25	4.35	6.12	4.9
7	11	12.3	0.45	0	9.02	4.21	0.5	1	4.56	0	4.98	6	2.56	0	0	0	4.9	1.2	3.01	2	0	4.78	5	3.1	19.43
9	10.3	4.1	1.38	0	6.21	2	1	1.38	4	0	4.87	6.53	5.13	3.48	0.38	0	4.56	3.01	5	0.56	0	8.53	1	5.12	21.46
11	12	4.56	2.5	0	8.45	3.01	1.5	0.46	4.56	3.12	3	13.44	0.87	0	0	0.5	10.75	1.3	5.98	3.36	0	4.65	0.65	1.25	14.09
13	16.2	5.3	5.78	1.15	6.32	2	2.21	0	4.71	0	1.2	7.3	6.78	2.89	0	3	4.65	0.57	1.1	0.64	0.87	2.46	0	2.12	22.75
15	14.76	10.1	3.26	0	6.36	0.25	1.96	1	7.65	0	6.15	15.23	3.33	0	0.46	1.2	3.89	1.87	0	3.45	0	5.87	3.56	1.25	8.4
17	7.6	4.78	5	0	8.63	1.5	0.78	0	4.63	0	1.2	14.03	5.21	1.75	0	0	2.5	3.12	0	0.64	0	4.98	8.98	6.23	18.44
19	10.2	5.12	4	0.92	3.31	2.1	1.3	3	4.68	0	10.02	13.33	2	0	1.78	1	0.5	1.2	3	3.36	0.46	5.13	4.5	3.12	15.97
21	8.9	4.97	4.78	0	1.96	1.76	1.2	0	4	0	10	7	1.34	0.46	0	0	5.12	0.46	0	1.87	0	9.03	0	2.31	34.84
23	13.5	3.45	6.58	0	4.31	3.45	1.3	0.36	4.56	5.55	11	8.12	0.56	0.87	0	1.01	5.87	1.28	3.76	0.56	0	8.56	4.13	0	11.22
25	15.3	6.7	2.21	1.15	3.36	0.25	2.1	0.87	10	0	11.89	5.36	2.61	0.42	0	2	4.78	1.06	6.31	0	0	5.23	3.12	0	15.28
27	10.2	5.32	4.3	0	8.01	5.01	2.6	0	9.87	0	9.98	6.23	2.43	0	0	3.33	3.33	2.34	4.13	5.37	1.4	4.62	2.13	0	9.4
29	9.4	6.45	5	0.5	7.21	2.3	1	0.46	6.78	0	8.96	10.12	3.34	1.75	0.46	0.75	5.12	3.84	0	5	0	5	5.21	3.2	8.15
31	8.1	3.21	8.21	0	8	3.01	1.38	1.68	7	3.12	8.58	11.01	1.2	0	0	0	5.4	1.35	0	4.13	0	9	7.4	6.21	2.01
33	10.1	6.45	0.78	0.5	7	3.45	2.45	0.46	7.12	0	6	12.03	1.13	0.43	0	2.34	1.1	2.46	0	1.23	0	10	7.56	3	14.41
35	16.3	5	4.21	0.92	3.86	3.01	0.5	0	5.96	0	7.89	10	3.33	2.07	0.98	1.2	2	3.12	0	1.02	0	10.56	6.73	2	9.34
37	16.7	4.32	3.36	0	1.56	5.25	1.25	0.36	11	0	3.33	20	5.64	0	1.87	0.64	1.2	2	2	2.46	0	6.54	4.87	0	5.65
39	17.5	4.01	1.78	0.45	3.21	7.2	2.45	0	9.87	0	4	10.78	4.13	1.84	0	2.5	4.45	3.21	1.2	2.5	0.46	11.02	4.12	0	3.32
41	5.4	14.5	8	0.87	5	2	1.3	0	4	0	10.02	14.38	5	2.05	0	0	1.23	1	3.41	2.5	0	6.56	7.42	0	5.36
43	7.12	11.14	7.21	0.5	4.63	2.98	1.03	0.46	4.26	5.89	5.95	11.52	4.23	0.46	0.53	1.12	4.38	1.31	1.2	4.05	0	8.54	7	2.1	2.39
45	9	12.86	6.58	0	4.56	1.02	1.4	0.97	6.1	0	6.13	10.98	4.67	1.87	0	1.12	4.87	4.65	0	4.36	0	8.6	5.84	1.2	3.22
47	6	14.25	4	0	0.45	2.1	2.56	1.45	9.98	1	7.45	11.56	6.36	0	0	0	6	4	0	3.31	0.46	6.45	5.12	3	4.5
49	7.4	12.03	3.38	0	5.68	0.56	1.12	0.45	10	2	8.69	11.85	4.13	1.84	0	0.46	6.21	4.46	0	1.5	0	8.75	2.5	1.2	5.79
51	8.75	10	4.45	0.56	2.5	2.4	3	0	5.98	0	6.53	10.02	4.89	1.2	1.98	0	7.12	3.26	0	0.73	0	5.12	6.12	0	15.39
53	10.4	11	2.5	0	1.15	1.98	3.87	1.32	6.1	4.16	7.23	9.53	9.46	0	0	0	3.89	5.78	0.56	5	0.84	10.89	2.5	0	1.84
55	12.98	13.84	3.33	0	0.45	2.21	3.33	1	9.54	0	6.13	9	8.23	0	1	0.46	1.32	5	1	3.33	0	11.75	3.52	0	2.58
57	14	10	5	0	3	1.96	1.3	0	10.87	0	5.56	9.86	3	2.08	0.5	0	5.13	6.5	0	1.23	0.46	9.96	3.45	0	6.14
59	7.2	10.12	6.03	3.33	6	3	3.33	1.12	10.68	0	5.78	7	3.68	0	0	1.1	5.12	7.59	0	3.46	0	8.23	4.13	0	3.1
61	6.7	9.39	7.8	0	6.98	4.87	1.9	0.38	8.46	2.5	4.78	7.65	6.12	4.45	0	0	3.21	4.65	2	3.41	0	7.21	5	0.64	1.9
63	7.41	7.21	5.86	1.45	5.3	4.56	1.8	1.78	8.03	3.33	8.02	7.21	4.12	4.23	0	1.1	5.12	4.02	1.3	2.56	0	6	6.6	0.46	2.53
65	7.6	7.36	5	0.96	3.36	4.32	0.78	1	10	0	7.45	9.86	6.12	1.35	0	0	4.1	3.33	1.1	3	0	5	10	0	8.31
67	9.8	8.1	4.86	0	4.68	3.87	1.3	0.46	12	1.5	3.56	6.32	6.23	1.12	0	0.45	4.56	2.98	0	0	0	5.32	5	1.2	16.69
69	6.54	3.32	4.68	0.5	7.65	2.78	1.3	2.5	11.56	0	6.84	9.45	5.21	0.95	0.46	1.2	5.89	3.35	0	3	0.43	10.53	6.28	3.2	2.38
71	8.4	3.34	2.1	0	7.52	2.5	1.37	2	10.23	5.35	5	11.24	2.91	0.43	0	2.34	4.32	5.25	0	3.78	0	5.12	9.12	1.8	5.68
73	9.8	3.01	3.34	0	9.1	1.4	2.78	0	12	0	5.12	10.53	2.13	0	0.98	0	3.26	5.13	0	2.75	0.46	11.89	7.86	6.4	2.06
75	6.1	7.25	2.1	0.5	4.89	3.36	3	0.38	9.68	0	5	12	3.56	0.96	0	0	3.32	3.35	0.46	1.2	0	13.44	9.87	0	9.58



## **Bioghaphy**

Mr. Ratthapong Poungtaptim was born on August 5, 1973. He received the Bachelor Degree of Science (Biology Science) in 1996 from Faculty of Science, Burapha University. Then, he had studied in Master Degree of Science in Department of Botany, Faculty of Science, Chulalongkorn University for three years. However, he furthered his educational degree in 1999. During to his study in Department of Botany, he got the BRT scholarship to support his thesis. Moreover, he already published two papers, Dominant spores and pollen grains in peat sediment of intramontane peat bog at Doi Inthanon, Chiang Mai Province ,and Spore morphology of *Plagiogyria communis* Ching in Thailand, in 1988.



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