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A Report on the Thai-Japanese Botanical Expedition, 1988

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For the purpose to contribute to the local floras in Thailand, the Botanical Expedition was made in two national parks: Doi Inthanon National Park and Phu Kradueng National Park. The expedition was authorized by the Ministry of Education, Science and Culture, Japan (Grant No. 63041081) and by the National Research Council of Thailand (Document No. 0408/3958).

These national parks have been botanized by various botanists since 1905 for Doi Inthanon (by Hosseus) and since 1924 for Phu Kradueng (by Kerr). Since 1965, quite a number of specimens have been accumulated mainly in the Forest Herbarium, Bangkok (BKF), and the herbarium of Kyoto University (KYO). Most of them, however, were made during dry seasons. Because in the past, the transporting condition was not good in rainy seasons. As the past expeditions were planned to contribute to the "Flora of Thailand Project", the specimens were mostly restricted to particular taxonomic groups; the present expedition, therefore, was carried out during the rainy season. As to the specimens, every species which occurred in the restricted research site was collected (Research-Site method). Partly, "Quadrate Research" method was adopted. All expenses were paid by the Ministry of Education, Science and Culture, Japan.

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Record of Expedition

I. Doi Inthanon National Park.

1. Duration: July 18 to August 17, 1988.

2. General view:

Doi Inthanon National Park is located about 70 km SW from Chiang Mai city. It takes one and half hour by car from the city as there is a good highway. The park is almost square and is about 48,240 hectare. The main mountain ranges of which the elevation is above 2000 m altitude lie near the centre of the park. The main ranges continue about 5 km from north to south in direction. Eastwards from the main ranges, the elevation gradually goes down and continues to the Chom Thong plain: 250 m altitude. On the other hand, westwards from the main ranges, the elevation abruptly goes down to 6 – 800 m altitudes from which it gradually goes down and continues to that of the Mae Chaem plain at 350 m altitude. The water from the main ranges gathers and flows into the Mae Klang river in the east side and into the Mae Pan river in the west side.

The main route was constructed along Mae Klang river from the entrance of the park which is located at the SE part. At the south part of the main ranges, the highway turns up to North and continue to the highest peak of the main ranges with 2565 m in elevation, the highest mountain in Thailand. From the Mae Chaem entrance, the westside route was also constructed along the Mae Pan river and joined to the main route near the southern part of the main ranges.

Field survey was done by using the main route and the westside route. 29 Research Sites (RS) were botanized; 16 in the eastside, 6 in the westside and 7 in the main ranges as shown in Figure 26. About 15,000 sheets of vascular plants and 150 stocks living samples were collected.

3. Sketch of the vegetation:

There are dry deciduous forests at the lower elevation up to about 1000 m altitude from the entrance, and the hill evergreen forests from 1000 – 2565 m in elevation. Pine forests occur between 1000 – 1600 m from the sea level and are varied in associations from pure stands to the mixed associes of deciduous trees at the lower elevation and with evergreen oaks at upper elevation in relation with the topographic and geographic condition. The areas occupied by hill evergreen forests, water supply is perpetual all-year-round. In the hill evergreen area where the moisture is high, there occur the mossy forests. On the other hand, in the foothill areas where diciduous trees are dominant, the forests are more open except along the riperian fringes.

The pine forest, an intermediate zone between deciduous and hill evergreen forests, the moisture and temperature is more stable. By these environmental situation, evergreen trees seem not to be able to come downwards and deciduous

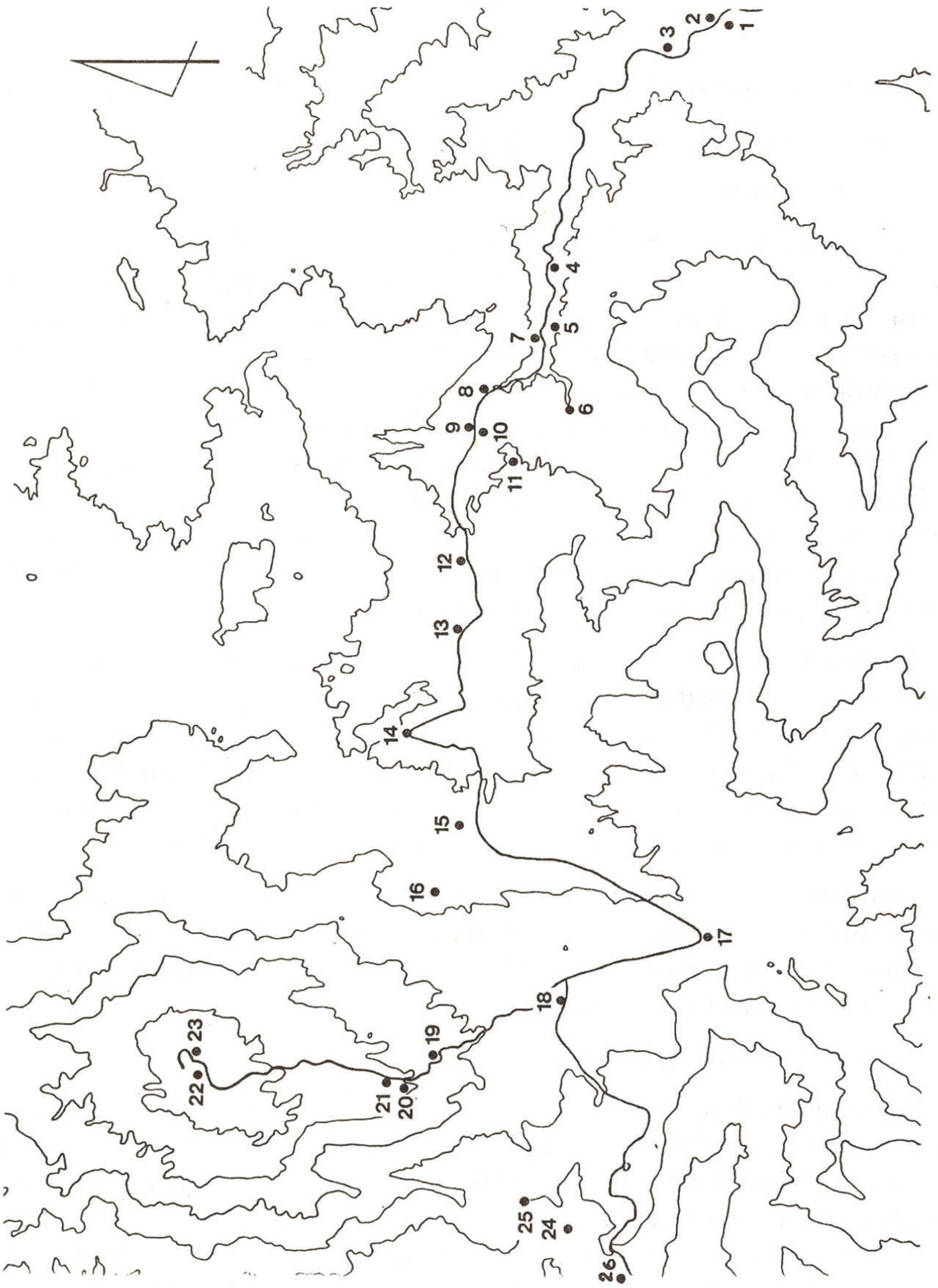


Figure 27. Map shows 26 Research Sites (RS) in Doi Inthanon (contour interval 300 m). RS-1: Mae Klang waterfall, 310 – 400 m. RS-4: along Mae Klang river, 570 m. RS-6: along Mae Aep stream, 580 – 620 m. RS-9: Wachirathan waterfall, 660 – 700 m. RS-12: along Mae Klang Pat river, 920 – 960 m. RS-14: Angka Noi village, 1050 m. RS-15: the Guest House, 1280 m. RS-16: Siriphum waterfall, 1300 – 1360 m. RS-18: Check Point, 1700 m. RS-20: Pagoda, 2100 m. RS-22: swampy place near the summit, 2520 m. RS-23: the summit, 2565 m. RS-25: Mae Pan waterfall, 1000 – 1060 m.

Following three Research Sites are out of this map. RS-27 : along road from Check Point to Mae Chaem district, 700 m. RS-28: Huai Rin village, 500 m. RS-29: near Pa Ko village, 480 – 530 m.

trees not to be able to go upwards. Thus, the pine forests are considered to be the "sandwitch vegetation" which developes on areas unoccupied by two main vegetations, dry deciduous vegetation and hill evergreen vegetation

II. Phu Kradueng National Park.

1. Duration: August 25 to September 16, 1988.

2. General view:

Phu Kradueng National Park is located about 125 km WNW from Khon Kaen city. It takes three hours by car from the city. The park is nearly circular in shape, about 34812 hectare, and occupied by the flat-topped mountain, "Phu Kradueng", which is a sandstone formation. The summit area is a plateau about 1300 m altitude. The mountain is famous for its unique landscape and summer resort. There are many bungalows and camping-sites in this plateau which are opened to the public during the dry seasons. Owing to the record more than 10,000 people daily hiked up to the plateau.

The foothill Guest Houses stand close to the entrance of the park. The gate of the hiking trail is at the back of the entrance. From the gate to the plateau, we have to hike on the trail of 5450 m in distance passing through slopes and ridges. There are several view points as well as resting places such as Sam Haek, Sam Kok Kok, Sam Kok Wa and so on. The flat-topped area is ovate in outline and forms the pine plain dissected by streams and gorges. The main gorge near the centre lies in the direction from southeast to northwest and opens to the northwest side of the mountain. Several branches of the main gorge seem to be a pinnate venation of an ovate leaf.

At least, the southern half of the plateau is mostly occupied by grasslands and partly by pine forests except the riparian fringes. The headquarter of the park at the summit area, the bungalows and camping sites stand close to the origin of the main gorge. For the visitors, there are many trails which are reticulately constructed starting from the headquarter to the waterfalls and view points.

Our field observations on the plateau were done mostly along the trails. Twenty-six Research Sites were laid and botanized; 19 on the plateau, 3 along the hiking trail and 4 at the foothill area as shown in Figure 27. Occasionally plant specimens were collected along the trail between the research sites. About 13,000 sheets of vascular plants and 130 living samples were collected.

3. Sketch of the vegetation:

There are dry deciduous forests up to 600 m and hill evergreen forests above 900 m in elevation. At an elevation between 600 and 900 m, there occur bamboo thickets composed of two or three species. Each species of bamboos was observed to be characterized by the colour of bamboo-shoot; dark reddish, yellow, whitish striped and so on.

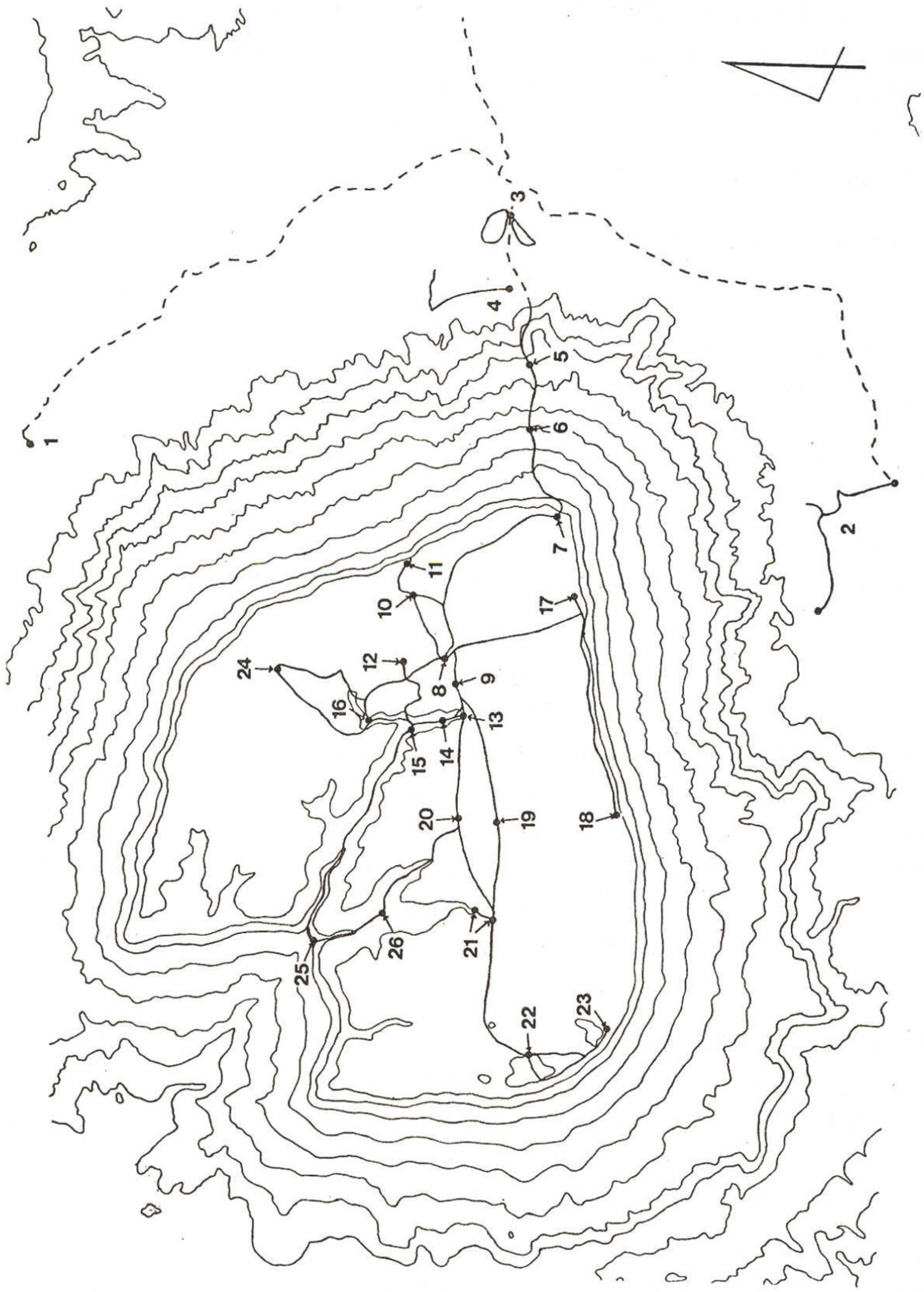


Figure 28. Map shows 26 Research Sites (RS) in Phu Kradueng (contour interval 100 m.). RS-1: Ban I Loet, 255 m. RS-2: Ban Na Noi to Na Noi Station, 240 – 250 m. RS-3: entrance of Phu Kradueng National Park, 260 m. RS-4: foothill Guest House, 280 m. RS-5: Sam Haek, 550 m. RS-6: Sam Kokwa, 820 m. RS-7: Lang Pae, 1280 m. RS-8: summit bungalows, 1250 m. RS-9: Buddha Statue, 1240 m. RS-10: Wat Phra Kaeo, 1280 m. RS-11: Pha Nok Aen (= Sun rise cliff), 1260 m. RS-12: Wang Kwang waterfall, 1240 m. RS-13: Than Sawan waterfall, 1210 m. RS-14: Tham Yai waterfall, 1180 m. RS-15: Phen Phop waterfall, 1160 m. RS-16: Phen Phop Mai waterfall, 1180 m. RS-17: Pha Makduk, 1260 m. RS-18: Pha Yiap Mek, 1260 m. RS-19: Anodat pond, 1240 m. RS-20: Doi Mon, 1250 m. RS-21: Tham So waterfall, 1250 m. RS-22: the summit of Phu Kradueng, 1316 m. RS-23: Pha Lomsak (= Sun set cliff), 1280 m. RS-24: NE point of summit area, 1260 m. RS-25: Khun Phong waterfall, 1000 m. RS-26: junction, 1130 m.

On the plateau, there are mainly moist grasslands in the southern half of the main gorge. The grass communities consisting of *Themeda* occur on somewhat gentle slopes, while those of *Eulalia* are found on the peneplain. Pine forests are scattered here and there. On the floor of the forests, there are small herbaceous plants. The hill evergreen forests develope along the main gorge and its branches. Especially, at the waterfalls, there are many big trees. Big trees are also found in the northern half of the main gorge where botanists other than us have never been.