

Botanical Excursion to Darjeeling.

(Through the courtesy of Prof. Anutosh Das Gupta M. A.)

The prospects of a botanical excursion to Darjeeling on the eve of the last summer did not at first seem very bright in view of the outbreak of great communal disturbances in Calcutta. The College remained at work during the early days of the riot despite many difficulties, and out of a total number of sixteen of our prospective tourists, all senior students of Botany, as many as six left us suddenly without notice, being ordered home by their anxious parents owing to the communal tension reaching its climax in which forces of disorder found free-play in all parts of the city. All postal and vehicular communications being temporarily dislocated it became extremely difficult for all students to meet together in order to fix a date for starting on our botanical excursion; and twice we had to cancel our engagements at the special request of parents and guardians owing to the situation continuing unchanged. At last Prof. Anutosh Das Gupta of the Department of Botany who was to take charge of the young tourists fixed Friday, the 30th April for our departure from Calcutta with the knowledge and full concurrence of all concerned. But subsequently a guardian interviewed Prof. Das Gupta at his residence and pointed out that according to all principal Hindu almanacs, Friday which was fixed for our departure was a day of "Trahospārsha," and was astrologically inauspicious for a long outward journey. Our Professor told him in reply that according to "Bishuddhā Siddhanta Panjika" the Trahospārsha was to take place on the preceding Thursday (29th April), and that its calculations were regarded by many as scientifically accurate. But the guardian not being favourably inclined towards Bisuddha Siddhanta Panjika which he characterised as a new innovation, the difficulty was at once solved by his accepting the suggestion that his ward should leave his residence on Thursday, spending the night in a neighbour's house

in order to avoid Trahosparsa according to almanacs they followed, and join us next day at Sealdah Station at least half-an-hour before the scheduled time.

The students' excursion to Darjeeling is not a new feature in our College activities, and has become an annual function in recent years, and as usual our revered and benevolent Principal paid our expenses both ways. Principal Bose has toured in the hills times out of number to study the Himalayan Flora and many of his collections are still to be seen in our Herbarium. He now prefers to send his "younger colleagues," as he usually calls them, in order to give them opportunities to see and learn as he himself did. But he is never afraid of uphill work, and has an immense capacity for taking trouble even in his old days. Judging from his wonderful activities which have seldom been perturbed or impeded by infirmities of age, and his amazing enthusiasm for work, as well as his extraordinary power of endurance, he may well be regarded as very much younger than many of his youngest colleagues! May God spare him for many, many years to come and may he send his students year after year to the hills in summer for botanical studies!

We did not leave Calcutta quite in a cheery mood. We had seen scenes of murder, bloodshed, looting and desecration of shrines in all parts of the city in broad day-light, and our mind was filled with horror and dismay when the mighty British Raj seemed powerless to cope with the situation. Prof. D. R. Banerjee who made no secret of his intention to accompany the party, but was now vacillating owing to the panicky situation in town, at last went to see us off at Sealdah Station attended by an upcountry durwan of eighty years' old who was armed with a thick and unbending stick of *Bambusa vulgaris* as a means of self defence against violence in the streets. Our party consisted of Bimal Mazumdar, Hiten Mukherjee, Amalananda Ghosal, Mihir Dutta, Sailen Bose, Débi Prosad Rai Chowdhury, Promotho Ghosh, Nimai Bose, Makham Chatterjee, Balai Kundu (engaged in post graduate

studies in Botany) and Prof. Das Gupta, We found ourselves in good and jovial company in the railway train and some of us who possessed musical talents sang all the way from Sealdah to Sara Bridge. Prof. Das Gupta travelled in another compartment, for he did not wish to mar our music by calling our attention to the subtle differences between *Calotropis procera* (আকন্দ) and *Calotropis gigantea* (আরুন্দ) which grew plentifully on either side of the railway. But our post graduate friend kept on botanising over every beautiful tree and shrub that adorned the landscape of the plains; and we could not distract his mind from Botany until we gave him a dish of sweet-meat and refreshing drink with which we were amply provided.

Towards evening the train passed roaring over the great Sara Bridge, and we all looked out of the windows to have some idea of the great length and magnitude of this famous bridge which is rightly regarded as one of the finest of engineering feats in our times. It is said that the construction of the bridge and its approaches swallowed up not less than four hundred lakhs of rupees. At Santahar we laid out a grand dinner; but some of us were content with light refreshments and aerated waters. At Parbatipur junction the broad gauge ceased and we got down for transhipment into a metre gauge train. Our readers are aware that these difficulties have been recently removed by an extension of the broad gauge up to the foot of the Himalayas. It was past midnight and the moon which had commenced waning and was still nearly round shone beautifully overhead situated in Scorpion (বৃশ্চিক রাশি) and was ever and anon covered with dense masses of passing clouds. Jupiter (বৃহস্পতি) and Mars (মঙ্গল) both situated in Capricornus (মকররাশি) were visible in the eastern sky, though in the present month they appear in the evening sky far removed from each other, the latter being situated now in Aries (মেঘরাশি). We recognised Saturn (শনি) then in the neighbourhood of Moon reflecting a reddish tint of light and very much resembling Arcturus (স্বাতী নক্ষত্র), the brightest star in Boötes

(ভূতেশ মণ্ডল) ; and Spica (চিহ্না নক্ষত্র) situated in Virgo (কন্যা রাশি) was reclining in the western sky. We slept comfortably lying at full length in the train, and our compartment which was duly locked up became as good as reserved. We reached Siſguri at 5-20 A.M., and some of our friends laughed at the sight of the miniature train of D. H. Ry. which was in waiting for us. We hurriedly took our seats in a carriage and adopted all legitimate means to secure our personal comforts and prevent an overcrowding ; and we got our great coats and warm clothing handy so as to guard against sudden changes of temperature during our ascent to Darjeeling. At Panchania Junction we noticed the commencement of the Himalayan vegetation. The change was sudden and conspicuous, and perhaps the earth and the sky were not more conspicuously different when viewed from the sea shore. At Sukna (Dry Spot) the train began to ascend the hills, steadily rising higher and higher on its circuitous path and winding its way through dense forests of *Shorea robusta* (শাল) interspersed with trees, shrubs, and climbers unknown or seldom seen in the plains. *Dalbergia Sissoo* (শিঙা), *Terminalia tomentosa* (পিয়াশাল), *Butea frondosa* (পলাশ), *Duabanga sonneratioides* (বাঁদরহুলা), *Buchanania latifolia* (পিয়াল), *Leea macrophylla* (টোল সমুদ্র), *Leea robusta* (হারমাদ), *Leea hirta* (কাকজংঘা), *Acacia* (বাবলাদি), Figs (ডুমুরাদি), Mulberries (তুঁত), tall bamboo (উচ্চ বংশ), rattan palms (বেতস), wild bananas (বন্য রস্তু); were some of the familiar plants we noticed among a host of unknown trees and lianes (বৃক্ষভা) forming impenetrable wildernesses. The trunks of the forest trees were covered with climbing pethos (গজ পিপুলাদি), vines (দ্রাকাদি), convolvulus (কলমি লতাদি), Begonias (হস্তী কর্ণ) and epiphytes (পরগাছা). At Tindharia (three-sided) we noticed beautiful specimens of screw-pines (কেতকী) and *Datura arborea* (বৃহৎ ধুতুরা) with immense handsome white flowers each about a foot in length. We stretched out our hands and collected many ferns, mosses and lichens (শিলাবন্ধ = ছাতা শেঙলা) and met *Equisetum* (অশ্বকেশী), first at an elevation of nearly 3,000 ft. In the physiognomy of the local hill people a gradual transition towards Sikimese

features was clearly in evidence. As the train rose higher and higher the temperature diminished more and more and we noticed a gradual alteration in the character of the vegetation, and tall forest trees clothed with a continuous garment of white orchids (*রাশাদি*) epiphytic ferns, pendulous mosses, and foliaceous lichens up to the top. At times the train passed over stupendous dizzy precipices, commonly described as "sensation points" where we looked out of the windows to see with a thrill of fear and pleasure the bottoms of deep gorges, and the rush of incessant torrents of water through gaping mountain clefts; sometimes the train was enveloped in dense clouds and again passed into clear atmosphere; and the cloud-effects on the spurs above, slopes around and the gorges below were an imposing sight to be remembered for a life-time. From Mahanady station right up to Kurseong we obtained splendid views of the plains of Jalpaiguri as also of the three rivers, the Balasun, the Mahanady and the Teesta which flowed meandering through the plains and glistened like silvery ribbons in the bright rays of a tropical sun. At Kurseong while the train was steaming up to the platform little Bhutia boys jumped on to the foot-board to enjoy a free jolly ride, and we gave them a few small coins for which they brought us large quantities of roses and white orchids. Bhutia women who were selling tea and pan (*পান*) supplied us with hot tea in brass bowls. Between Sonada (the Abode of Bears) and Ghoom the line passed through heavy dripping forests of *Quercus lamellosa* (Quer = fine; enz = tree; "Buk" - Lepcha) - one of the noblest species of Himalayan Oaks, and the road was frequently enveloped in dense mists, and the temperature appeared to be 15 degrees lower than that of the preceeding station. This was probably due to the cold wind sweeping through a break in the lower range of hills and condensing the moisture given out in the process of transpiration by the thick forests on the western slopes of Senchal (Hill of Mists).

We reached Darjeeling at 2-30 P. M.. Our luggage which arrived by another train shortly afterwards was carried by Bhu-

tia women on their backs. We were astonished by their extraordinary carrying capacities and cheerfully paid their wages in full. We put up at the Hindu National Boarding House at Ferndale Road where our rooms were booked in advance. The Bhutia women called it "Nashpati Boarding" on account of a pear tree (*Pyrus Communis*) that grew in the courtyard. The proprietor and his employees were all attention to us, and we were all highly pleased with their promptness, courtesy, and exceedingly obliging manners. We found a plentiful supply of hot water in the bath ; and our meals for which a telegraphic order had been sent from Toong, were just ready on the table. The enthusiasm of our young tourists for the examination of plants in order to get a good grip of natural orders was simply amazing. For during the scanty time preceding our meals they finished examination of some of the beautiful plants growing in our garden ; viz., *Cantua buxifolia* or the "magic tree" as it is called in its native place (N. O. Polemoniaceae) ; Fuchias with beautiful scarlet flowers (N. O. Onagraceae), Arum lilies (*Richardia ethiopica*.—N.O. Aroideae) with their large white trumpet-like spathes surmounting the green sagittate leaves ; and forget-me-nots (*Myosotis palustris*—N.O. Boraginaceae) with their beautiful green-like blue flowers, with a golden eye. In the evening we all went out for a pleasant walk up to the Mall, slowly and steadily ascending the circuitous path ranged with pretty little villas almost covered with flowers. The town of Darjeeling looked like an amphitheatre of hills from all points of vantage. While almost all our juvenile tourists were enjoying the wonderful scenery in the hills far and near, our post graduate friend kept on botanising over a specimen of *Wisteria sinensis* that grew near the Band Stand with pinnate foliage and a profusion of pale purple papilionaceous flowers. It is a very handsome climbing shrub ; and many people are in doubt if it has any rival anywhere in the world for its beauty. We also noticed another species of the same genus with white flowers, called *Wisteria multynga*. While we walked round Observatory Hill we noticed a profu-

sion of white rhododendrons and azalea on the slopes. The hedge-plants mainly consisted of *Spiræa corymbosa* (Rosaceæ), and *Hydrangea hortensis*. The former is a beautiful Chinese shrub bearing clusters of small white flowers; and some of its important Himalayan cogeners (সপুগাছ) are *Spiræa argentea*,—*barbarata*,—*bella* (with red flowers),—*Himalensis*,—*vaccinifolia*, and—*sorabifolia*. The word “*Spiræa*” alludes to the flexile branches being suitable for twisting into garlands. The Himalayan species of *Hydrangea* noticed by us were *Hydrangea cyanema*, and—*heteromalla*. *Hydrangea* means water-vessels on account of cup-shaped capsules in certain species, and belongs to Saxifragaceæ which comprise a group of alpine plants that delight in the neighbourhood of perpetual snow. We were warned by our Professor against picking flowers that were meant to provide æsthetic enjoyment to the public; and turning round we noticed that we were under close police observation. These poor fellows were in profound ignorance of wherefrom we came, and wherefore we were looking intently at plants. But our pockets were full, and we were proudly conscious of our power to meet any awkward situation. None of us, however, committed any vandalism upon plants for we love plants more than anybody else, and our love is divine and impartial; for the humblest and the noblest of plants are treated by us with equal consideration! The local Bengalee gentlemen seemed eager to pick acquaintance with us, and overwhelmed us with questions relating to the latest development of Calcutta riots. We returned from our evening walk shortly after it began to be dark; and the myriads of lights burning in the terraces of the hills carried us back to our younger days when we rejoiced in the lamp-festival in Dipali nights. We relieved our fatigue by hot tea, and took plenty of meat at dinner, to make up for the energy expended in the course of the day’s hard work. We retired early to bed, and slept comfortably in the cool heights of Darjeeling tucked up in woolen blankets and quilts. The night was severely cold for us, the temperature being about 48°F, far below the minimum in Calcutta winter.

We thought of our friends and dear ones in the plains who were perhaps restlessly tossing in their beds bathed in perspiration on account of summer's terrible heat. We did not use mosquito curtains, for there was none of the *Culex* and *Anaphales* in Darjeeling; and the blood-thirsty bed-bugs (*Cimex lectularias*) so common and prolific in the plains were conspicuous by their absence from our boarding-house.

Next morning some friends declared that they had heard howling of jackals in the night. Our Professor said that the ancestors of these jackals were introduced in Darjeeling by an ancestor of the Maharajah of Burdwan to do scavenging work; and that during the last Great War scores of crows and kites were sent from India to Mesopotamia to feed upon the corpses of soldiers killed in action who could not be given the honour of a decent burial. We went out after tea to Birch Hill, first following the Cart Road, and picked numerous specimens from the slopes including brambles, or yellow raspberry, wild strawberry, digitalis, and epiphytic vaccinia (*Vaccinium salignum* and *Vaccinium serpens*; the leaves of the former are used as a substitute for tea by the natives of Sikim). Digitalis was found everywhere in Darjeeling, and its presence might be justified by its action on the cardiac muscles which are subjected to great strain in the hills. While ascending Birch Hill Prof. Das Gupta picked some stiff white flowers from a shrub, and allowed us ten minutes' time to find out the natural order. A little after the expiry of the time-limit we boldly and confidently declared by a reference to Principal Bose's Analytical Table that it was either *Ebenaceæ* or *Styracææ*. Our Professor gave out with a smile that it was *Styracææ*, the name of the plant being *Styrax Hookeri*. We also collected specimens of *Vaccinium nummularia* (B. Sc.), *Vaccinium Dunalianum* (B. Sc.), *Vaccinium serratifolia* (B. Sc.), *Vaccinium Pentapterygium*, and *Fraxinus floribunda* (B. Sc. N.O.—*Oleaceæ*). The distinction (B. Sc.) given by us indicates that the plants possess Bud Scales. Indeed we found a large number of plants in Darjeeling possessing bud scales, and a woolly coat of hairs. These structures are

bad conductors of heat, and protect plants specially in the temperate and alpine Himalayas from extreme cold, and enable them to resist frost and snow-storms. They also afford protection against the dessicating action of dry cold winds which are dangerous to the plant-life when the soil is cold, and the activity of the root is arrested. We returned from our morning excursion by 10 o'clock each with a bundle of specimens which we carefully sorted and labelled.

For the rest of the day we got no further work and were left free to enjoy ourselves. After our breakfast the sky was lightly clouded and we shut our windows to keep off dense masses of fog that came surging from all sides; and we went out with our umbrellas and raincoats and walked uphill and downhill all day long, exploring all the principal roads and thoroughfares of Darjeeling. We bought bread, butter, biscuits, chocolates, and fruits and small-sized eggs from the market. Prof. Das Gupta brought some fresh fruits of *Prunus Bokharensis* commonly known as Aloo-bokhara (N. O. Rosaceae) which grew plentifully at Darjeeling and could be had at half to one anna per seer. We tasted this curious object with sodium chloride but did not find the fresh fruit more palatable than the round plums (টোপাকুল)—*Zizyphus Vulgaris* of Bengal, and indeed the fruits of *Zizyphus Jujuba* (নারিকেলি কুল) have a far more pleasant and agreeable taste than fresh bokhara plums. In the evening we saw a marriage procession of the hill people proceeding along the Cart Road in which the bridegroom was carried lying in a stretcher suspended from wooden poles on the shoulders of bearers. At first we took it for a funeral procession but we perceived our mistake when the bridegroom raised his head. In the Boarding House we were lent the use of a piano; and the early hours of the night were passed in great merriment. Next morning the weather was very fine and we got a clear view of the distant snows beyond the dusky wooded hills. We went out for collection and were astonished to find in the Victoria Road some tall trees thirty to forty feet high, with terminal spikes 4—6

inches long, opposite and decussate leaves with a silvery white tomentose and aromatic smell. We were allowed five minutes time to find out the natural order. It was found to be Labiateæ and the specimen was identified by our Professor as *Leucosceptrum canum*. We accompanied our Professor to Lloyd Botanic Garden to study both indigenous and exotic plants. The Chinese and the Japanese plants found in the garden showed great affinities with their Himalayan prototypes. *Aucuba japonica*, a hedge plant in the humid shady place was mistaken at the first sight for *Codicum variegatum* (এক প্রকার পাতাবাহুর—*Euphorbiaceae*), one of the so-called crotens with yellow spots in the foliage. But it was at last found to be a member of *Cornaceæ*, and it greatly resembled its Himalayan prototype,—*Aucuba Himalaica* growing at an altitude of 7,000 ft. and above. We climbed down a deep Valley to collect *Cornus capitata* for the sake of its small flowers-heads surrounded by large yellow bracts, *Saurauja nepalensis*, a member of *Ternstroemiaceæ* to which the tea plant belongs, was at the first sight mistaken for *Dillenia indica* (ঢালিতা). Flowers of *Camellia japonica* were mistaken for roses by all our young tourists. Other specimens of the tea family noticed by us were *Saurauja fasciculata*, *Eurya symlocine*, *Camellia thea* (চা) and *Camellia drupifera*. *Coriaria nepalensis* was the only specimen of *Coriariaceæ* we noticed at an elevation of 8,000 ft. The plant is commonly known as Masuri; and the Hill Station Mussoorie is so called owing to the abundance of this plant on the site. We noticed several specimens of *Berberiaceæ* (দারুহরিদ্রা জাতীয় বৃক্ষাদি) including the following :—*Berberis aristata*,—*asiatica*,—*conaria*,—*concina*,—*hypelencia*,—*lycium*,—*Wallichina* ; all with yellow flowers except one that possessed red flowers. *Pittospora floribunda* (Bongzam—Lepcha) is a handsome shrub on account of its glossy foliage and yellow umbellate-flowers a native of sub-tropical Himalayas from Sikkim to Garwhal. We also noticed two of its foreign prototypes :—*Pittospora tåbira* of Japan with yellow flowers and *Pittospora undulata* with white

green flowers, a native of New South Wales. *Cestrum elegans*, —*fasciculata*.—*Hugelli*,—*aurantiatum*—all with green-red leaves grew everywhere in Darjeeling, and it would be interesting to some of our readers to learn that these plants are cogeners (সংগত) of Hash-na-hena (হাশনাহেনা)—*Cestrum nocturnum*, N. O. Solanaceae. Magnoliaceae, Sapindaceae, Aceraceae and Cupuliferae were represented by numerous tall forest trees, many of which were in flowers. We noticed many indigenous specimens of wild geraniums such as *Geranium pallidum* (with pale blue flowers), *Geranium lamberti*, (with red flowers), *Geranium nepalensis*, (with red flowers), and *Geranium wallichianum* (with striped blue flowers). *Pelargoniums*, all natives of Cape-of-Good Hope, grew to such perfection as seemed almost naturalised in Darjeeling. *Curculigo recurvata* is a highly interesting plant of Amaryllidaceae which was mistaken for a dwarf palm by our young tourists on account of its corrugated palmlike leaves; it is a native of tropical Himalayas. *Paris polyphylla*, a member of Liliaceae was collected from Senchal. We saw *Hodgsonia heteroclita* (কুম্ভাণ্ড জাতীয়) a member of Cucurbitaceae, which is perhaps one of the most curious and beautiful specimens of the whole order. At the foot of Jalapahar we found interesting specimens of *Selaginella* each producing a cluster of tubers which reproduce the plants. We did not know if it had a name, and called it *Selaginella tuberosa*. Two such species—*Selaginella Chrysoculps* and *Selaginella chrysorrhizos*—have been recently discovered in North West Himalayas. We collected some specimens of striped purple-hooded arums—*Arisæma speciosum*—with long tail-like threads lying along the ground, so common in the forests of Senchal, and looking like fearful hooded snakes. It is known as ‘Sump-ki-khumb,’ and may be taken as a beautiful example of mimicry in plants. *Bucklandia populnea* or witch hazel is a noble specimen of Hamamelidaceae frequently seen on the road-side in Darjeeling. Our young tourists took note of interpetiolar stipules in *Buddleia variabilis*, and *Buddleia intermedia* (Loganiaceae); *Lycestria bolliana*

(Caprifoliaceæ), and *Callicoma serratifolia* (Saxifragaceæ). We have no space to mention all our plants in details; and their scientific names without explanation would be perplexing to many of our readers. Some of our Arts men find fault with scientific names, because they are difficult to remember and unintelligible. They may be justified in not remembering them; but these proper names are not certainly non-connegative. What they call Jarool (জারুল) in Bengali, is known as "*Lagerstroemia Flos-regina*" in science, which means a Queen reposing in her bed. Their Shefalica (শেফালিকা) which is a poet's favourite, is known as *Nyctanthes arbor-tristis*, which means a Sad Tree that opens its flowers at night, and casts them before morning. To be brief, our specimens were mostly collected from Ghoom, Senchal, Tiger Hill, Katapahar, Jalapahar, Lebong and Birch Hill; and carefully identified. Toilworn and footsore, with drops of agony on the forehead, and groaning with pain we explored the primeval forests on the slopes of Senchal in search of plants under the guidance of our Professor. It is a fine thing to visit Darjeeling in summer in company with friends; but it is an inestimable privilege that falls to the lot of a few to explore a Himalayan forest with a teacher introducing the vast myriads of unknown plants and constantly helping with all resources at his command to unravel the mysteries of plant-life; raising spirits as they tend to sink under the chill of ignorance by the warmth of information, and clearing all doubts and difficulties when the mind is seized with confusion.

After the day's hard and toilsome work we invariably met in the evening at the Mall which is one of the most favourite spots in Darjeeling, to breathe the bracing mountain breezes charged with ozone. It was noted with intense pleasure how rosy hues began to appear in our cheeks. And indeed all men and women in Darjeeling wear a glow of health in their cheeks. But some physicists sceptically observed that it was due to congestion of blood in the face caused by a diminished atmospheric pressure in the mountains; and that this newly acquir-

ed beauty would disappear in the plains more quickly than a rainbow in the sky. We attended the famous May Flower Show in which flowers of all colours and forms grown to utmost perfection including some of the most beautiful specimens of Himalayan orchids, as well as fruits and vegetables of abnormal size and development were exhibited. Some friends who visited Tiger Hill in a fine weather obtained a splendid view of Mount Everest, the highest known peak in the world; and some of our younger readers may not know that it was named in honour of Colonel Everest, the founder of the trigonometrical survey of India. We obtained a magnificent view of the stupendous snowy range from our windows, and the silvery cone of Kanchenjunga wore an appearance of superb beauty in the early rays of the sun. We met many ladies and gentlemen we had known before, and it was a pleasure to see familiar faces amid strange surroundings. Bengalee ladies seemed happy in Darjeeling as they came out in the open air for the sake of their health, and some of them rode cleverly in the hills like their European sisters. One of our young tourists who rode in the Cart Road had a narrow escape when his horse bolted at the sight of a passing engine. We returned to Calcutta by the middle of May with a huge collection of specimens both dried and preserved in alcohol for our College and ourselves; beans, cabbages, cauliflowers and Bokhara plums for our expectant relatives; broom-sticks, garlands, "stone-necklaces" and kurkees for ladies and teas and Tibetan curiosities for our friends.
