INTRODUCTION

Silk is becoming one of the most coveted luxuries of men in the modern times. Silk owes its origin to a small silk worm through whose body nature's mysterious forces operate to produce the wonder fibre fabulously called silk filament. While most of the lepidopterous caterpillars and some other insects spin silk, the mulberry, eri, muga and tasar worms of the two families, namely Bombycidae and Saturniidae, spin cocoons of silk which is by far the most important.

Tasar, Tus sore, or Tasar is a variety of natural silk spun by some species of silk worms of the Lepidoptera. The Indian tasar fauna is a rich amalgamation of the following Antheraea species: (1) Antheraea mylitta (Drury or Paphia), (2) Antheraea roylei (Moore), (3) Antheraea frithii (Moore), (4) Antheraea knyvetti (Hampson), (5) Antheraea helferi (Moore), (6) Antheraea andamanana (Moore), (7) Antheraea assamensis (Westwood), (8) Antheraea sivalika.

Other Antheraea species include: Antheraea pernyi (Guerin-Mineville), A. perotteti (Gui), A. majankaria (Moore), A. compta (Rothchild and Jordan), A. yamamai (Guerin-Mineville), A. polyphemus (Cramer), A. chenatua, A. yongei.
Antheraea proylei, the newly synthesized strain, is an interspecific fertile hybrid between the indigenous Antheraea proylei and Antheraea pernyi of Chinese origin.

The ancestor of domestic silkworm is considered to be Bombyx (Thopila) mandarina Moore (n = 27). This is a mulberry silkworm (Lasiocypidae) and is very similar to Bombyx mori L. (n = 23). Bombyx mori L. and B. mandarina Moore, now mainly inhabit China, Korea, Japan, Russia, and India.

China and Japan had long reared species of Antheraea (Saturniidae), most important of which are Antheraea pernyi (Guerin-Mimeville) and Antheraea yamamei (Guerin-Mimeville). The present day silk had been a closely guarded secret for a long time in China. The Chinese tasar silkworm-Antheraea pernyi-was for the first time reared in Japan in 1875 at Sapporo and Tokyo. Since 1880, it is being reared in Aina district of Nagano Prefecture.

Soviet Union stands today as the third largest sericultural country in the world. Silk industry in Russia, may be said to be of recent origin; rearing of oak silkworm on industrial scale started in 1937. In U.S.S.R., out of 15 Republics, 11 Republics mainly practice Sericulture.
The introduction of silk industry in India must have had long history dating back to 4th century B.C. "Since the days Aryans first discovered silkworm at the foothold of the Himalayas", India has enjoyed the unique distinction of being the only country where all the four known varieties of silk: mulberry, eri, muga and tasar are symbolically and commercially exploited. India produces 2.143 metric tons of mulberry silk and 577 metric tons of wild silk (1971). She ranks fifth among the mulberry silk producing nations of the world. Concerning the eri and muga, India ranks first in the world. In the field of tasar, India holds the rank of second largest producer in the world. In Assam and other parts of India, the mulberry silkworms producing the bulk of the natural silks, may have evolved from the Chinese wild silkmoths: eri, muga and tasar varieties also have had a checkered history.

Jainca (1958) classified sericultural areas of India into 3 types according to the similarity of climatic conditions:

(a) Kashmir type
(b) Mysore type
(c) West Bengal type
Tasima suggested that 'Kashmir type' would favour the growth of univoltine silkworm races. According to him, Hill tracts in Assam, Kalimpong in West Bengal and Coonoor, and its vicinity in the Tamil Nadu to be included in the Kashmir type. Multivoltine races would be suitable in Mysore type of climatic conditions. The adjacent area of Hosur in Tamil Nadu was included in the Mysore type. West Bengal type would favour the growth of multivoltine races. Plains in the Punjab and Uttar Pradesh were also included in the West Bengal type.

Kashmir, with all its favourable climatic conditions and rich vegetation, maintained for a long time mulberry silk culture and is famed for its univoltine silk. Mysore too, kept up the traditional mulberry silkworm rearing. Mysore is the largest mulberry silk producing State in the country.

The fertile alluvial soil of West Bengal is conducive to the luxurious growth of mulberry. Here, mulberry silkworm culture has been practised as a traditional profession.

The major rearing in Assam is Eri silkworm - _Attacus ricini_, and Muga silkworm - _Antheraea assama_. Both these silkworms do not feed on mulberry leaves at all. Eri Silkworms are nurtured mainly on castor plant leaves and Muga silkworms on the Som and Soalu leaves. Muga silk is raised only in Assam.
Assam also practised rearing of tasar worms.

Chotanagpur in Bihar had been the leading centre for tasar worm culture. Madhya Pradesh and Orissa also produce tasar silk.

In Manipur, records show that three local varieties of silkworms are reared for a long time, viz., Castor (Eri), Mulberry and Manipur Tasar worms (Antheraea frithii and Antheraea roylei).

Today, the economic potentialities of the mulberry and non-mulberry (including tasar) silkworms have been well realized.

Since the habitat of the silkworms vary, it is of interest to determine the importance of plant community on silkworms. While mulberry, eri and muga silkworms confine themselves only to certain specific plants for their nourishment, tasar worms may feed on varieties of plants, some of which may, however, be primary host plants and some others may be secondary host plants. For instance, the following are primary host plants of tasar worms (Jolly et al. 1963):

1. Asan (Terminalia tomentosa)
2. Arjun (Terminalia arjuna)
3. Sal (Shorea robusta)
The following are some of the important secondary food plants of tasar worms:

1. Neewu (*Fragia latifolia*)
2. Sial (Bombax malabaricum)
3. Kachnar (*Bauhinia variegata*)
4. Sidha (*Lagerstroemia parviiflora* and *L. indica*)
5. Ber (*Zizyphus jujuba* and *Z. mauritiana*)
6. Neewu (*Hodgson indica*)
7. Jamun (*Eugenia jambolana*)
8. Ficus *religiosa*
9. Carissa *sorensens*

It is also of interest to note that in the case of mulberry silkworms, which depend primarily on mulberry leaves, the maintenance of this host plant that is mulberry itself involves heavy expenditure. Nearly 60% cost of production would be required only for the maintenance of host plants alone. On the other hand, for 'Tasar' culture, since the food plants are varied and are chiefly available, the financial involvement towards the maintenance of food plants may be less. And moreover, nature has readily given us 20 lakh acres of oak plantation in the Sub-Himalayan belt stretching from Kanipur to Kashmir thus contributing to richness of Antheraon (Tasar) fauna. Meanwhile, it has also been known that oak-fed tasar worm produces one of the finest indigenous silks in the country.
With the introduction of the 'New Technique' of rearing and evolution of a new strain of Tasar worm - *Anthoraea proylei*, in the Sub-Himalayan region, there is scope to raise silk production to a considerable extent.

Manipur appears to be congenial for the development of 'New Tasar worm'. Over 80,000 acres of oak plantations for tasar worm rearing are available in the State. The tasar worm introduced on oak habitat thus presents immense potentialities.

It is stated: "By the end of this decade, Manipur will figure among the noted tasar producing centres such as Kanjivaram, Benaras, Kashmir and Mysore. An altogether new variety, known as Manipur silk, will make its grade and enhance the prestige of Indian handloom textiles. The Manipur variety will be different from the rest not only because it has no. tradition behind it but also because it will be a different variety of silk-tasar silk of honan type. And it is tasar which is catching up fast in the world market." 1

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1. K.K. Rangan - on "Yellow Revolution in Manipur" - Times of India, Bombay.
Obviously, the 'New Tasar' paves the way to economic prosperity of not only of Manipur but also of India as a whole. Further, the impact of 'New Tasar' cultivation in the Manipur State is that the present per capita income of Rs.476/- in the State will signify an increase in the per capita income by Rs.300/- per annum. By the completion of the 5th Five-Year Plan period, an additional income to the tune of Rs.7.79 crores per annum would be generated, which would signify a rise of about 16% in the State's Income. (State's income in 1971 being 53.79 crores).  

It is our wish that Antheraea proylei would, in due course, be able to prove an asset and would help India challenge China's supremacy in tasar cultivation. It is in connection with the 'Multi-crore silk Project' that Mr. R.K. Rangaswamy remarks "Manipuris are today known for their distinct style of dancing but in the years to come their little State will be identified, as the richest sericulture centre of India."

Thus, Manipur State, where the new strain of Tasar worm - Antheraea proylei has been introduced has heralded the 'beginning of oak tasar era with a resounding salvo'.

1. M.S. Jolly - Discovery of New Field of Tasar on oak - - CTRC - Ranchi.
The two species of oak plants, viz. *Quercus serrata*, and *Quercus dealbata* have all along been found abundantly for the culture of tasar worms in Manipur. The other possible sources for rearing of tasar worms in Manipur may be as follows:

1. *Quercus pachyphylla* Kurz (Kuhi)
2. *Quercus griffithii* Hook. f & Thoms.
3. *Quercus mespilifolia* Watt
4. *Quercus helforiana*, A. DC.
5. *Quercus lamellosa*, Watt
6. *Quercus fenestrata*, Watt
7. *Quercus anicate*, Smith
8. *Quercus lanceaefolia*, Clarke
9. *Quercus xylocarpa*, Watt
10. *Quercus tunicata*, Collett
11. *Quercus xylocarpa*, Watt
12. *Tectona grandia*, Linn. (chingsu, toak)
13. *Terminalia chebula*, Retz (Harah)
14. *Terminalia citrina*, Roxb (Hartaki)
15. *Terminalia myricarne*, Neurck & Suali (Tolhao)
17. *Lagerstroemia parviflora*, Roxb (jareol)
18. *Salmalia (Bombax) insignia*, Wall
19. *Salmalia (Bombax) malabarica*, DC. (Tera)
20. *Eugenia jambolana*, Lam (jamun)
21. *Ziziphus jujuba*, Lamk (Doroi, Ber)
A brief identification of each of the above plants will make the leaf collection easier.

1. **Quercus serrata** Thunb: This is a common deciduous tree of moderate size. It belongs to the family Fagaceae. Leaves long-petioled oblong lanceolate acute or acuminate spinulose-toothed many nerved. Leaves 4-6 inches, coriaceous, glabrous or with tufts of hairs in the nerve axils, young tawny tomentose below; nerves - 14 - 16 pairs, ending in the often long slender teeth; petiole- 1-2 inches. Male spikes long, tomentose; stems glabrous, Female spikes short; flower usually clustered; style slender, cups 1 - 1\(\frac{1}{2}\) inch in diameter at first enclosing the glabrous nut, which is 1/2 - 2/3 inch long.

2. **Quercus dealbata** Hook. f. & Thoms. mss (not Wall), Family : Fagaceae. A bush or small tree, branches glabrous or hoary. Leaves - coriaceous elliptic -ovate or lanceolate acuminate quite entire glabrous or minutely pubescent below; nerves- 6-12 pairs; spikes terminal; cups hemispheric embracing half or more of the subglobose hemispheric or sub-pyriform hoary nut; bracts triangular acute appressed or spreading.

3. **Quercus sachypyllyla** Kurz, Family : Fagaceae. A shrub or small tree, branches stout black when dry. Leaves petioled very coriaceous elliptic or elliptic lanceolate caudate base acute, nerves about 3 pairs. Leaves 4 -7 inches, shining above
with impressed nerves, pale beneath, nerves about 3 pairs, slightly arched, slender; Petiole 1/2 - 3/4 inch. Male spikes stout, rachis glabrous. Cups in confluent clusters 2 - 4 inches diam., each woody 1 - 2 inches diam., with thick incurved margins and many rows of broad oppressed often confluent bracts.

4. **Quercus griffinii**, Hook-f & Thoms, Family: Fagaceae. A small or large deciduous tree. Leaves large 6 - 10 by 2-5 in., sub-sessile obovate-oblong or oblanceolate acute base caudate rounded or acute entire or coarsely ciliate toothed or serrate, smooth above and pale when dry; petiole 1/10 - 1/6 inches. Male spikes 1-2 inches, crowded and glabrous, another hairy. Cups 1/2 - 3/4 inch. diam., hoary, margin thin. Nut 1/2 - 2/3 in. long, glabrous, tip conical. A diversified state in common in which the branchlets are replaced by globose sessile brush like masses of imbricating subulate rigid tomentose scales.

5. **Quercus mespiliformis**, Watt, Family: Fagaceae. An evergreen tree; branchlets tawny-villous. Leaves 4-7 in., thinly coriaceous, shining above, reticulate below; nerves nearly straight, stout beneath; petiole 1/2 - 3/4, stout wooly, Male spikes 4-6 in. d nno, wooly. Cup 1-1\(\frac{1}{4}\) inches diam., globose or hemispheric, depressed, globose.
6. *Quercus helfersona*, A. DC. Family: Fagaceae. Branches softly tawny tomentose or woolly. Leaves 3-10 in., shining above, almost wooly beneath, nerves rather slender; petiole 3/4 - 1 inches, stout. Cups 3/4-1 in. diam., broader than the nut which has a low umbo.

7. *Quercus lamellosa* Watt. Family: Fagaceae. A lofty evergreen tree, attaining 120 ft., and trunk 15 ft. girth; buds short. Leaves 6-12 inch., sometimes 10 in. broad, dark green and shining above; nerves 20-25 pairs, impressed above, very stout beneath; petiole 1/2 - 1½ in., very stout or slender. Cups sometimes 2½ in. diam. and coriaceous, fleshy; scales large, deeply crenate, inner uncurved, much larger than the nut.

8. *Quercus penetrata*, Watt. Family: Fagaceae. A large evergreen tree. Leaves 5-10 in., coriaceous, shining above with impressed slender nerves; petiole 1/3 - 1/2 in. Tales spikes stout, erect, rachis and flowers thinly tomentose. Cups 3/4 - 1 in. diam., usually clustered but hardly confluent, margin thin entire. Nut with a conical top and small cylindric umbo. Leaves very like *Q. pachyphylla*; in a very large-leaved state more ovate and 3½ in. broad.

or dioecious. Leaves sometimes 18 in. long, usually more or less ovate, thinly coriaceous; petiole long or short, C. L., the larger 1 in. diam., very thick and woody with very thick margins and obscure bracts; the smaller 1/2 in. diam., hemispheric with well marked elegantly imbricating bracts and acute entire margins. Nuts 1/4 - 3/4 in. diam., more or less sunk in the cup; nutshell very small.


11. Quercus lancoselolia, Clarke, Family: Fagaceae. A small or large tree. Leaves very variable in size, 4 - 10 in., always membranous, grey green above, pale, redish grey beneath, base rarely rounded nerves reticulate, petiole 3/4 - 1 in. Involucre 1 - 1 1/2 in. long, very stoutly pedicelled, bractting irregularly.

12. Quercus Xilocarpa, Wats, Family: Fagaceae. Leaves 4 - 5 by 1 - 1 1/2 in., nerves rather brown beneath; petiole 1/3 - 1/2 in., slender. Involucre in masses 1 1/2 in. diam., each about 1/3 in. diam., thick but not woody. Nut with very thick walls, the inner forming intruded lamellae.
13. *Gucracis truncata* Collett. Family: Fagaceae. A tree, 30 - 40 ft. or more. Leaves 5 - 8 in.; midrib prominent above cross-nervules slender, reticulate beneath; petiole / = 1/2 in. Involucres 3/4 - 1 1/4 in. by 2/3 - 1 in. across the truncate top, solitary or confluent in twos or threes, sides with large obscure confluent bracts, margin incurved with many rows of bracts, but with a depressed hemispheric top and small conical umbo.

14. *Tectona grandis* Linn. (Chingsu, Teak, Family: Verbenaceae. Leaves opposite ovate nature scabrous or subglabrate above, calyx in fruit 1 in. diam, ovoid membranous, A tree, 80 - 150 ft.; branchlets quadrangular, stellately tomentose. Leaves 12 by 8 in. (of seedlings sometimes 3 ft.), cuneate at both ends, nature with hard close tomentum beneath; petiole 1 in. Panicles 10 in. diam. and more; flowers very numerous, but only a few fertile; bracts 1/2 by 1/10 in., deciduous with also usually some reduced leaves at the forks. Calyx (in flower) 1/3 - 1/6 in., lobed less than half-way down, stellately white tomentose. Corolla scarcely 1/4 in. long, white glabrous in the throat. Supra 2/3 in. diam.; cells 4 with a central cavity, densely hirsute; calyx in fruit ovoid or subpyramidal, membranous, often reticulately-nerved nearly glabrous mouth very small.

15. *Zerrinalia chevala* Setz (Garah), Family: Combretaceae. Attains 80 - 100 ft. Leaves 4 - 5 in., deciduous in the cold
season, more or less hairy when young; petiole about 1 in. often with two glands near its summit. Racemes terminal bracteoles conspicuous in the young spikes, exceeding the flowers pubescent, but soon deciduous. Flowers all hermaphrodite. Calyx-teeth hairy within.

16. *Terminalia citrina* Roxb. (Hartald). Family: Combretaceae. Attains 30 ft. Leaves 3-6 in., when adult glabrous shining; the interstices of the nerves beneath with sunk close white tomentum; petiole 1/2 in. usually with two glands at the top or on the base of the leaf beneath. Bracteoles linear, conspicuous on the young spikes. Flowers all hermaphrodite. Calyx-teeth glabrous without, hairy within. Young ovary glabrous.

17. *Terminalia pyriocarpa* Neurck & Muell (Tolhao). Family: Combretaceae. Attains 80-100 ft. the innovations pubescent-tomentose. Leaves 4-3 in., base obtuse, nerves numerous and very parallel, upper sub-opposite; petiole about 1/4 in. usually with 2 glands at its apex. Spikes dense bracteoles and young ovarious villose. Epigynous disc with very little or no hair. Fruits 1/8 - 3/16 in. long, exceedingly numerous, minutely villous, broad wings each with 1/4 in. wide puberulous, the third acute hardly winged. The top of the tree in flower appears pink, the middle white, from the panicles changing colour.
18. *Terminalia floe-reginae*, Retz, Family: Lythraceae. A tree, reaching 50 - 60 ft., sometimes when old having on its trunk and larger branches a few strong straight spines 1-3 in. Leaves 4-8 in., from broad-elliptic obtuse to long-lanceolate. Panicle large, lower branches often 6 in., curved, ascending, flowers scattered. Petals commonly 1 in., sometimes more, nerve margins crosse-undulate, hardly fimbriate. Calyx in fruit thickened, woody, lobes triangular spreading, Fruits large, sometimes reaching 1 - 1/4 in. by 1 in.


20. *Lagerstroemia parviflora*, Roxb (Jarol), Family: Lythraceae. A tree attaining 60 ft. Leaves 2-3½ in. glabrous in the typical plant, oblong, acute or acuminate with the apex obtuse, beneath a lighter colour, often prominently reticulate. Panicles many or few flowered, not condensed. Calyx glabrous puberulous or minutely pubescent, in fruit somewhat
funnel shaped at the base, teeth small. Petals narrow, white. Capsule variable in size, in the typical plant 3/4 -1 by 1/2 - 5/8 in. seeds (with the wing) 1/2 in. and upwards.

21. *Salmalia* (Bombax) *malabaricum* DC, Family: Bombacaceae. A large tree, covered with stout hard conical prickles, branches spreading. Leaflets 6-12 in., glabrous; petiole longer than the leaflets, secondary petioles 1 in. Stipules small, caducous. Flowers numerous, fascicled at or near the ends of the branches. Calyx 1 in. cup-shaped, smooth externally, silky within, margin slightly lobed, ultimately irregularly cleft, deciduous with the corolla and stamens. Corolla 6-7 in., red or white. Petals 5, oblong, recurved fleshy, twice the length of the stamens. Seminat tube sort, filamentous numerous pluriseriat, 5 innermost forked at the top, each with an outer 10 intermediate shorter, outer very numerous. Style longer than the stamens. Capsule 4-7 in., ovoid, downy, 5 -valved, valves silky within seeds numerous, obovate, smooth.

22. *Eugenia jambolana*, Lam (Jamun), Family: Myrtaceae. A tree of considerable size with a thick and rather crooked trunk. Leaves 3-6 in., extremely variable in shape, smooth and shining, the numerous nerves uniting within the margin; petiole 1/2 - 1 in. Cyme short and compact or laxly paniculate. Flowers numerous, about the size of those of *E. operculata* or much smaller, sweet scented. Berries often obliquely oblong.

A small tree 30-50 ft.; young branches and flowers covered with a dense fuscous tomentum. Prickles solitary and straight or germinate and then one shorter and recurved. Cymes 3/4 in. long. Calyx glabrous within. Petals subspathulate, very concave reflexed. Disk of 10 grooved lobes. Ovary 2 - celled; styles 2, united to the middle. Fruit globose, 2 - celled, fleshy and mealy, glabrous.

Uptil now very little work has been done on the comparative nutritional efficiency of the host plants on the growth of tasar silkworms and yield of good cocoons. However, Fedrov (1941) studied the effect of the leaf quality of the principal kinds of oak tree and substitutes thereof on the rearing of Chinese oak silkworms. Kozhanchikiv (1947) worked on the significance of the age changes in the leaves of oak in the nutrition of the larvae of *A. pernyi*; Kozhanchikov (1950) on the importance of the seasonal changes in the leaves of oak in the nutrition and growth of *A. pernyi*; Ladychensky (1950) on the effect of food plants on the viability of the *Ailanthus* silkworm larvae and quantity of the fibre; Markowski (1965) on the effect of different food on the rearing of Chinese oak silkworm; Choudhury (1965) on the nutrition of *Aga* worm; Arai and Ito (1967) on the nutrition of Bombyx mori; Ito and Arai (1967) on the nutritive effects of alanine, cystine, glycine, serine, and
tyrosine on *Bombyx mori*; Kapil on the effects of feeding different host plants on the growth of larvae and weight of cocoon of *Philosamia ricini*; Hansingh (1971) studied on the developmental response of *A. aemulvi* to seasonal changes in oak leaves from the localities in America. Kitaizawa (1932) worked on the relation between the food plants and properties of cocoons of *A. zonatus* and *A. aemulvi*.

There are other related researches dealing with the aspects of developmental morphology and physiology of a number of silk worms including *Bombyx mori* and Antheraea species other than the new strain of tasar fauna - viz. Ichii (1915) on the hybrid between Japanese and Chinese tasar silk worm; Kitajima and Yoshino (1917) on the parents of the hybrid of Japanese and Chinese tasar silk worms; Osura (1935) on the internal morphology, and Sato and Sugiuara (1954) on the egg shell of Bombyx species; Hiratsuka (1917) on the chemical composition of egg, larva, pupa and moth of Bombyx species; Hiratsuka (1917) on the amount and ratio of ingestion and digestion, and amount of CO₂ expiration of larvae of Japanese silk worm; Solimani (1915) on the relation between temperature and pulsation in Hetamohachi-race of silk worm; Kawasaki (1917-1913) on the increase of body weight of Japanese mulberry worm; Ikeda (1913) on the increase of body capacity and length, and Ikeo (1934) on the weight
ratio of head and abdomen of the Japanese mulberry worms; Incue (1933) on the amino acid content of mulberry silk fibre; Richard, Robert, and Grellin (1955) on the crystal structure of silk fibrin, Reinisch (1952) on Antherea Yamamei; Crotch (1956) on the A. frithii, Park, Song, Lee and Park (1965) on A. nernyi; Choudhury (1965) on ethology and bionomics of A. acsama; Choudhury (1965) on the biology of Huga worm; Jolly, Narasimhana and Anul (1969) on A. roylei; Jolly, Narasimhana and Sinha on the tubercular setae arrangement in Antherea species; Jolly and Sen (1969) on the developmental morphology of A. murlita; Sinha and Bardaiyar (1972-73) on the developmental morphology of A. polychromus.

Some of the important works taken up by the CMS in connection with the host plants of the tasar worms and physiology of their eggs, larvae and cocoons include: amino acid composition in the leaves of S. robusta, F. tomentosa and F. arjuna; free amino acid composition in larval and pupal haemolymph of A. murlita; protein bound amino acids in the cocoon shells of A. murlita harvested from S. robusta, F. tomentosa and F. arjuna; protein bound amino acids in the cocoon shells of P. ricae, A. amasensis, A. nernyi and A. roylei.
These works have been thoroughly reviewed and discussed in the Chapters of Historical Resume and Discussion. A perusal of the relevant literatures reveals that until now no report is available on the physiological aspects of growth and development of the new strain of Tasar worm in relation to food plants. Analytical studies on the qualitative as well as quantitative nutritional requirements of the Tasar silk worms are essential for successful Tasar culture. Keeping all these in view, it was proposed to undertake a compressive as well as comparative investigation of the nutritional qualities of three species of host plants of *Antheraea punctate*, namely *Quercus serrata*, *Quercus dealbata* and *Quercus pachyphylla* and their impact on the worms' physiology of growth and development, and quality of the fibres spun.

The aim of the present investigation has been to study the growth character of the Tasar worm - *Antheraea punctate* on the above three different types of host plants and determine the yield, quality and principal constituents of the plants likely to influence the biology of the Tasar silk worms. Apart from the investigation of the above mentioned aspects, the present investigation aims at introducing a new food plant (*Quercus pachyphylla*) for Tasar silk worms.

Investigations should help in determining the scope for Tasar culture leading to the production of better cocoons and the establishment of Tasar Industry in Manipur.

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