A 6,000-acre forest laboratory for forestry research and experimental work has been established by the Forest Service near Westwood, California, in the Lassen National Forest. This experimental forest is the first of the kind to be established in California. It will be under the supervision of the California Forest Experiment Station.

Museum News reports that the Rothschild collection of 280,000–300,000 bird skins from the Tring Museum has been purchased for the American Museum of Natural History, New York The collection covers the field of European and Asiatic bird life. It is expected to fill out the American Museum collection, which already contains about 500,000 specimens. The Rothschild collection includes a large number of type specimens.

THE addition of Wonder Lake and other areas to Mount McKinley National Park has been announced. Mount McKinley Park is the farthest north of the national parks of the United States, and contains the highest mountain on the North American continent. It rises higher from its base than any other mountain in the world, not excluding the Himalayas. The total height of the great peak is 20,300 feet, and on its north and west sides it rises abruptly from a tundra-covered plateau only 2,500 to 3,000 feet above sea-level. Mount McKinley rises 17,000 feet above timberline, and for two thirds of the way down from its summit it is enveloped in snow throughout the year. Closely rivaling scenic Mount McKinley as a spectacle are the great herds of caribou and Dall sheep that roam the park area. Indeed, it was mainly to afford these animals protection that the national park was established in 1917. The inclusion in the park of the Wonder Lake area, lying to the northwest, is important from three main standpoints: From this area may be obtained the most advantageous view of the great mountain obtainable anywhere in the park; the lake shore affords the best location for the establishment of a tourist center within the park, with hotel and other facilities, and its lowlands provide excellent pasture for the park's wild animals, as well as affording them protection from hunters during the winter season when these animals migrate to the lowlands. Good fishing also is available at Wonder Lake, and boat trips can be developed for those not wishing to take the longer, more laborious pack trips. On the east the park boundaries are extended so as to make the west bank of the Nenana River, for all practical purposes, a natural boundary line for the park. The total area of the park with the recent additions is 1,939,493 acres.

DISCUSSION

THE POSSIBLE CHEMOTACTIC EFFECT OF THE SALIVARY SECRETIONS OF CERTAIN INSECTS UPON MICROFILARIAE

IN his valuable report upon *Onchocerca* investigations in Guatemala,[1] Strong states that three species of a Eusimulium fly are concerned in the transmission of *Onchocerca caecutiens* and that if one of these flies "is allowed to bite on the face of an infected individual, there are found on examination of the blood in the abdomen many more microfilariae than are encountered in the direct examination of the skin, but, in a case where a previous examination of a section of the skin of the face has shown no microfilariae, if a second section is made through or very near the spot where a fly has just bitten, very large numbers of microfilariae (over one hundred) may be found in it. Very clearly the fly usually produces in some way during feeding a concentration of the microfilariae about the point of the bite, many of which it imbibes." Strong then calls attention to the usefulness of this phenomenon in diagnoses where the microfilariae are present only in very small numbers.

A similar phenomenon was observed by Ashburn and myself during our investigations of the development of the microfilariae of *Filaria philippinensis* in the Philippines during 1907 and reported in the *Philippine Journal of Science,* Volume 11, No. 1, of that year. This microfilaria, which we regarded to be a new species, but which is now generally considered to be identical with the microfilaria of *Wuchereria bancrofti,* possesses no periodicity and usually occurs in the blood in very small numbers. In investigating the development of this microfilaria in the mosquito, *Culex quinquefasciatus,* we noted that blood ingested by the mosquito contained many more microfilariae than we could find in approximately the same amount of blood obtained from the patient. Regarding this we stated:

> One of the earliest observations to be made in studying infected mosquitoes is one relating to the number of filariae ingested. In some manner, concerning which it is possible to construct interesting hypotheses, the mosquito manages to get from the body of the patient 40 to 50 or more times as many filariae as it is possible

[1] *New England Journal of Medicine,* Vol. 204, p. 916, 1931.

for us to obtain in a similar amount of blood from a needle prick. Thus, in good thick smears under 22 millimeter (⅞-inch) cover glasses, we will usually find but one or two, and oftentimes no filariae. In the blood from the stomach of a mosquito which has recently bitten, the amount of blood usually appears to be less than in these thick cover-slip preparations, but it is nearly always possible to find from 40 to 80 filariae, and it has occurred to us that this fact might have a practical value in examining cases of suspected filariasis in which the parasites are so few in number as readily to be missed. It might be of use in revealing embryos in the blood of cases of elephantiasis, where the filariae, though believed to be present, are seldom found. We have not had an opportunity to put our suggestion into practice except on our last four cases of known filariasis, in all of which the result has been as stated.

So far as is known, this observation regarding the phenomenon described has not been confirmed by other workers, but it would appear to merit further study, both from the standpoint of scientific interest and practical diagnostic importance. In view of the fact that the same phenomenon occurs in *Onchocerca* infections, it is probable that it also occurs in other conditions in which parasites are transmitted by blood-sucking insects.

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AINU PITS IN THE KURILE ISLANDS

In the summer of 1931 I had an opportunity to visit the largest of the Kurile Islands, Etorofu. Arriving there on August 3 at a small village called Rubetsu, our party proceeded to cross the island on foot, collecting on the way. That evening at dusk we came to the Pacific Ocean and chanced upon some Ainu pits. At that time we only found a few broken pieces of pottery.

The next day, while hunting for new specimens of spiders, a slight exposure of shell near one of the Ainu pits was found. Upon investigation at a near-by village of Toshimoe, we found that these mounds had never been opened.

After digging in these mounds for two days we found a large quantity of pottery—mostly broken pieces and one complete vase with a good bear design. Several bone tools were also found, one a U-shaped instrument made from whalebone, the use of which has not been determined. As far as known this is a new find and not recorded from any other mound in Japan. The shells were found under twelve to eighteen inches of soil. The heap was to the north of the pits and had probably been thrown there from the doorways of the huts.

The age of the finds is an extremely difficult matter to determine. All evidence points to a stone age period, but as the Ainu, in isolated places, continued to use stone after contact with the Japanese their age can not be determined. A safe estimate would place the date at no more than five hundred years ago. The pottery designs are typical of the Ainu art, though less ornate than those found at other places in Hokkaido and the Kuriles. On the eastern coast of Etorofu at Wannippu there are many Ainu pits, and in a trip of less than five miles over forty pits were counted.

The larger part of this material is now in the Hokkaido Imperial University at Sapporo, where other valuable finds have been placed. A detailed study with drawings of it will be made this coming year.

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THE JESUIT FOURTH VOW

IN view of the statement of Dr. José F. Nonidez in SCIENCE for May 6, pp. 488–489, it will be of interest to the readers of this journal to know the precise wording of the fourth vow taken by some of the members of the Society of Jesus (the Jesuits). The Latin text is: "Insuper, promitto specialem obedientiam Summo Pontifici circa missiones, prout in iisdem litteris Apostolicis et Constitutionibus continetur." (Constitutiones Societatis Jesu, Pars V, Caput III, 3; 1869 Ed., I, 78). Translated this is: "Besides, I promise special obedience to the Supreme Pontiff in regard to the missions, according to the content of the same Apostolic Letters and Constitutions (*i.e.*, Papal Letters of Approbation and Constitutions of the Society of Jesus)." It is obvious that this vow is implicitly contained in the third of the immediately preceding three religious vows which Dr. Nonidez rightly says are unobjectionable, and that it only stresses a point of religious obedience, the substance of which is common to all religious orders that engage in missionary activities. It is of purely spiritual import, and does nothing more than express a readiness to go anywhere in the world on missionary duty if the Pope should so command.

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THE Board of Trustees of *Biological Abstracts* is now in position to assure readers of *Biological Abstracts* that the editorial and publication difficulties that have stood in the way of prompter issuance of the indexes have been overcome, through a grant for