

Tibetan nomads: 'High' living . . .

The Phala nomads of western Tibet roam an extensive mountain plateau at the highest known altitude for a human population, ranging from 16,000 to 18,000 feet above sea level. They live in one of the world's harshest environments, where snow in July is not unusual and winter temperatures drop to -40°F. Preliminary results of the first investigation by Western scientists of these hardy wanderers' cultural and physiological adaptations were presented last week at a National Academy of Sciences symposium in Washington, D.C.

The project is headed by anthropologist Melvyn Goldstein of Case Western Reserve University in Cleveland, working in collaboration with the Tibet Academy of Social Sciences. The researchers made contact with 253 nomads in two months of fieldwork last summer. These individuals, says Goldstein, are organized into 55 families of about four or five people who live in animal-skin tents.

Three main activities were observed among Phala families. Products from goats, sheep and yak tended by each household are processed, mainly by the women. Milk, for example, is churned to obtain yogurt, butter and cheese. Animal skins are used to store butter and cheese.

Men, on the other hand, hunt the bountiful wildlife along the plateau, says Goldstein. Prey includes antelope and wild yak and sheep. Dogs are trained to run down and corner sheep along craggy mountainsides until hunters can approach with homemade guns that they set on the ground and ignite by lighting a wick with flint.

Although it takes three weeks to reach the nearest village, Phala men also engage in fairly consistent trade, mainly for barley flour, notes Goldstein. Success in trading may help to explain why some families have more resources and are "wealthier" than others. All nomadic groups in Tibet, a southwestern province of China, were forced into a commune system during the Cultural Revolution, says Goldstein. The family became the basic unit of the Phala economy around 1981 with the rise of a new Chinese power structure, and the nomads report that their standard of living has improved since then.

Goldstein and his co-workers will return to Tibet this summer and conduct a 13-month study of Phala life, including the nomads' adaptations to the extreme Tibetan winter.

. . . Combined with low blood pressure

The high consumption of salt and animal fat does not translate into high blood pressure, at least among Tibetan nomads studied last summer by anthropologist Cynthia M. Beall of Case Western Reserve University. Beall, who is working with Goldstein in Tibet, found no cases of hypertension among more than 120 Phala nomads. The average blood pressure of those measured so far is below reported averages for men and women in the United States. The nomads' diet consists of meat, dairy products, barley flour and tea flavored with salt and butter; fresh fruits and vegetables are scarce at the 3-mile-high elevation. Beall now plans to measure the amount of salt consumed by nomads. Several factors, including extreme altitude, may help to depress blood pressure, she suggests.

Beall uncovered another surprising finding after taking blood samples from 110 Phala men and women and calculating their hemoglobin concentration — a measure that usually increases at high altitudes. Hemoglobin concentration was greater for Phala nomads than for sea-level populations or for Tibetans living at 12,000 feet above sea level, but residents of Chile's Andes Mountains have the highest known hemoglobin rates at elevations several thousand feet lower than the Tibetan plateau. A larger sample of Phala nomads will be studied for hemoglobin concentration as well as for other measures of oxygen delivery in the body, says Beall.

Notes from the expanding AIDS front

Recent announcements from scientific and policy-making groups fighting the spread of AIDS have added to the complex picture of the fatal disease. Two reports tie AIDS to an increased incidence of tuberculosis and to a second virus, while others raise more questions about AIDS testing.

- In an editorial note in the May 1 MORBIDITY AND MORTALITY WEEKLY REPORT, the Centers for Disease Control (CDC) in Atlanta suggests that the unexpected rise in the number of tuberculosis patients in the United States may be due to AIDS patients infected with both the virus causing AIDS and the bacterium causing tuberculosis. The 1986 total of 22,575 tuberculosis cases reported to the CDC marked a 1.7 percent increase over the 1985 figures.

Until 1985, the incidence of tuberculosis had been declining steadily, and the 1986 increase is "the first substantial rise" in tuberculosis cases since national reporting of tuberculosis began in 1953, say authors of the report. They suggest that public health departments match AIDS and tuberculosis registries, and offer AIDS testing to patients with tuberculosis.

- A second retrovirus — closely related to the HIV-1 virus known to cause AIDS — may also cause the disease and prompt a second epidemic, say scientists from France and Portugal. Led by Luc Montagnier of the Institut Pasteur in Paris, the research team reports in the May 7 NEW ENGLAND JOURNAL OF MEDICINE that the HIV-2 virus has been isolated from 30 African AIDS patients treated in Lisbon.

At a March meeting in San Francisco, Montagnier had announced the genetic mapping of the so-called HIV-2 virus, isolated from patients without AIDS in West Africa (SN: 3/7/87, p.151). After finding the virus in two AIDS patients, the scientists began searching for it in others suffering from the disease. The latest study found that blood from the 30 patients with HIV-2 infection did not cross-react with the HIV-1 virus, suggesting HIV-2 was in fact causing the disease.

Although the HIV-2 virus may not have moved beyond Africa, the authors express concern that current diagnostic tests used worldwide to screen blood and patients for the HIV-1 virus are incapable of detecting the newly described virus. Also, methods being used to prepare antiviral vaccines do not include antigenic components from HIV-2. Montagnier and his coauthors conclude that "it appears clear that HIV-2 . . . is the cause of AIDS in some West Africans and that a new AIDS epidemic is possible (but not yet documented) in West Africa." They call for large-scale epidemiologic studies to assess the spread of the virus to other areas.

- In an announcement last week, the White House said a special presidential commission will be created to study policy aspects of AIDS and advise the President on AIDS-related matters. Reagan said the disease "is clearly one of the most serious health problems facing the world community." One of the issues the panel may scrutinize is the question of mandatory testing for infection with the AIDS virus, which has killed more than 20,000 in the United States.

On April 30, the Food and Drug Administration approved a new commercial test kit for AIDS based on the "Western blot" immunoassay, which is considered more specific in detecting the AIDS virus than the currently used immunoassay screening method. The new test should eliminate the problem of false positive results sometimes seen with the current test. While AIDS testing technology advanced, government officials were arguing last week over how screening should be implemented. Surgeon General C. Everett Koop restated his position that mandatory AIDS tests are unnecessary, while Secretary of Education William J. Bennett said he supports mandatory testing among some groups, including immigrants and prisoners.