RANDOM SAMPLES

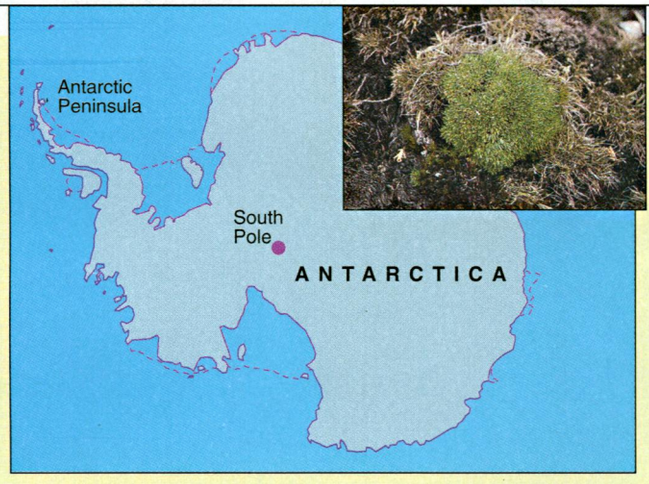
edited by CONSTANCE HOLDEN

U.K. Cancer Fund Retrenches

Major budget cuts announced last week by Britain's Imperial Cancer Research Fund (ICRF) have shocked clinical cancer researchers and sent them scrambling for ways to make up for the shortfall. "I don't know where we stand," says a demoralized John Kemshead of the Frenchay Hospital in Bristol. ICRF funding for his 10-person pediatric and neuro-oncology group will stop next March, and the group will have to close if Kemshead fails to locate an alternative source of support.

In recent years British cancer researchers have become heavily dependent on ICRF, which increased its spending by some 240% to £50.4 million ($79.6 million at current exchange rates) between 1984 and 1990. But the fund has been in trouble for some time, partly because of stiffer competition from other charities for donations, and partly because of its reliance on bequeathed real estate at a time when the U.K. property market is depressed. The package of cuts unveiled last week by ICRF's director-general, cancer geneticist Walter Bodmer, is designed to prevent the charity from veering into the red by some $10 million by 1996.

While the fund began belt tightening 3 years ago (*Science*, 28 July 1991, p. 1775), the magnitude of the new cuts has researchers stunned. All hospital-based groups face cuts of up to 20%; some clinical units, including Kemshead's group and a 46-person oncology unit at London's Institute of Child Health, will lose ICRF funding altogether. Some staff members at affected units, who requested anonymity, criticize ICRF management for failing to respond in the late 1980s to signs that the economy was heading for a recession. But Bodmer rejects any suggestion that ICRF expanded recklessly. If it had held back in the late '80s, he says, "we wouldn't have done as much research as we've done."



P. BUCKTHOUT/BAS

Gaining ground. Antarctic pearlwort responds to warming trend.

Greening of the Antarctic Peninsula

The effects of global warming are sprouting in the Antarctic. Scientists at the British Antarctic Survey (BAS) have found that the region's only two species of flowering plant are multiplying.

Plant ecologist Ron Lewis Smith explains that, unlike the dominant mosses, lichens, and algae, "the flowering plants are particularly sensitive to small temperature changes." Summer temperatures on the Antarctic Peninsula have risen by about 2°C since 1964. That's caused the region's growing season, when the temperature is just above freezing, to lengthen by about 2 weeks over the past quarter century. As a result, report Lewis Smith and his colleague John Fowbert in the fall issue of *Arctic & Alpine Research*, Antarctic hair grass plants (*Deschampsia antarctica*) on three islands off the Antarctic Peninsula increased 25-fold, from 700 in 1964 to 17,500 in 1990, quadrupling the number of sites they inhabit. The second plant, the Antarctic pearlwort (*Colobanthus quitensis*), increased from about 60 to 380. The two plants ordinarily grow "at the extreme limit of their capability to survive," says Lewis Smith. Now their chances of perpetuating themselves are "very much greater."

The expansion of Antarctic vegetation "mirrors similar changes ... observed in certain high-latitude areas in the Northern Hemisphere such as Spitzbergen and Northern Finland," says plant biologist Robert Crawford of the University of St. Andrews, Scotland. "A lot of land has been exposed that was previously covered by ice." Indeed, Lewis Smith says other research he has been conducting suggests that if the warming trend continues, "we can expect to see an increase in species diversity" as spores from foreign species that blow in and get stuck in the ice reach the soil and germinate.

Prizes for Proofs

The Crafoord prize is the way the Royal Swedish Academy of Sciences tries to honor fields ignored by the Nobel Prize. This year the award, announced on 28 September, went to two mathematicians: Shing-Tung Yau of Harvard University and Simon Donaldson of the University of Oxford, who got about $200,000 apiece for their work in differential geometry, which uses tools from calculus to study the properties of curved spaces.

"They've both been tremendously influential," says mathematician Raoul Bott of Harvard University. Yau, 44, has found new ways to use partial differential equations in the theory of manifolds (curved spaces). His 1977 proof of a long-standing problem known as the Calabi conjecture has been used to refine space models that describe the state of the universe. Yau and Richard Schoen, now at Stanford University, also proved the "positive mass conjecture," which asserts that the total energy of an isolated physical system is positive. This proof added mathematical rigor to Einstein's geometric interpretation of gravity; it also bears on how black holes form.

The work of Donaldson, 36, also involves partial differential equations. In 1982, he showed that a class of equations from mathematical physics could be used to detect differences between two four-dimensional spaces. Combined with work by Michael Freedman, now at the University of California, San Diego, Donaldson's theory demonstrated that the four-dimensional manifolds known to mathematicians occupy just one corner of a much larger landscape that is yet to be fully described.

Arson Suspect Nabbed

An animal-rights activist indicted last year for a 1992 attack on a Michigan State University lab studying the effects of pollutants on mink was arrested on 28 September on an Indian reservation near Tuscon, Arizona.

Rodney Coronado, picked up by agents from the federal Bureau of Alcohol, Tobacco and Firearms, allegedly took part in the destruction of a laboratory and decades of data, causing some $200,000 worth of damage. He's charged, among other things, with extortion and arson.

Frankie Trull, president of the Foundation for Biomedical Research, says arrests of animal-activist offenders are "extremely rare." She adds that Coronado, who claims to be a member of the Animal Liberation Front, is the "first big fish" to be caught since a law was passed last year making any attack on an animal facility a federal offense if it causes more than $10,000 worth of damage.