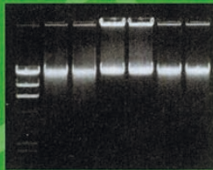


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ANALYSIS

Roslin falsely accused of biopiracy

UK researchers at the Roslin Institute (Roslin, UK) have been falsely accused of biopiracy, because protesters incorrectly interpreted the address given on a patent. More importantly, the description of the patent at the center of the furor turns out not to support the allegations. However, other biopiracy controversies continue to plague UK researchers.

Three years ago, the Research Foundation for Science, Technology, and Natural Resource Policy (RFS; New Delhi), an environmental activists' group based in India, alleged that the Roslin Institute (Roslin, UK) had worked with a faculty member at Kerala Agricultural University (KAU, Thrissur, India) to smuggle the germplasm of an Indian cattle breed called the Vechur out of the country, intending to patent it. The Vechur, the world's smallest breed of cattle, is being studied at KAU for its ability to resist disease and produce large quantities of high-fat milk while needing relatively little feed.

In August this year, the charges gained new credibility and wide attention in a series of local and international news reports following claims by some KAU faculty members that the charges might have some validity. The story had the makings of an international incident because patenting the genes of an organism without the permission of its source country violates the spirit of the Convention on Biological Diversity, an international treaty signed by over 120 countries, including the UK and India.

But officials at the Roslin Institute say that the claims of Vandana Shiva, director of the Research Foundation for Science, Technology, and Natural Resource Policy (New Delhi), do not stand up to close scrutiny. Harry Griffin, assistant director of the institute, angrily dismisses the accusations: "This is nonsense," he says, pointing out that the KAU underwent a tumultuous administrative change around the time the charges initially surfaced.

In a faxed response to a report of the incident in *Nature* (August 27, 1998), Grahame Bulfield, director of the Institute, is even more explicit, stating that "We... have never had any Vechur 'germplasm'... we have never worked on this breed or requested it, we have not applied for any patents relating to it, and none of our patents refer to Indian cattle breeds." In addition, Griffin says that "There's nobody [at KAU] that's prepared to actually go on record with any of this."

Indeed, the charges seem to rest on a series of misunderstandings. Shiva told *Nature*

Biotechnology that her evidence is quite specific: "[Roslin has] a patent at the European Patent Office, number 765390, and it's for the alpha-lactalbumin gene construct from an Indian cattle breed." However, the patent with that number and title belongs to PPL Therapeutics (Roslin, UK), an independent biotechnology company with office and laboratory space on the institute's campus, so that "Roslin" appears in their address.

More significantly, the sequences and constructs described in the patent appear to be common to all breeds of cattle, providing no evidence that DNA was stolen from India—either by the Roslin Institute or PPL. The patent describes a method of altering the expression of alpha-lactalbumin, the dominant protein in whey in the milk of all cows, including Indian breeds. This would allow the production of novel forms or higher levels of alpha-lactalbumin in milk, an advance that may be useful in producing more nutritious infant formula. But there is no indication in the patent abstract that sequences unique to Indian cattle breeds would be required or even desirable for the invention to work, and a search of the scientific literature does not uncover any research publications that would suggest that the Roslin Institute or PPL has worked on Vechur cattle.

The mistake may have been amplified by the tendency of local scientists and activists to assume the worst. Debra Harry, coordinator of the advocacy group Indigenous Peoples' Coalition against Biopiracy (Nixon, NV), explains that Shiva has high credibility among activists in India and that the charges touch a raw nerve. According to Harry, colonialism left a legacy of suspicion among many indigenous groups, and biotechnology has recently resurrected old fears of exploitation. Harry is not optimistic about the future image of foreign biotechnology companies in less-developed countries: "I'm positive we're just seeing the beginning of this problem."

Biopiracy issues continue to plague UK researchers: Thailand and Portsmouth University (UK) are battling over 200 strains of Thai marine fungi that have been stored in UK labs since 1993—a time when Thai storage facilities were inadequate. In an attempt to protect its biodiversity rights, Thailand is now reportedly battling to retrieve the fungi, the therapeutic potential of which, it fears, could be exploited by and lost to Western pharmaceutical companies. The 1993 research project occurred before the creation of the current material transfer agreement banning the commercialization of Thai samples.

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