on the allegations against Seligman and Clark — until the latest group releases its report, which is expected by 12 January.

The complainants filed their lawsuit last week because their window of opportunity is about to close. Beginning in late August, after the first two investigations had exonerated Jaeger, they lodged complaints with the US Equal Employment Opportunity Commission (EEOC). The EEOC granted each of them the right to sue within 90 days, beginning on 11 September.

"Our only choice is to continue to move forward in order to put pressure on the university," says complainant Jessica Cantlon, a cognitive neuroscientist at Rochester.

The case against Jaeger began to come together in early 2016, when he allegedly said in several faculty meetings that it was acceptable for faculty members to date students. Two professors in the brain and cognitive science department — Richard Aslin and Elissa Newport, who have left the university — led a group that gathered complaints about Jaeger. These include allegations that he had sex with students and sent unwanted photos of his genitalia to a female student. At least 16 women altered their academic course to avoid Jaeger, the complainants say in their lawsuit.

Two university investigations in 2016 concluded that Jaeger had not violated the University of Rochester's policy on romantic relationships between faculty members and students, and that he had not engaged in retaliatory behaviour against complainant Celeste Kidd, a developmental psychologist. In their filings with the EEOC, the scientists alleged retaliatory behaviour by university officials against some members of their group — such as going through their e-mails and discriminating against them in hiring decisions. The complainants went public with their allegations in early September, which led students and others to protest against the university.

Later that month, Rochester's board of trustees appointed a committee headed by Mary Jo White, former chair of the US Securities and Exchange Commission (SEC), to examine the original investigations and allegations against Jaeger that have arisen since. White's group has since gathered information from more than 115 people, but not the nine who filed complaints against Jaeger.

In the lawsuit, the researchers say that they "have stated from the outset their sincere desire to cooperate with the Special Committee, but under conditions that do not negate their ability to pursue" legal claims against the university. "We would rather go to real court, to present both sides equally and fairly to a neutral party," Cantlon says.

White has said that without cooperation from the complainants, she will rely on the interviews her group has conducted, plus interviews and documents from the two previous university investigations. "The Special Committee's and Ms White's only interest is to get to the truth," the committee said in an October statement.

Much depends on what White finds. In the United States, "the legal standard for minimizing or avoiding liability is quite easy for employers to meet," says Joanna Grossman, a law professor at Southern Methodist University in Dallas, Texas, who studies sex discrimination. "If they had appropriate policies on harassment and both established and utilized an internal grievance procedure, most courts would say the university did enough to avoid liability."

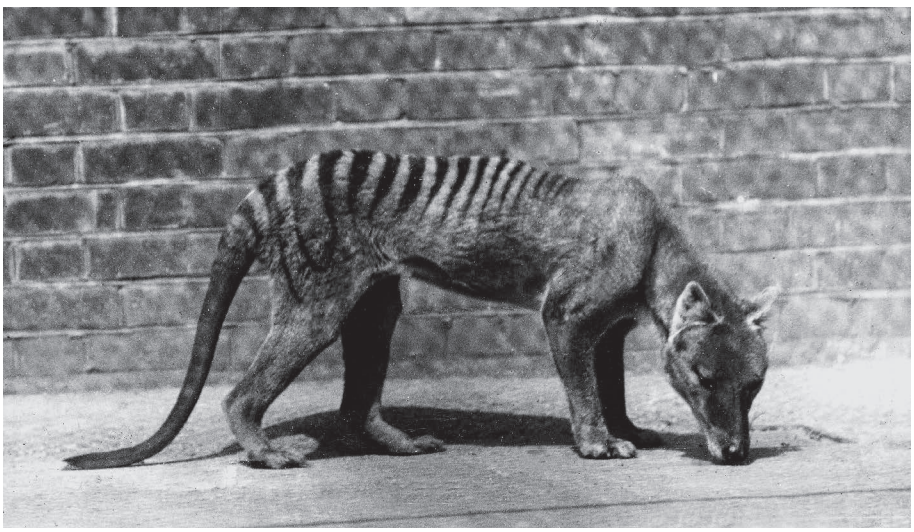
She says that universities might have more of an incentive to treat sexual harassment strictly if they face public outcry that could harm their reputations. Already, more than 450 faculty members at universities in several countries have signed an open letter advising students against studying or working at Rochester.

Jaeger is on administrative leave. The lawsuit is expected to take months to move towards any possible trial. The plaintiffs are asking for money to cover their damages, costs and lawyers' fees, and any other relief the court might award. ■

GENETICS

Extinct Tasmanian tiger spills its genetic secrets

Sequenced genome from preserved pup offers clues to the species' disappearance.



PAUL POPPER/POPPERFOTO/GETTY

Tasmanian tigers (*Thylacinus cynocephalus*) died out in 1936.

BY EWEN CALLAWAY

The last known thylacine — a species of marsupial predator that once ranged from New Guinea to Tasmania — died on 7 September 1936 in an Australian zoo. Now, the species' complete sequenced genome, reported in *Nature Ecology and Evolution*, offers clues to its decline and its uncanny resemblance to members of the dog family[1].

"They were this bizarre and singular species," says Charles Feigin, an evolutionary developmental biologist at the University of Melbourne, Australia, who was involved in the sequencing effort. "They look just like a dog or wolf, but they're a marsupial."

Humans have been bad news for the thylacine (*Thylacinus cynocephalus*), commonly known as the Tasmanian tiger. The species' range shrivelled as early hunter-gatherers expanded across

Australasia, and the human introduction of the dingo (*Canis lupus dingo*) to Australia several thousand years ago reduced numbers still further, leaving an isolated thylacine population clinging on only in Tasmania. European colonists in the nineteenth century saw the predators as a threat to their sheep, and paid a bounty of £1 per carcass. Thylacines were on the cusp of extinction in the wild when the rewards were ended in 1909, leading zoos to pay handsomely for the few remaining individuals.

Geneticists had previously sequenced the species' mitochondrial genome — a short stretch of DNA that is maternally inherited — using hairs plucked from a thylacine stored at the Smithsonian Institution in Washington DC[2]. In the latest study, a team led by developmental geneticist Andrew Pask of the University of Melbourne obtained the much longer nuclear genome by sampling tissue from a one-month-old thylacine that had been found in its mother's pouch in 1909 and was preserved in alcohol.

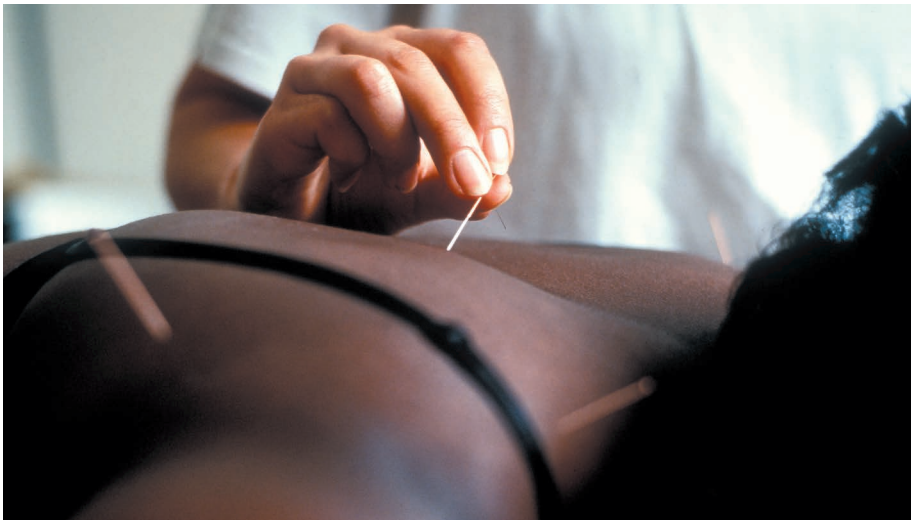
Compared to the mitochondrial genome, the nuclear genome holds information about many more ancestors. The team saw a drop in the thylacine's genetic diversity, suggesting that population numbers began dwindling some 70,000–120,000 years ago, well before humans reached Australia. Similar patterns have been found in the genome of the Tasmanian devil (*Sarcophilus harrisii*)[3]. Feigin suspects that a cooling climate shrank the habitats of both species, making them more vulnerable to humans.

Thylacines are not closely related to the dog family, known as canids — the groups' common ancestor lived around 160 million years ago — but their heads are remarkably similar in shape. This hints that the groups might have adapted similarly to facilitate their predatory lifestyles. To test for such convergent evolution, Feigin and Pask's team identified 81 protein-coding genes in which both canids and thylacines had acquired comparable DNA changes, including some with roles in skull development. But none of the relevant genes seemed to evolve under natural selection in either lineage.

Instead, the team proposes that DNA that does not affect protein sequences, but influences how they are expressed, underlies the long snouts and other traits shared by both groups.

That's a "reasonable inference", says Sean Carroll, an evolutionary developmental biologist at the University of Wisconsin–Madison; new physical traits tend to arise when the expression of developmental pathways shared across animals shifts. ■

1. Feigin, C. Y. *et al. Nature Ecol. Evol.* http://dx.doi.org/10.1038/s41559-017-0417-y (2017).
2. Miller, W. *et al. Genome Res.* **19,** 213–220 (2009).
3. Murchison, E. P. *et al. Cell* **148,** 780–791 (2012).



UIG VIA GETTY

Results from a large trial suggest acupuncture might ease pain in women with breast cancer.

PAIN MANAGEMENT

Acupuncture study reignites debate

Large trial suggests controversial technique could work.

BY JO MARCHANT

One of the largest-ever clinical trials into whether acupuncture can relieve pain in people with cancer has reignited a debate over the role of this contested technique in cancer care.

Oncologists who conducted a trial of real and sham acupuncture in 226 women at 11 cancer centres across the United States say their results — presented on 7 December at the San Antonio Breast Cancer Symposium in Texas — conclude that the treatment significantly reduces pain in women receiving hormone therapy for breast cancer. They suggest it could help patients stick to life-saving cancer treatments, potentially improving survival rates. But sceptics say it is almost impossible to conduct completely rigorous double-blinded trials of acupuncture.

Interest in acupuncture has grown because of concerns over the use of opioid-based drugs, which can have nasty side effects and are extremely addictive. Many cancer centres in the United States therefore offer complementary therapies for pain relief. Almost 90% of US National Cancer Institute-designated cancer centres suggest that patients try acupuncture, and just over 70% offer it as a treatment for side effects[1]. That horrifies sceptics such as Steven Novella, a neurologist at Yale University School of Medicine. Acupuncture has no scientific basis, he says; recommending it is "telling patients that magic works".

But Dawn Hershman, an oncologist at Columbia University Medical Centre in New York City, decided to investigate whether acupuncture could help to reduce the pain caused by aromatase inhibitors, one of the most commonly used treatments for breast cancer. These drugs lower oestrogen levels and, when taken over five to ten years, reduce the risk that the cancer will recur. But they cause side effects, especially arthritis-like pain, which can cause up to half of women to take the medication irregularly, or to stop taking it altogether.

MEANINGFUL RELIEF

After a small trial showed positive results[2], Hershman and her colleagues conducted a larger one. The 226 women were placed in one of three groups: one that received acupuncture; another that got a sham treatment in which needles were inserted at non-acupuncture points; and a third that received no treatment. The researchers trained the acupuncturists to deliver consistent treatments[3]. The women were asked to record their pain.

After a six-week course of treatment, 'worst pain' in the true-acupuncture group was about one point lower on a scale of zero to ten than in either the sham or no-treatment groups. This is a statistically significant ▶