There May Be Fewer Insect Species
By MALCOLM RITTER, AP Science Writer

How many insect species are there? Nobody knows. But a new study says a widely cited estimate of about 30 million should be slashed to around 4 million to 6 million.

That would bring the 20-year-old estimate in line with some more recent ones. But the author of the original estimate says he'll stick with his higher figure for now.

Terry Erwin of the Smithsonian Institution's National Museum of Natural History, who presented the 30-million figure in a brief paper in 1982, said that estimate and the new one are hypotheses to be tested.

Erwin's figure was picked up widely by conservationists in the 1980s as biodiversity became a household word, said Scott Miller, chair of the museum's department of systematic biology. He's a co-author of the new report, which appears in the April 25 issue of the journal Nature.

Scientists have produced two schools of thought on such estimates, Miller said, with one favoring around 30 million species or more, and the other suggesting 5 million to 10 million. Before participating in the new project, Miller said, he personally favored 8 million to 10 million.

Scientists have arrived at estimates by two basic approaches. Erwin studied insects in an area of Panama and, using a chain of assumptions, arrived at a global figure. Others have begun with large museum collections and the rate at which new species were being found. This latter approach typically yielded estimates of fewer than 10 million species, said Vojtech Novotny of the Czech Academy of Sciences and University of South Bohemia in Ceske Budejovice, Czech Republic. He is the lead author of the Nature paper.

His study basically plugged new data into Erwin's chain of calculations to arrive at the revised estimate of 4 million to 6 million species, reconciling the results of the two different approaches, Novotny said.

Novotny and colleagues analyzed data for more than 900 insects feeding on 51 plant species in New Guinea. They found that insects tend to be less picky about what plants they eat than scientists had thought. That clashed
with one of the assumptions used by Erwin, who'd reflected the dominant thought at the time that insects tended to be choosier.

When Novotny and colleagues used their new data in Erwin's formula, along with some other changes, the new species estimate appeared.

So how much confidence can one put in the new number?

"I think it's the best assumption we can make, given what we know today," Miller said. "But I certainly realize there are lots of other issues out there" that could change the number again.

Erwin said the new number runs into the same problem he had: extrapolating results from one geographic area. He now knows that's not reliable, he said.

"I'm just going to stick with my figure until I see somebody come along with a stronger argument," Erwin said.

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