

Ngā pūngāwerewere: he pārongo

E kīia ana te āta tiroiro i ngā pūngāwerewere ko te mātai pūngāwerewere, arā, he arachnology ki te reo Pākehā.

He aha tēnei mea, te pūngāwerewere?

He uri ngā pūngāwerewere nō te karangatanga **Arachnida**. E rua ngā wāhanga matua o te tinana:

- ko te wāhanga mārō o mua, arā, ko te ūpoko me te poho e hono tahi ana, e kīia ana ko te **ūpoko-poho**;
- ko te wāhanga ngohe o muri, arā, ko te **puku**. He 'kakau', he **hope whāiti** rānei kei waenganui i ēnei wāhanga e rua. E **8 ngā waewae**, e **2 ngā hihipā** (ka whakamahia hei horoi i a ia, hei pupuri anō i ana kai) e honoa ana ki te ūpoko-poho. He parirau kore, he pūhihi kore, engari he āhua rite te mahi a ngā hihipā ki tā ngā pūhihi.

Ngā whanaunga tino tata

Ngā pūwereriki, ngā hikutimo, ngā hikutimo horihori, ngā 'kaihauhake'.

E hia katoa ngā momo?

Putā noa i te ao, e 37,500 ngā momo e mōhiotia ana. Tēnā ko ngā manu o te ao, e 9,000 noa ōna momo, ā, e 4,000 ngā momo kararehe whāngote. E 2,500 neke atu ngā momo i Aotearoa, engari 1,300 kua whai ingoa pūtaiao.

Te anga o te pūngāwerewere

He **angawaho** kē te anga o te pūngāwerewere, ko tāna he:

- tautoko i ngā mea o roto i te pepeke, tae atu ki ōna uaua;
- tiaki i ngā wai o roto i te pepeke, kia kore ai e tere mimiti.

Kāore te angawaho e tipu ngātahi me te pūngāwerewere, nō reira me kounu kē (arā, ka whakarerea te kiri i ōna wā anō) e tipu tonu ai ia. Kounu ai te pūngāwerewere i a ia e tamariki tonu ana; kia pakeke ake, kua kore e kounu.

'Mate atu he waewae, ara mai anō he waewae'

Ki te ngaro he waewae, ka taea e ngā pūngāwerewere tamariki te whakatipu waewae atu anō mōna. I ia kounutanga, ka rahi ake tana waewae hou. Kāore e taea e te pūngāwerewere pakeke te whakatipu waewae hou mōna.

Te hiraka

Hangaia ai te hiraka o te pūngāwerewere i roto i tana tinana. E 2-7 ngā repe hiraka (kei te āhua tonu o te momo pūngāwerewere). He momo wē kē te hiraka ka whakamārōhia e te pūngāwerewere ina kumea ake i tana tinana ki ana waewae o muri, pēnei i te taura nei ka mārō ina kumea. He rerekē te momo hiraka ka hangaia e tēnā, e tēnā repe hiraka. Anei ētahi momo:

- he hiraka hāpiapia hei hopu kai;
- he hiraka 'aho kukume' hei whakaora i te pūngāwerewere ina tūpono taka ia, ko te taura "bungee" tōna rite;
- he hiraka tākai hua hei tiaki i ngā hua.

Kitea ai ngā pūngāwerewere i hea?

Kitea ai he pūngāwerewere i ngā whenua rahi katoa o te ao i tua atu i Te Kōpakatanga ki te Tonga. He maha ake ngā momo i ngā takiwā pārūrū, tēnā i ngā wāhi āhua makariri ake o te ao. He noho whenua te nuinga o ngā pūngāwerewere; ko ō rātou kāinga, kei te papa tonu, kei tētahi wāhi pātata rānei ki te papa.

Ngā karangatanga pūngāwerewere matua

E 2 ngā karangatanga matua:

1. Ngā **mygalomorph** = ngā pūngāwerewere o te 'ao kōhatu', e 4 ō rātou pukapuka; hei tauira, ko, ngā tarantula, ngā tunnelweb.
2. Ngā **araneomorph** = ngā pūngāwerewere tūturu, e 2 ō rātou pukapuka; hei tauira, ko ngā pūngāwerewere noho māwhaiwhai, ngā pūngāwerewere whaiwhai.

Te āhua o te noho a ngā pūngāwerewere ki te ao

E 3 ngā wehenga matua:

1. ko ngā mea noho **māwhaiwhai**:
 - ka noho ki te hau o te takiwā, ā, he māmā te kitea atu;
 - he hiraka hāpiapia te taonga whakamahia ai e ia hei hopu kai māna;
 - ko te āhua o te māwhaiwhai e hangaia nuitia ana, he rite ki te 'wīra o te kāta', engari he nui anō ngā pūngāwerewere ka hanga māwhaiwhai me te hīti te hanga.
2. ko ērā ka noho **anaroo**:
 - ka noho huna ki te poho o Papa, ki ngā rākau rānei;
 - ka tatari kia 'taka' mai he kai ki roto i te ana;

- he miro te taonga ka whakamataara i a ia kua pātata mai he mea oreore ki tōna whare.
- 3. ko ērā ka āta whaiwhai kai mā rātou:**
- i te nuinga o te wā, he ohopō, nō reira he huna kē te mahi i te awatea;
 - ka whaiwhai, ka konihi kai mā rātou i te pō;
 - ko ētahi momo ohoao, ka noho, ka tatari kau, kātahi ka rere ki te hopu kai mā rātou (ko ngā pūngāwerewere pāpaka e pēnei ana).

Te rongo me te kite o te pūngāwerewere

Te kite

He karu māmā ō te pūngāwerewere (arā, kotahi te mata papatahi o ia karu), ā, e 2 o ēnei, kei te wāhanga whakamua o te upoko-poho – koirā ngā karu matua. Hui katoa, **e 8 ngā karu o te nuinga** o ngā pūngāwerewere, heoi anō, arā ētahi e 6 ngā karu, me ētahi momo ruarua nei e 2 noa iho ngā karu. Ko ngā pūngāwerewere peke ngā mea tino koi nei ngā karu.

Te whakapā me te tāwara

Whakamahia ai ētahi o ngā huruhuru i te tinana hei whakapā atu ki tētahi mea, hei rongo anō i te tāwara. Arā ngā huruhuru e āta rongo ai ia i: te tarapepe, ngā ia hau, te takawai, ngā kai.

Ka pēhea tana hīkoi kōaro i te tuanui, i roto rānei i tana māwhaiwhai?

He huruhuru e rite ana ki te paraihe kei ngā waewae o ngā pūngāwerewere whaiwhai, e piri ai rātou ki ngā mata, e taea ai tā rātou hīkoi kōaro. He momo hinu kei te pito o ngā waewae o ngā pūngāwerewere noho māwhaiwhai, e kore ai rātou e mau i ō rātou ake māwhaiwhai.

Ngā hoariri

I ngā wā katoa, he mōrearea te noho a te pūngāwerewere, kei kainga ia e tētahi atu mea. Anei ētahi o ana hoariri: te manu, te wāpu, ētahi kararehe ririki, ko tātou tonu. Arā hoki ētahi momo, ka kainga te toa i a ia e ai ana.

Ko ngā pūngāwerewere:

he pōuri, he māwhe rānei ngā tae: ka huna; ka kaha te piri tahi ki ngā hanga he pērā anō te āhua, ā, ko ana tae māwhe hei kākahu huna mōna.

he muramura ngā tae: e tohu ana i te hoariri kia kaua e pātata atu, i te mea he paitini, he kino rānei kei reira mōna; ka kaha te piri tahi ki ngā hanga muramura te tae, ā, ko tōna ake muramura hei kākahu huna mōna.

Ngā kai a te pūngāwerewere

He angawaho konihi, kaikiko te pūngāwerewere – ko te nuinga o ana kai, ko ētahi atu hanga tuarākore. **Kainga ai e rātou ko ngā mea ora anake.** Ka tīmata te nakunakunga o ngā kai i te waha tonu:

- ka tukuna he wai nakunaku ki runga i te mea kua mau i a ia, kia hurihia ai hei momo wē;
- ka ngotea atu te wē ki roto i te puku.

Tērā tonu ka 50% te taumaha ake o te pūngāwerewere ina mutu tana hākari. Ka taea e te pūngāwerewere te kai tētahi mea e rite ana ki a ia te taumaha (ka pēhea rawa te taumaha o te kai mēnā ko koe taua pūngāwerewere?) Ka roa tonu te pūngāwerewere e ora ana me te kore kai; ko te mea roa katoa e mōhiotia ana, e ora tonu ana ahakoa kotahi tau ia kāore e kai ana (engari me haukū tonu tana wāhi noho, kia kore ai e mate i te kore wai).

Tana paitini

He whai paitini ngā pūngāwerewere katoa, koirā tana tino taonga hei patu i te hoariri. He ngoikore rawa ngā kauae o te nuinga hei wero i te kiri tangata, ā, mehemea rā ka werongia, he ngoikore te paitini, kāore ōna pānga kino ki a tātou. Heoi anō, ka raru tonu te tangata i te paitini kino o ngā pūngāwerewere o te rōpū *Latrodectus* (ngā 'pouwaru' me ngā 'tuarā whero'). Ko te paitini pūngāwerewere kino katoa ki a ngāi tātou, ko tō te funnelweb o Poihākena. Waimarie tonu tātou kāore taua weriweri rā i Aotearoa nei!

Ngā mātātoka

Kua āhua 350 miriona tau a ngāi pūngāwerewere e ora ana ki te mata o te whenua. Ko ngā mātātoka tino tawhito e mōhiotia ana, nō te takiwā Devonian. Ko te nuinga, nō te 200 miriona tau ki muri, nō te takiwā Carboniferous o Runga.

Te mea rahi katoa, pakupaku katoa?

Te pūngāwerewere **rahi katoa** = te tarantula goliath (ka kīia e ētahi ko te tarantula kai manu) o Amerika ki te Tonga (e 90 mm te roa o te tinana, e 250 mm te whānui mai i te pito o tētahi waewae ki tētahi).

Te pūngāwerewere **pakupaku katoa** = he pūngāwerewere māwhaiwhai porohita nō Samoa (0.43 mm te roa o te tinana – he āhua rite tērā ki te rahi o te upoko o te pine).

Te nekeneke

E honoa ana te tere o te haere a te pūngāwerewere ki te pāmahana; i te nuinga o te wā, ka mātao ake, ka pōturi ake te haere. Whewheo ana te haere a ētahi pūngāwerewere; ko te nuinga o ēnei, he pūngāwerewere whaiwhai. Otirā, kāore e roa e parahutihuti ana te haere, kua tū, kua whakangā. Ko ētahi anō he pōturi tonu; ko ngā mea noho māwhaiwhai ngā mea kaha te pēnei.

Te rere ā-pūangi

Koinei tētahi tikanga e rere ai te pūngāwerewere ahakoa karekau ōna parirau. Ka tuia e ngā kōhungahunga he mea āhua rite ki te hekerangi, he mea hanga ki te hiraka, ka tatari kia kawea atu e te hau, pērā tonu i te pūangi. E hia kiromita te tawhiti o te rere ka taea, ākene he moana tonu ka whakawhitingia pēneitia.

Te ai

Tērā tonu pea ka pau ētahi hāora ki tēnei mea, te ai. Arā te pūngāwerewere pāpaka, ko tā te toa, he here i te uwaha ki te hiraka i te tuatahi! Tukuna ai e te toa ana waitātea atu i tana puku ki ana palp. Ka kuhuna atu ngā palp ki roto i te puku o te uwaha. Piki atu ki te 300 ngā hua ka mahia e te uwaha ki roto i te pūkoro hua kotahi, he mea tākai ki ngā papanga hiraka maha. I ētahi momo pūngāwerewere ka tiakina te pūkoro hua, ngā punua rānei e te uwaha.

Heoi, he rerekē te āhua o te pūngāwerewere o Avondale i te nuinga o ngā pūngāwerewere, i te mea kua kitea ētahi kāhui ko ngā kōhungahunga, ngā uwaha me ngā toa e noho tahi ana.

Ngā pūngāwerewere e kaha kitea ana

Ko te nuinga o ngā momo pūngāwerewere i tō iāri o muri, kua tatū mai i tāwāhi. Ko ētahi momo kua haere mai i Ahitereiria, ko te pūngāwerewere māwhaiwhai porohita rahi, noho māra, a *Eriophora pustulosa*, te pūngāwerewere kumu-mā, a *Lampona* sp. Ko te pūngāwerewere pāpapa, a *Dysdera crocata*, nō Ūropi. Kua rere mai ētahi o ngā rāwaho nei ki Aotearoa mā runga i te tangata, mā ngā ara tauhokohoko rānei, ko ētahi anō kua rere pūangi mai.

He ruarua noa ngā pūngāwerewere māori kua urutau ki ngā taiao kua rawekehia e te tangata, hei tauira, ko ngā pūngāwerewere pāpaka ka kitea i ngā putiputi o te māra.

Ngā pūngāwerewere kāore e kaha kitea ana
Me kuhu rawa pea i te ngahere e kite ai koe i ngā pūngāwerewere tūturu o Aotearoa. He maha ā tātou pūngāwerewere kāore e kitea i tētahi atu wāhi o te ao, he tokoiti rānei o rātou whanaunga i te Tuakoi o te Raki. Koirā i manakohia ai e te hunga mātai pūngāwerewere.

Ētahi pukapuka pai e pā ana ki te pūngāwerewere

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