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DETECTION OF GIANT AFRICAN SNAIL USING CANINE UNITS

Achatina fulica

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Background

Dominican Republic
November2016. presenceof Giant African Snail (*Lissachatinafulica* or GAS), was first found at the Bávaro Golf Camp,Punta Cana,Municipalityof Higüey,Province of La Altagracia.
https://www.oirsa.org/contenido/2020/II_jornada_presentaciones/CARACOL%20GIGANTE%20AFRICANO.pdf

Costa Rica
April 2021. The State Phytosanitary Service (Servicio Fitosanitario del Estado (SFE)), detectedpresenceof Giant African Snail (*Achatinafulica*),at the CurubandéDistrict,Cantonof Liberia,at GuanacasteProvince. A 1000 m diametercontentionring was set startingfrom the point where the first specimenswere identified,covering a 78 hectare area where the snail has ben contained
https://www.ippc.int/en/countries/costa -rica/pestreports/2021/04/deteccion -del -caracol -gigante -africano -achatina -fulica -lissacha tina-fulica -en-costa-rica/

The Regional International Committee for Agricultural Health (CIRSA), (Comité Internacional Regional de Sanidad Agropecuaria) **declares regional phytosanitary emergency for Giant African Snail.**

Wednesday, July 7, 2021.

https://www.oirsa.org/noticiadetalle.aspx?id=8090

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Food and Agriculture Organization of the United Nations

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Designing and teaching of a training course to imprint the *Achatina fulica* aroma in the canine smell memory

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INTENDED FOR 17 CANINE UNITS FROM:

México	(4)
Guatemala	(3)
El Salvador	(2)
Honduras	(2)
Nicaragua	(2)
Costa Rica	(2)
Panamá	(2)

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Data to be considered :

The activities were performed at **ground zero**, where the presence of Giant African Snail was reported; all precautions were taken for access to and exit from the working area, like using sanitary boot covers and carpets with disinfecting substances and molluscicides, provided and supervised by OIRSA and the SFE CR

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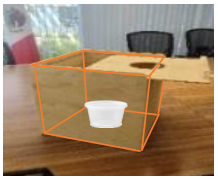
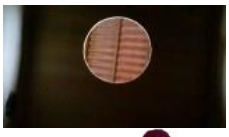
- Due to public health risks, direct contact of the dog and the handler with the snail must be avoided.

- Designation boxes in combination with plastic containers proved to be ideal to avoid contact of the dog with the sample, thus reducing contact risks for handling





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To maintain a level of security, in addition to wearing gloves and tongs when handling the samples, the surfaces of the material utilised were disinfected with alcohol 90% in order to:

•Avoid sanitary risks of transmission of mollusc hosted microorganism

•Avoid aromatic markers left by the dogs, like remains of saliva and glandular secretions

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Collaboration

Designing and teaching of a training course to imprint the *Achatina fulica* aroma in the canine smell memory

The workshop results should be a methodology to work the aroma without the need of displacing the risk to countries where de GAS is absent. For this reason, sterile cotton gauzes moistened with distilled water were placed in plastic recipients to collect the snail secretions.

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Collaboration

Designing and teaching of a training course to imprint the *Achatina fulica* aroma in the canine smell memory

Most of the canine units were trained in Mexico, the rest worked under the positive reinforcement methodology. Thus, the conditioning, association and imprint of the aroma were carried out without any major hindrance during the one-week established period.

Assisted marking in presence of aroma → Observing the changes in behaviour and response conditioned by the target aroma → Precise location of the aroma source trough the command "Where"?

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ASPECTS AFFECTING THE DEVELOPMENT :

Positive

- The training had full support from the SFE CR and OIRSA.
- High commitment of participants.
- The support from local individuals in carrying-out the activities

Negative

- The activities were performed in a region with tropical climate, with a temperature range from 24 to 32º C and relative humidity of 65 to 89%; consequently, some dogs resented the weather change by certain initial adaptation difficulties.

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RESULTS

- All 17 dogs achieved *Achatina fulica* aroma imprint
- The gauzes in the plastic recipients were used to challenge the dogs and confirm their capability to respond to the collected secretions (slime and excrements) in the gauzes.
- The collected gauzes were examined one-by-one by a committee to verify the absence of eggs, and were handed to the participant countries to continue with the reinforcement work and to replicate the imprint of the aroma in other canine units, without displacing any risks.

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Post-training work in Costa Rica

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- Indefinite duration when kept frozen.
- Approximate use time: two weeks. Refrigerate after using, dispose by incinerating.

- Odour generalization is viable utilizing other species of snails, showing an assertive response when challenged with GAS impregnated gauzes.

- 79 canine units have been trained in México to detect GAS

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