



RABID BYTES

| | |
|-------------------------------|-----|
| AfroREB and WRD..... | 1-2 |
| WRD 2012..... | 3 |
| Bohol Project wins Award..... | 3 |
| WRD celebrates 5 Years!..... | 4 |
| FAO Video of WRD..... | 4 |
| Funding for NTDs..... | 5 |
| Canine Blueprint Update..... | 5 |
| Rabies in Trinidad..... | 6 |
| Goodbye to NTVs..... | 7 |
| Rabies in Sao Paulo..... | 8 |
| Upcoming Conferences..... | 8 |

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EDITORIAL

The recent press release that the Bill & Melinda Gates Foundation and their collaborators will invest 785 million dollars in neglected tropical diseases was welcome news for many living at daily risk of dying from infections that could be controlled. Since so many of the focal NTDs that the Gates Foundation will tackle affect the same geographic areas as dog mediated rabies, it would seem most productive to try to integrate some of the basic components of rabies disease control programs if at all possible, for example, improving rabies prevention education as a start. If we are interested in supporting sustainable programs, then involving the communities is critical and educating the people living in those communities is a first step. Sustainable rabies control programs are possible as has been proven in various places throughout the world when the affected communities are the backbone of the initiative to decrease human rabies deaths. The Alliance is proud of the recognition that the Bohol community received early this year when President Benigno Aquino III of the Philippines personally honored them as a recipient of the [2011 national Galing Pook award](#) for their achievements related to the sustainable rabies prevention and control program. Bohol continues to be a success due to the involvement of the local communities throughout the province, the strong leadership of Dr Lapiz, the provincial veterinarian, political support of Governor Chatto, international support from various partners including the Alliance and the UBS Optimus Foundation. One of the most important take home messages regarding the Bohol project is that eliminating human rabies deaths requires an integrated approach involving many community public health components including both the human and animal side but it also involves other entities of public health including a strong legal framework, educational experts, sanitation control etc. Lastly, it is critical to understand that communities may use different approaches to implementing humane rabies control strategies as some of the components that work in one region will not work in another. However, involving the local community is critical as it is the people living locally that have the best understanding of what is going on in their own communities and have the most to gain or lose if rabies is not controlled.

Deborah J Briggs, Executive Director Global Alliance for Rabies Control

NEWS FROM GARC AND WRD

2011 World Rabies Day

A significant involvement of AfroREB network experts

AfroREB, a network of rabies experts from 14 French speaking countries of the African continent has set two goals; increasing public officials' and health institutions' awareness of rabies; and enhancing health professionals and patients' knowledge to ensure better access to proper care following rabies exposure.

The 2011 World Rabies Day provided the opportunity to mobilize network members in partnership with local health ministries, to undertake actions in several countries in North, West and Central Africa. These events showcased the prominent role that AfroREB now plays in the fight against rabies on the African continent. The media played a significant role by relaying the awareness messages to the broader population.

As part of the initiative, a rabies awareness walk was organized by the local AfroREB representative and health officials of Benin through the streets of Cotonou on September 28. Many health professionals were present.



Awareness March in the streets of Cotonou

Continued on page 2...

...**AfroREB** continued from page 1.

Participation was equally strong in Burkina-Faso where 300 people (including physicians, paramedics, veterinarians) took part in a ceremony in Ouagadougou on September 28. The ceremony, jointly chaired by the General Managers of Health and Veterinary Services, gave Dr. Thiombano (AfroREB) the opportunity to give an overview of the status of rabies in his country. His talk was significantly picked up by the media.

A meeting was held with journalists on September 28 in Yaoundé, Cameroun, chaired by Dr. Tejiokem Mathurin (AfroREB member) and Dr. Besong Laura (veterinarian). Furthermore, on September 21 there was both an open conference at the Centre Pasteur du Cameroun and a show on national radio to further speak about rabies.



Meeting with journalists at Centre Pasteur in Yaounde

In the Ivory Coast, a press conference was held by local AfroREB experts (Pr. Tiembre Issiaka and Dr. Adjogoua Valéry) at Institut Pasteur d'Abidjan, in partnership with the National Institute of Public Hygiene. A subsidized pre-exposure vaccination campaign carried out by the National Institute of Public Hygiene for at-risk populations was launched for the occasion and lasted until mid-November.

In Togo, the highlight of the September 28th day was free vaccination of dogs and a press conference attended by three ministers. Journalists were given training on rabies by AfroREB representatives (Dr. Baba Bibiane and Dr. Ihou Wateba Majesté) and by two veterinarians (Dr. Pewe Koffi and Dr. Pato Pidemnéné Steed). Furthermore, 19 Togolese print media journalists were made aware of the dangers of rabies as well as their crucial role in raising public awareness.



Press conference at Institut Pasteur in Abidjan

In Gabon, communication to increase awareness among the general public was accomplished by a text message sent to 5000 subscribers on World Rabies Day.

In Senegal, prior to World Rabies Day, and on the initiative of Pr. Bernard Diop (AfroREB), a training workshop was organized in Sally from August 8th-13th working towards building an Anti-Rabies Treatment center (ARTC) in each of the 14 regions of Senegal.

In Algeria, a conference day was organized in Tiaret by the Ministry of Health, Population and Hospital Reforms with the help of the Algerian representation of Institut Pasteur, the National Institute of Public Health and the active participation of Drs Abderrezak Soufi and Mourad Issad (AfroREB). Lectures were held

on anti-rabies vaccines, the cold chain and the management of people exposed to rabies.

World Rabies Day was celebrated for the first time in Madagascar with a focus on community awareness. A ceremony was organized at the Madagascar representation of Institut Pasteur, with the collaboration of three ministries: Public Health, Animal Husbandry and Communication. That day, relayed by the media, communication banners were hung at the Madagascar Institut Pasteur and at the Ministry of Public Health. There was also a series of lectures by rabies experts, namely Dr. Emilie Fara Il Ramahefalalao and Dr. William Rakotomalala (AfroREB members). Another highlight was the opening of a new anti-rabies treatment center in an isolated district located far from the capital.

Finally, several members gave their respective health officials (medical and veterinary), a formal letter urging them to acknowledge rabies as one of public health priorities in order to put in place effective responses and facilitate the access of people exposed to rabies to treatments that can save their lives.

Submitted by the members of [AfroREB](#). AfroREB is a network of rabies experts from 14 French speaking countries of the African continent (Algeria, Benin, Burkina Faso, Cameroon, Congo, Ivory Coast, Gabon, Madagascar, Mali, Morocco, Niger, The Central African Republic, Senegal, Togo). AfroREB has been holding regular meetings since 2008 to work on projects to be launched on the African continent, exchange clinical and public health experiences, and issue recommendations.

World Rabies Day 2012



Recent survey data indicating that WRD 2011 events spanned across a six month timeframe confirms that WRD is increasingly becoming a year-round initiative. Of those surveyed, 2 out of 3 people indicated using social media such as Facebook (78%), Google+ (34%) and YouTube (32%). To continually engage community members throughout the year, the WRD team is developing a social media strategy aimed at reaching new audiences, building new relationships, growing visibility and further increasing momentum.

The WRD team is also working on several other projects to help facilitate action through the provision of education and awareness tools. First, the WRD website will undergo a slight facelift. By the end of March, a new resource library will be released allowing end-users to search for educational materials through open queries and sorted by categories such as language, world region and profession. This new improved interface will make finding educational materials much easier. In addition, a media catalog will be made available by mid-August containing images and videos received from WRD events over the past five years.

Second, the WRD team is developing Rabies Country Profiles; envisioned to serve as the one-stop-shop for comprehensive country-specific information about rabies. Examples of information to be included are demographics, mortality data, and physical locations for post-exposure prophylaxis. In addition to pre-existing records, the WRD team will garner new data from country experts, key stakeholders and research currently underway including the Global Burden Re-Assessment and Human Rabies Notifiability studies. The first country profile is expected to be released by mid-June.

Lastly, the WRD team is working on developing a Webinar series for 2012. This open-source platform for rabies education is a crowd-favorite amongst the WRD community and we'd like to host more Webinars in more languages and focus on specific topics previously requested by our global community such as rabies in humans, livestock and bats and discussions on new biologics and field-based diagnostic testing procedures. If you have ideas for a Webinar in your country or would like to share educational resources or photos from your country on the WRD website, please contact us.

We are looking forward to providing updates throughout the year. For more information about the World Rabies Day Campaign please contact peter.costa@worldrabiesday.org.

Contributed by Peter Costa and Mylissia Stukey of the World Rabies Day team

Bohol Rabies Prevention and Elimination Project wins Galing Pook

In December GARC learned that our project in Bohol had been given the prestigious Galing Pook award. This award is presented by the President of the Philippines and every year recognizes 10 local governance projects for excellence. Bohol is one island of 1.3 million people, in a nation of over 7000 islands and 94 million people. There is huge competition for the Galing Pook.

Following this award, the project will be held up as an example for other communities to emulate in their rabies control. It is powerful endorsement of the project model and a step forward in global rabies control.

Thank you to the Galing Pook Foundation and to everyone who has worked and continues to work on this project.

Read our Bohol project report [here](#) and see the full 2011 Galing Pook award winners brochure [here](#).



World Rabies Day Celebrates 5 years!

September 28, 2011 marked the five year anniversary of the World Rabies Day Campaign; the single largest concerted effort to raise global awareness about rabies and its prevention. Recently the WRD team administered a survey in four languages to evaluate the 2011 effort and guide planning for the 2012 campaign. Over 500 surveys were returned and analyzed, providing a wealth of knowledge about the 2011 campaign and suggestions on how to improve various aspects of the WRD campaign. The top 5 requests for WRD 2012 were more webinars, more materials, more videos and photos, more vaccine and more funding. Thank you to everyone who responded to the WRD survey.

Around the world 860 individual events were reported from 115 countries helping to educate more than 32.7 million people. This was accomplished primarily through mass media including television broadcasts, radio shows and newspaper articles as well as conferences and seminars, school-based education and outreach programs, parades, concerts, fun runs and walks, dog shows and animal adopt-a-thons. Animal wellness clinics, including

workshops for livestock, held in conjunction with WRD 2011 resulted in 3.1 million vaccinations and 337,459 microchip implants. These programs were successfully carried out at animal hospitals, humane organizations, veterinary colleges, community, office and field-based venues all over the world.

Since the inaugural campaign in 2007, rabies vaccination clinics held for WRD have helped protect an estimated 7.7 million animals and the total number of people estimated to have been educated through WRD from 2007-2011 has now reached 182 million. These remarkable feats would not be possible without the support of our global community and the World Rabies Day team would like to genuinely thank all our followers, advocates, sponsors and outreach partners that have supported the campaign since 2007. Your leadership and willingness to innovate have built a lasting foundation for future successful and sustainable rabies control programs. We hope you will

continue to support our efforts into the future as we explore new and novel ways of raising even more awareness to ensure that governments, policy makers and key opinion leaders can no longer neglect rabies.

WRD video from FAO

A video of WRD 2010 events in Sierra Leone made by the Food and Agriculture Organization of the United Nations (FAO) is available on YouTube. It tells the story of Sierra Leoneans' enormous efforts to fight rabies in their own communities, with the help of FAO and US Centers for Disease Control and Prevention.

It shows educational activities held to mark WRD, songs developed to raise awareness about rabies and talks about the Animal Health Club program which educates school children about rabies and how to care for dogs. It also features very moving interviews with the families of children who have died because of rabies. The video is available in a [long](#) and a [short](#) version in English, and in [long](#) and [short](#) versions with subtitles in French.



Children proudly display their rabies prevention posters during WRD 2011 events in Ayacucho, Peru. Photo: Sandra Mariela Aquije Alvarez.



Stray dogs in Dharamsala, India being vaccinated and marked with red paint during WRD 2011. Photo: Arvind Sharma



NEWS FROM THE COMMUNITY

Major Collaboration and Funding for Neglected Tropical Diseases

On January 30th, a meeting was held at the Royal College of Physicians in London, UK entitled “Uniting to combat Neglected Tropical Diseases. Ending the Neglect and Reaching 2020 Goals”.

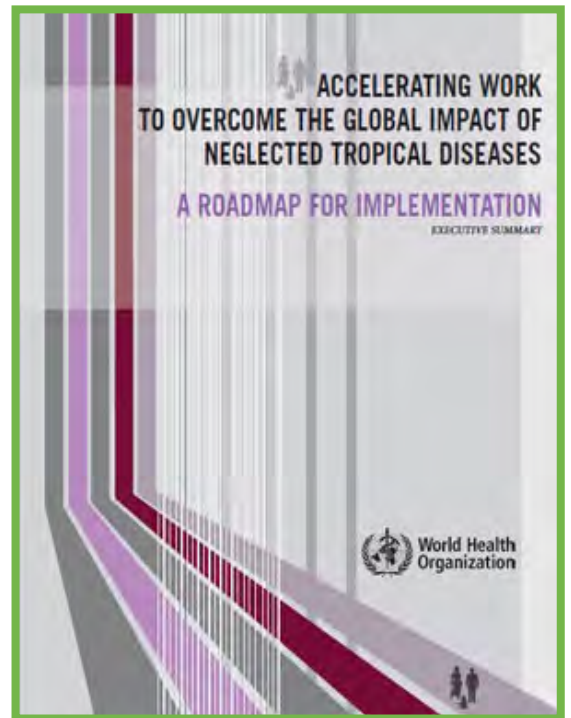
Coordinated by the UK Coalition against NTD and the Gates Foundation, Thirteen major pharmaceutical companies, government groups and health charities, including the Gates Foundation, announced a joint effort to tackle 10 neglected tropical diseases (NTDs) in a coordinated fashion. “Today, we have joined together to increase the impact of our investments and build on the tremendous progress made to date,” Bill Gates said in a statement, adding that improving people’s health would help them become self-sufficient.

It is the largest coordinated effort ever to combat NTDs. The government groups and charities alone are committing just over \$785 million in new funding. The pharmaceutical companies will donate billions of doses of treatments, share research work, and access to patented drug compounds.

The effort aims to meet the goals of the [World Health Organization’s roadmap](#) for controlling neglected tropical diseases by 2020, which targets 17 infections and conditions for renewed control efforts . The 10 diseases selected by this meeting include dracunculiasis, leprosy, onchocerciasis, schistosomiasis and trypanosomiasis. “These ancient diseases are now being brought to their knees with stunning speed,” said Dr. Margaret Chan, the WHO’s director-general.

Francois Meslin, Leader of the Neglected Zoonotic Diseases (NZD) team at WHO added; “Thanks to the level of attention the international funding community is now paying to them, classical NTDs will not remain ‘neglected’ for very much longer. Some are targeted for global or regional elimination as soon as by 2015. There is therefore a better chance to see the ‘NZDs’, including human dog mediated rabies, replacing the former NTDs soon and hopefully receiving the same level of attention and funding”.

Summarised by Louise Taylor from articles in the [Huffington Post](#), the [Medical News Today](#), and emails with WHO. The 10 diseases selected at the meeting are: Blinding trachoma, Chagas disease, Guinea worm disease, Leprosy, Lymphatic filariasis, River blindness, Schistosomiasis, Sleeping sickness, Soil-transmitted helminthes, Visceral leishmaniasis.



New developments for the Canine Rabies Blueprint

The Blueprint for Canine Rabies Prevention and Control is now available online in Portuguese, Arabic and Russian, as well as the original English and French versions. It will also shortly be available in Spanish. The translations can be found by clicking on the tabs in the upper right corner of the home page, www.rabiesblueprint.com. The Blueprint brings together all of the practical advice and resources necessary for rabies control workers to implement effective control strategies in their areas, and we hope that by translating these tools, their impact will be all the greater around the world.

A new publication on the Blueprint, entitled “ The Blueprint for Rabies Prevention and Control: A Novel Operational Toolkit for Rabies Elimination” written by Dr Tiziana Lembo of Glasgow University on behalf of the Partners for Rabies Prevention has also been published in the journal [PloS Neglected Tropical Diseases](#). This describes the rationale for its development as well as an overview of what it contains, and should give the toolkit even greater visibility within the global rabies community .



Rabies in Trinidad: Past and Present Perspectives

The Caribbean island of Trinidad lies just off the northeast coast of Venezuela, and has a deep rooted history of rabies. Canine transmitted rabies was eradicated from the island in the early 20th century with the last reported animal case occurring in 1914. However, in 1931 paralytic rabies transmitted by a bat vector was first scientifically recognized on the island, by local researchers Dr. Joseph L. Pawan and Captain H.V. Metivier. This newly recognized form of rabies was said to have been spread by the bite of the hematophagous bat (*Desmodus rotundus*), when it fed on animal hosts. Recent molecular evidence has confirmed that this species is indeed associated with rabies variants found on the island. Interestingly, Tobago, the sister island of Trinidad, remains, to date, both vampire-free and paralytic rabies-free. Trinidadian folklore describes a character, akin to the vampire bat, called the “Soucouyant” that flies at night in search of human blood, and Carnival costumes depict bats so vividly that the species can often be elucidated.

The first and probably largest bat transmitted human rabies outbreak occurred in Trinidad from 1929 to 1937, with records of 89 humans succumbing to the disease with 73 confirmed cases. Since then, sporadic outbreaks of paralytic rabies have occurred in livestock, predominantly bovines, and the disease still holds an aura of mystery and awe. To date, both the Agriculture and Health Ministries are involved in the case investigation procedure to ascertain risk of transmission to humans from animals. This multi-agency approach has been in place since the 1930s and effectively illustrates the “One Health Concept”.

During the first recognized outbreak, a prophylactic animal vaccination strategy was adopted, that focused on the local bovine population. Currently, the government veterinary services routinely execute an annual vaccination program in which all healthy cattle, bison and donkeys of a minimum age are immunized against rabies by primary inoculation and routine boosters with an inactivated virus formulation. It is presently legislated, under the Paralytic Rabies Regulations (1956) of Trinidad and Tobago that during the annual program, unvaccinated animals and animals due for booster vaccinations must be presented to the inspector for vaccination. Failure to do so is considered an offense and the farmer is liable to a penalty fee.

A vampire bat control program is also implemented by the Anti-Rabies Unit (ARU) of the Local Agriculture Ministry, but was conceptualized under the Department of Health. The ARU conducts island-wide bat roost surveillance and subsequently traps the vampire bats for the administration of a vampiricide (chemical control) and submission of specimens for rabies testing. The unit also investigates bat biting complaints in both animals and humans, assists with rabies vaccination and facilitates public education about rabies.

In 2010, World Rabies Day (WRD) was commemorated for the first time in Trinidad with a WRD Exhibition. This inaugural event honoured the day by displaying posters, videos and specimens related to the disease and the bat vector, together with the distribution of educational material. The event was attended by farmers, public health officials, medical officers, animal health personnel, representatives of international agencies and tertiary level students. The momentum was continued in 2011 with the hosting of a Rabies Awareness Seminar, held in the county of St. Patrick where, the first human rabies case was recognized and the disease still has a notable presence. The target audience was mainly local farmers, who are the first point of contact with diseased animals and with whom lays the responsibility for reporting animal suspects to the Local Veterinary Authority. They were thus advised on the local history of rabies, disease etiology, transmission and clinical signs, public health risks, prevention and control measures including the importance of animal vaccination and the legislated requirements for such vaccination.

Over the years, rabies public educational initiatives have served well to supplement the control and prevention of the disease by vector control and vaccination measures. Such initiatives have been linked to reductions in rabies cases, as well as increased reporting of suspect animals. The overall effect has been a reduction in the risk of disease transmission to both animals and humans. World Rabies Day initiatives prove to be opportune events to refresh the knowledge of the population on both the tragic and triumphant history of the disease on the island and celebrate over 70 years without a human rabies case on the island.



Bovine displaying signs of paralytic rabies, subsequently confirmed by DFA testing.



Staff of the Veterinary Diagnostic Laboratory at the inaugural WRD Event in 2010 at the Caroni Swamp Visitor Centre

Contributed by Dr. Janine Seetahal [DVM, MPH]. Janine is currently working as a Veterinary Officer at the Veterinary Diagnostic Laboratory, Ministry of Food Production, Land and Marine Affairs, Trinidad and Tobago.

When we will say good bye to the century old rabies vaccine of nerve tissue origin?

Sir David Semple developed sheep-brain vaccine for human use in 1911 in India. Since then, technological advances have produced less reactogenic nerve-tissue vaccine (NTV) such as suckling mouse brain vaccine. This historical vaccine served its purpose for almost 100 years when there was no better and affordable technology for rabies endemic countries. However, tissue-culture technology developed a few decades ago has completely revolutionalized vaccine production and changed the concept of biological testing. There is now a global consensus to minimize the use of laboratory animals for biological research and biological testing and to follow strict ethical procedures for unavoidable use of laboratory animals. The World Health Organization (WHO) also strongly recommends discontinuation of the old nerve tissue vaccines because these vaccines have a high rate of adverse reactions and lower efficacy. It is unethical to use innocent animals for production of traditional rabies vaccine using century old technology in the name of human welfare when tissue-culture technology is available and cost-effective rabies vaccine technique has been developed as an alternative.

Nerve-tissue vaccine has also been produced for dog immunization and post-exposure vaccination of food and companion animals in many countries in the past but it has been phased out due to economic and technical reasons in most rabies endemic countries.

Following the WHO recommendation in 1984 to replace NTVs, many Asian countries have discontinued the production and use of nerve-tissue vaccines for human use. In 2004, the WHO Expert Consultation issued a definitive statement to the effect that NTVs should be discontinued and that only rabies vaccine of tissue-culture origin or embryonated egg origin should be used in humans. Most rabies endemic Asian countries have phased out production and use of NTV over last 20 years, namely China (1990), Thailand (1992), Sri Lanka (1995), Indonesia (1996), Philippines (1997), Lao PDR (2005), Cambodia (2005), India (2005), Nepal (2006), Vietnam (2007) and most recently Bangladesh (2011).

Pakistan has agreed in principle to end NTV production by 2012, but an alternative such as the bulk purchase of concentrated rabies vaccine remains to be worked out. In Myanmar, human rabies vaccine is produced by the Myanmar Pharmaceutical Company but the buyer is the Ministry of Health. The situation needs advocacy and an alternative solution to reduce the cost of vaccination.

Due to the cost of production and strict international quality control requirements, most rabies endemic countries are not currently producing their own human rabies vaccines. However, the multisite Intradermal (I/D) vaccination schedule is a cost-effective, scientifically proven and WHO recommended vaccination schedule. It is widely practiced in Thailand, Sri Lanka, the Philippines, India and Bangladesh. WHO is encouraging rabies endemic countries to introduce this cost-effective rabies vaccination schedule to improve availability, affordability and accessibility of modern rabies vaccine. Economic post-exposure rabies prophylaxis using the intradermal route is a viable alternative for NTV delivered by the public sector in rabies endemic countries.



*Sheep brain vaccine production chain
(Photo: Dr. JN Rai, Nepal)*

Contributed by Dr Gyanendra Gongal, Scientist, Disease Surveillance and Epidemiology, WHO Regional Office for South East Asia, New Delhi

São Paulo has a case of animal rabies after 30 years



After 30 years with no detected cases of terrestrial animal rabies, rabies has returned to São Paulo state, Brazil. In December 2011, a cat with rabies virus was diagnosed and confirmed by the college of veterinary medicine, University of Sao Paulo. The cat lived in the southern city of Sao Paulo, near a park, was not vaccinated, and was probably infected by a bat. Rabies-infected bats often cannot fly away. Cats, like the one in this case, may chase bats that are not able to fly due to being infected with rabies, and get bitten by a bat trying to defend itself.

Following several adverse reactions to a rabies vaccine administered to dogs and cats (including some fatalities), the government of Sao Paulo decided to suspend the free rabies vaccination program for pets in 2010. More recently, the Ministry of Health has suspended

vaccination of pets in 15 Brazilian states, which have also not recorded rabies cases occurrences of the disease in recent years.

The disease had been virtually eliminated from Sao Paulo state by vaccination, so this case is particularly alarming. A veterinarian, Ana Beatriz de Faria, believes that occasional adverse reactions to the vaccine should not impede the campaign. It is important to remember that vaccines are life-saving biologicals and all vaccines may have occasional adverse reactions.

Even with the suspension of the free vaccination campaign, many owners of dogs and cats have been continuing to immunize their pets, using private veterinary clinics.

Portalnews reported that this cat is being treated as an isolated case, and that vaccination has been conducted in cats and dogs in the surrounding area. Focal vaccination campaigns are recommended when isolated cases are diagnosed in order to prevent rabies from spreading to other regions. The Ministry of Health has also decided to restart vaccination campaigns across the whole country this year, and the state of São Paulo has already received the vaccine to begin this year's campaign.

Summarised by Louise Taylor of GARC and Phyllis Romijn, scientific researcher at Pesquisadora PESAGRO-RIO, Brazil from reports by the [TV network Record](#) and [Portalnews](#).

Upcoming Conferences

- The 15th International Congress on Infectious Diseases (ICID) will be held in Bangkok, Thailand on June 13-16, 2012. Further details can be found at <http://www.isid.org/icid/welcome.shtml>.
- The 2012 Rabies In The Americas (RITA XXIII) meeting will be held in São Paulo, Brazil, October 14-19, 2012. The website is under development.

The editor of the Alliance newsletter is Louise Taylor and typesetting is by Pete Else. If you have news items or information about rabies, please contact her at louise.taylor@rabiescontrol.net. For further information on the Alliance's work see www.rabiescontrol.net.