The Lord is like a strong tower, where the righteous can go and be safe.
Proverbs 18:10

DIYARYO
KABITENYO
Nagmamalasakit sa lalawigan

ISSN: 2651-821X

Be alert, stand firm in the faith, be brave, be strong.
I Corinthians 16:13

Entered as FIRST CLASS MAIL at Imus Post Office with Business Mail Permit No. IC-19-06-249
Vol. 23 No. 19 | June 29-July 5, 2020 | P 10.00

14 GenTri police officers test positive for coronavirus

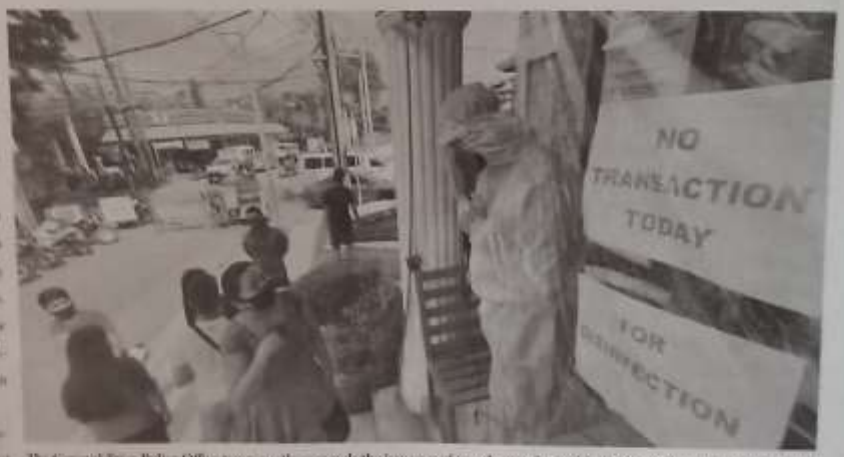
The local government of General Trias, Cavite confirmed last June 25 that 14 police officers in the city recently tested positive for the coronavirus.

The police officers were admitted to a local isolation facility in Barangay Santiago. The city health office is currently conducting contact tracing in the police office.

General Trias police chief Lieutenant Colonel Marlo Solis has requested the Cavite Police Provincial Office for augmentation force to maintain the peace and order in the city.

"Issuance of travel pass and police clearance from local police

Turn to page 3



The General Trias Police Office temporarily suspends the issuance of travel pass after 14 local police officers tested positive for COVID-19 during the swab test done recently at the General Trias Sports Park in Barangay Santiago.

Cavite cops to test motorists for blood alcohol content — Remulla

Police officers in Cavite will soon have alcohol breath analyzers to test the blood alcohol content of motorists, Gov. Jonvic Remulla announced last June 24.

"Ang Sangguni ang Panlalawigan ay may bagong pasakalye na tawag ay Public Intoxication Ordinance. Magkakaroon na ng alcohol breath analyzer ang aming kapulisan," Remulla said in a Facebook post.

Remulla warned that motorists who will be found to have exceeded the blood alcohol content limit will automatically be detained.

Meanwhile, by-standers suspected of being drunk in public and who fail the breath analyzer test will be fined.

The liquor ban to

Turn to page 3

DIYARYO KABITENYO
ISSN: [illegible]

ARNULFO BARCO
Publisher - Editor

GENER BARCO
Operations Manager

DIYARYO KABITENYO is published weekly and circulated throughout the province of Cavite. It has its editorial and business offices at Block 13 Lot 1 Liwayway Homes Subdivision, Anabu I-C, City of Imus, Cavite. It is registered at the Department of Trade and Industry Region 4. [illegible] Our cellphone number is [illegible]

Subscription Rate:
1 month - P 40.00
3 months - 120.00
6 months - 240.00

Advertising Rate:
Commercial - P200.00/col. cm
Legal - 100.00/col. cm

papi
Publishers Association of the Philippines, Inc.

(14... from page 1)

are [temporarily] suspended while we are preparing for online application system in the coming week," Solero said.

The city government urged the public last June 25 to strictly follow health protocols, such as physical distancing, wearing of face masks, regular handwashing, and staying at home except when going out for essential goods and services, or working in allowed industries.

General Trias recorded 10 new coronavirus cases June 25, bringing the city's total to 54 cases. Of the 54 cases, 24 are active cases, 25 have recovered, and 5 have died.

The total figure does not yet include the 14 police officers because the city health office "is still validating their place of residence."

A furry social robot can reduce pain and increase happiness

Could furry social robots help bolster moods and reduce pain when human to human contact isn't an option, for example, during a pandemic?

According to a new study by Ben-Gurion University of the Negev (BGU) researchers published in Scientific Reports, a one-time, hour-long session with a plush, seal-like social robot reduced pain and oxytocin levels, and increased happiness. The Japanese social robot, PARO, emits seal-like sounds and moves its head and flippers in response to being spoken to and touched.

Human-to-human contact has been found to bolster mood and reduce pain in previous studies. Dr. Shelly Levy-Tzedek of the BGU Department of Physical Therapy and her team investigated whether a furry social robot could induce similar effects when normal human-to-human contact is not available.

Levy-Tzedek and her team discovered that a single, 60-minute interaction with PARO actually improved mood as well as reduced mild or severe pain. When participants touched PARO, they experienced greater pain reduction than when it was simply present in their room.

Surprisingly, the BGU researchers discovered lower oxytocin levels in those who interacted with PARO than in the control group participants, who did not meet PARO. Typically, oxytocin – sometimes called "the love hormone," is elevated among romantic partners or mothers playing with their children, so a lower level of oxytocin wasn't expected. However, more recent studies have shown that outside of close relationships, oxytocin production is a stress indicator and therefore, a reduction could indicate relaxation.

"These findings offer new strategies for pain management and for improving well-being, which are particularly needed at this time when social distancing is a crucial factor in public health," says Dr. Levy-Tzedek.

(CAVITE... from page 1)

the province was lifted on June 1. However, Remulla earlier stressed that liquor consumption in public remains prohibited.

He also appealed to Cavite residents for understanding of the new regulation since it is for their safety anyway.

"Hindi po namin pinagbabawal ang uminom nang mara[illegible]mi. Pag nasa loob ng bahay ay [illegible] ang masusunod. Pero sa lansangan ay ang ba[illegible] na ang iiral. You can have fun but do not be a danger to others," he also said.

Republic of the Philippines
City Civil Registry Office
Province of Cavite
City of Imus

NOTICE OF PUBLICATION

In compliance with the publication requirements and pursuant to OCRG Memorandum Circular No 2013-01 Guidelines in the Implementation of the Administrative Order No. 1 Series of 2012 (RA on R.A. 10172), Notice is hereby served to the public that ARLENE M. BORROMEO filed with this Office, a petition for correction of entry in sex from MALE to FEMALE in the Certificate of Live birth of ARLENE BALLOS MEJOLLO in City of Imus, Cavite and whose parents are EDGARDO MEJOLLO and EVELINA C. BALLOS

Any person adversely affected by said petition may file his written opposition with this office not later than July 6, 2020

(Sgd.) VIOLETA P. SAÑEZ
City Civil Registrar I

DIYARYO KABITENYO - June 22 & 29, 2020

Republic of the Philippines
Local Civil Registry Office
Province: Cavite
City/Municipality: Bacoor

NOTICE FOR PUBLICATION

In compliance with Section 3 of Republic Act No. 9048, a notice is hereby served to the public that MARICRIS P. BASIL has filed with this Office a petition for change of First name from MARRY CRIS to MARICRIS in the birth certificate of MARRY CRIS PALLERMO BILER who was born on 28 APRIL 1986 at ROSARIO, CAVITE and whose parents are ARTURO BILER and NELITA S. PALLERMO

Any person adversely affected by said petition may file his written opposition with this Office not later than 06 July 2020

(Sgd.) MARIA ROSARIO C. SORIANO
Municipal Civil Registrar

DIYARYO KABITENYO - June 22 & 29, 2020

Prenatal stress associated with infant gut microbes

Mother's chronic prenatal psychological distress and elevated hair cortisol concentrations are associated with gut microbiota composition of the infant, according to a new publication from the FinnBrain research project of the University of Turku, Finland. The results help to better understand how prenatal stress can be connected to infant growth and development. The study has been published in the *Psychoneuroendocrinology* journal.

Prenatal stress can be associated with infant growth and development. However, the mechanisms underlying this association are not yet fully understood.

"We were able to show that maternal chronic psychological distress and elevated hair cortisol concentrations during pregnancy are associated with infant gut microbiota composition but not diversity," says Doctoral Candidate, Doctor Anna Aatsinki.

The study used hair cortisol analysis which enabled measuring the concentration averages of stress hormone cortisol over several months. In addition, the symptoms of the mother were assessed three times during pregnancy. The infant gut microbiota was analysed early at the age of 2.5 months with next generation sequencing.

Previously, similar studies have focused on animals and two have been smaller human studies making this data consisting of 399 mothers and their infants the largest in the world so far. The received results provide significant new information on the phenomenon. In addition, this study was able to confirm previously made observations.

Both Proteobacteria and Lactobacillus are common infant gut microbes.

"We discovered, for instance, that mother's chronic prenatal psychological distress was linked to increased abundances of Proteobacteria genera in infant microbiota. In addition, chronic psychological symptoms were connected to decreased abundances of Akkermansia genera which is considered to promote health at least in adults," summarizes Aatsinki.

Immune cells infiltrating tumors may play bigger cancer role than previously thought

Most traditional cancer therapies target either the tumor cells themselves or indiscriminately kill any rapidly dividing cell. New findings by researchers at University of California San Diego School of Medicine indicate that manipulating macrophages, a type of immune cell found abundantly in the tissues surrounding a tumor, could also be a viable strategy for treating cancer.

The study, published June 10, 2020 in PLoS Biology, is the first to uncover the role a molecule called IRE1α plays in determining whether macrophages promote inflammation in the tissues surrounding cancer cells — a region known as the tumor microenvironment — and throw off the ability of other immune cells to fight cancer. Inflammation is known to promote tumor growth, making IRE1α an attractive target for future study and drug development.

"We've known that it takes a toll on a person's ability to fight cancer when the tumor microenvironment is not properly regulated, when there's a mix of pro- and anti-inflammatory macrophages," said senior author Maurizio Zanetti, MD, professor of medicine at UC San Diego School of Medicine and head of the Laboratory of Immunology at UC San Diego Moores Cancer Center. "What we discovered here is how that happens, and a potential way to reverse it."

IRE1α is a key regulator of the unfolded protein response, a cellular process that mammalian cells use to deal with stress. Life in the tumor microenvironment is stressful for immune and cancer cells, where they may be cut off from oxygen and nutrients.

Does 'mommy brain' last? Study shows motherhood does not diminish attention

"Mommy brain" is a long-held perception that mothers are more forgetful and less attentive.

"In most studies, however, attention and memory tests are given to mothers very early postpartum," said Valerie Tucker Miller, a Ph.D. student in Purdue University's Department of Anthropology department. Miller is studying the effects of motherhood on attention, memory and other psychological processes.

"There are few issues with that," she added. "When you first have a child, you have a cascade of hormones and sleep deprivation that might be affecting attention and memory processes in the brain."

In a new study testing the persistence of "mommy brain," Miller used a revised version of the Attention Network Test (ANT), called the ANT-R, to compare reaction times among 60 mothers, all of whom were at least one year postpartum, and 70 non-mothers. The results, published online in the journal Current Psychology, show that mothers performed equally as well or better compared with women who had never been pregnant or had children.

"For this particular study, we recruited moms who were past that first year postpartum because we wanted to see the long-term effects of maternity," she said. "Overall, moms did not have significantly different attention than non-mothers, so we did not find evidence to support 'mommy brain' as our culture understands it. It's possible, if anything, that maternity is related to improved, rather than diminished, attentiveness."

Co-author Amanda Veile, an assistant professor of anthropology at Purdue, said the mixed-method study may be the first to investigate the long-term effects of biological motherhood on real-life attention network functioning. Lisa A. VanWormer, a Purdue University alumna and visiting associate professor of psychology at St. Norbert College, also is a co-author.

Researchers used a seven-point scale to measure participants' responses to survey questions such as, "How sleepy do you feel?" and "How do you think your attentiveness is?" Women's perceived attention functioning was strongly associated with their tested attention scores, regardless of motherhood status, Veile said.

"This means that women have accurate awareness of their cognitive state, and that their concerns regarding their perceived attentional functioning should be taken seriously," she said. "We also believe that 'mommy brain' may be a culture-bound phenomenon, and that mothers will feel the most distracted and forgetful when they feel stressed, overextended and unsupported. Unfortunately, many U.S. moms feel this way, especially now in the midst of economic and political instability and pandemic."

During the computer test, a cue box flashes for 100 milliseconds in one of two possible locations where a target image will appear on the screen. Next, an image of five arrows, each pointing left or right in consistent or conflicting directions, flashes on the screen for 500 milliseconds. Participants are then asked to press a button that corresponds to the direction of only the middle arrow.

Miller said the test measures response times and provides scores for the three main networks of attention. The alerting network helps the brain prepare for incoming stimuli; the orienting network directs the brain's attention to something new; and the executive control network helps resolve conflicting information.

Mothers in the study were, on average, 10 years older than non-mothers. Even after controlling for age, however, the researchers found that mothers had similar alerting and orienting attention, and better executive control attention, compared to non-mothers.

"Moms were not as distracted by those outside, incongruent items," Miller said. "It makes perfect sense that moms who have brought children into this world have more stimuli that needs to be processed to keep themselves and other humans alive, and then to continue with all the other tasks that were required before the children."

Heightened attention isn't always a good thing. It could become amplified with feelings of stress and isolation, which many U.S. moms experience, causing them to develop anxiety, Veile said.

Universal flu vaccine may be more challenging than expected

Some common strains of influenza have the potential to mutate to evade broad-acting antibodies that could be elicited by a universal flu vaccine, according to a study led by scientists at Scripps Research.

The findings highlight the challenges involved in designing such a vaccine, and should be useful in guiding its development.

In the study, published in Science, the researchers found evidence that one of the most common flu subtypes, H3N2, can mutate relatively easily to escape two antibodies that were thought to block nearly all flu strains. Yet they found that it is much more difficult for another common subtype, H1N1, to escape from the same broadly neutralizing antibodies.

One of the main goals of current influenza research is to develop a universal vaccine that induces broadly neutralizing antibodies, also known as "bnAbs," to give people long-term protection from the flu.

"These results show that in designing a universal flu vaccine or a universal flu treatment using bnAbs, we need to figure out how to make it more difficult for the virus to escape via resistance mutations," says the study's senior author Ian Wilson, DPhil, Hansen Professor of Structural Biology and Chair of the Department of Integrative Structural and Computational Biology at Scripps Research.

Influenza causes millions of cases of illness around the world every year and at least several hundred thousand fatalities. Flu viruses have long posed a challenge for vaccine designers because they can mutate rapidly and vary considerably from strain to strain.

The mix of strains circulating in the population tends to change every flu season, and existing flu vaccines can induce immunity against only a narrow range of recently circulating strains. Thus, current vaccines provide only partial and temporary, season-by-season protection.

Nevertheless, scientists have been working toward developing a universal flu vaccine that could provide long-term protection by inducing an immune response that includes bnAbs. Over the past decade, several research groups, including Wilson's, have discovered these multi-strain neutralizing antibodies in recovering flu patients and have analyzed their properties. But to what extent circulating flu viruses can simply mutate to escape these bnAbs has not been fully explored.

In the study, first authored by postdoctoral research associate Nicholas Wu, PhD, and staff scientist Andrew Thompson, PhD, the team examined whether an H3N2 flu virus could escape neutralization by two of the more promising flu bnAbs that have been discovered so far.

Known as CR9114 and FI6v3, these antibodies bind to a critical region on the virus structure called the hemagglutinin stem, which doesn't vary much from strain to strain. Because of their broad activity against different flu strains, they've been envisioned as antibodies that a universal flu vaccine should be designed to elicit, and also as ingredients in a future therapy to treat serious flu infections.

Using genetic mutations to methodically alter one amino acid building-block of the protein after another at the stem site where the bnAbs bind, Wu and colleagues found many single and double mutations that can allow H3N2 flu to escape the antibodies' infection-blocking effect.

The team also found a few instances of these "resistance mutations" in a database of gene sequences from circulating flu strains, suggesting that the mutations already happen occasionally in a small subset of ordinary flu viruses.

Although experiments and analyses suggested that H3N2 viruses are broadly capable of developing resistance mutations, the same was not true for H1N1 viruses. The researchers tested H3N2 and H1N1 viruses and found that some seemed able to mutate and escape, except for rare mutations with weak escape effects.

Critically ill COVID-19 patients are 10 times more likely to develop cardiac arrhythmias

Patients with COVID-19 who were admitted to an intensive care unit were 10 times more likely than other hospitalized COVID-19 patients to suffer cardiac arrest or heart rhythm disorders, according to a new study from researchers in the Perelman School of Medicine at the University of Pennsylvania.

Researchers say the results suggest that cardiac arrests and arrhythmias suffered by some patients with COVID-19 are likely triggered by a severe systemic form of the disease and are not the sole consequence of the viral infection. The findings — which differ significantly from early reports that showed a high incidence of arrhythmias among all COVID-19 patients — provide more clarity about the role of the novel coronavirus, SARS-COV-2, and the disease it causes, COVID-19, in the development of arrhythmias, including irregular heart rate (atrial fibrillation), slow heart rhythm (bradyarrhythmia) or rapid heart rate that stops by itself within 30 seconds (non-sustained ventricular tachycardia).

The study was published June 22, 2020 in the Heart Rhythm Journal — the official journal of the Heart Rhythm Society.

"In order to best protect and treat patients who develop COVID-19, it's critical for us to improve our understanding of how the disease affects various organs and pathways within our body — including our heart rhythm abnormalities," said the study's senior and corresponding author Rajat Deo, MD, MTR, a cardiac electrophysiologist and an associate professor of Cardiovascular Medicine at Penn. "Our findings suggest that non-cardiac causes such as systemic inflection, inflammation and illness are likely to contribute more to the occurrence of cardiac arrest and arrhythmias than damaged or infected heart cells due to the viral infection."

Recent studies from China have suggested that COVID-19 is associated with a high incidence of cardiac arrhythmias, particularly among critically ill patients — early reports showed 44 percent of patients admitted to the ICU suffered arrhythmias. Heart rhythm problems occur when electrical impulses that coordinate your heart beats don't work properly, causing your heart to beat too fast, too slow, or irregularly. If left untreated, cardiac arrhythmias can lead to serious medical conditions, including stroke and cardiac arrest — the abrupt loss of heart function.

To evaluate the risk and incidence of cardiac arrest and arrhythmias among hospitalized patients with COVID-19, the Penn team evaluated 700 patients with COVID-19 who were admitted to the Hospital of the University of Pennsylvania between early March and mid-May. Researchers examined cardiac telemetry and clinical records for patient demographics and medical comorbidities — such as heart disease, diabetes and chronic kidney disease — and recorded patient vitals, test results and treatment.

The cohort of patients had a mean age of 50 years, with Black patients accounting for more than 70 percent of the population. Researchers identified a total of 53 arrhythmic events: nine patients who suffered cardiac arrest, 28 patients with atrial fibrillation who required treatment, nine patients with clinically significant bradyarrhythmias and 10 non-sustained ventricular tachycardia events. The team did not identify any cases of heart block, sustained ventricular tachycardia or ventricular fibrillation.

Of the 700 patients hospitalized, about 11 percent were admitted to the ICU. None of the other hospitalized patients suffered a cardiac arrest. After controlling for underlying demographic and clinical factors, researchers found cardiac arrest and arrhythmias were more likely to occur among patients in an ICU compared to the other hospitalized patients.

Researchers noted that the study has several limitations, including that the analysis was conducted from a single center serving a large urban population.

"More research is needed to assess what is the presence of cardiac arrhythmias have long-term health effects on patients who were hospitalized for COVID-19," Deo said.

DIYARYO KABITENYO
Negmamalasakit sa lalawigan
Vol. 23 No. 19 June 29-July 5, 2020 ₱ 10.00

COVID-19 lockdown reveals human impact on wildlife

In an article published in Nature Ecology & Evolution last June 22, the leaders of a new global initiative explain how research during this devastating health crisis can inspire innovative strategies for sharing space on this increasingly crowded planet, with benefits for both wildlife and humans.

Many countries around the world went into lockdown to control the spread of Covid-19, brought about by the novel virus circumstances, this period of unusually reduced human mobility, which the article's authors coined "anthropause," can provide invaluable insights into human-wildlife interactions.

There have been countless posts on social media over the past few months reporting unusual wildlife encounters. Anecdotal observations, especially from metropolitan areas, suggest that nature has responded to lockdown. There not only seem to be more animals than usual, but there are also some surprising visitors: pumas have been spotted prowling the streets of downtown Santiago, Chile and dolphins recently showed up in unexpectedly calm waters in the harbour of Trieste, Italy.

For other species, the pandemic may have created new challenges. For example, some urban-dwelling animals like gulls, rats or monkeys, may struggle to make ends meet without access to human food. In more remote areas, reduced human presence may potentially put endangered species, such as rhinos or raptors, at increased risk of poaching or persecution.

The authors emphasise that society's priority must be to tackle the enormous human tragedy and hardship caused by Covid-19.

Hamsters develop protective immunity to COVID-19 and are protected by convalescent sera

In an animal model for COVID-19 that shares important features of human disease, scientists at the University of Wisconsin-Madison, the University of Tokyo and the Icahn School of Medicine at Mount Sinai show that prior infection with the SARS-CoV-2 virus provides protection against reinfection, and treatment with convalescent serum limits virus replication in their lungs.

Syrian hamsters, commonly found as pets, have served critical roles in understanding human infectious diseases for decades. The new study, led by Yoshihiro Kawaoka and published June 22, 2020 in the Proceedings of the National Academy of Sciences, demonstrates they are also a useful small animal model for researchers trying to understand SARS-CoV-2 and in evaluating vaccines, treatments and drugs against the disease it causes.

"Hamsters are good models for human influenza and SARS-CoV," says Kawaoka, professor of pathobiological sciences at the UW School of Veterinary Medicine and a virology professor at the University of Tokyo.